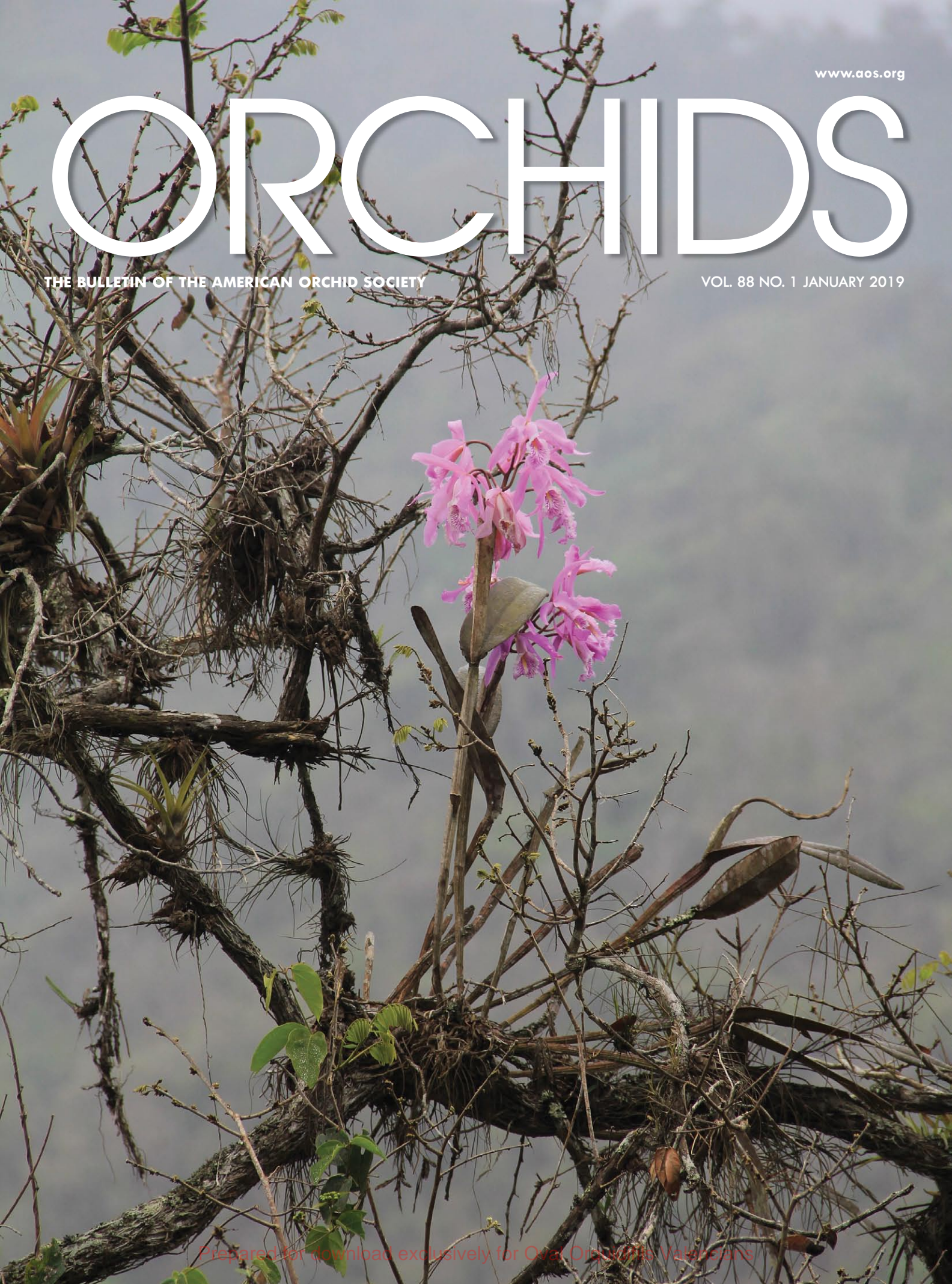


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ORCHIDS

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VOL. 88 NO. 1 JANUARY 2019



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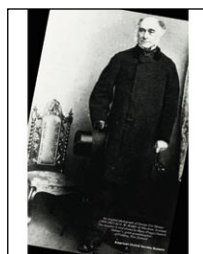
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FRONT COVER

Ecuador's orchid-rich flora includes many horticulturally desirable species including this highland form of *Cattleya maxima* photographed by Pepe Portilla.

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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>Acianthera</i> (ay-see-AN-ther-a)	<i>fletcheriana</i> (flet-cher-ee-AY-na)	<i>ovata</i> (oh-VAY-ta)
<i>Aconitiflora</i> (ak-oh-nye-tih-FLOR-a)	<i>fruticetorum</i> (froo-tih-set-ORE-um)	<i>palustris</i> (pal-US-tris)
<i>acuminata</i> (a-kew-min-AY-ta)	<i>fuscata</i> (few-KAY-ta)	<i>Paphiopedilum</i> (paff-ee-oh-PED-ih-lum)
<i>aeora</i> (AY-ore-a)	<i>gigantea</i> (jye-GAN-tee-a)	<i>Papilionanthe</i> (pap-ee-lee-oh-NAN-thee)
<i>albiflorum</i> (al-bih-FLOR-um)	<i>gloriosum</i> (glore-ee-OH-sum)	<i>pardinum</i> (par-DEE-num)
<i>alexandrae</i> (al-leks-AN-dree)	<i>Gongora</i> (gone-GORE-a)	<i>pastasae</i> (PASS-tass-ee)
<i>Altensteinia</i> (all-ten-STYE-nee-a)	<i>grandiflora</i> (grand-ih-FLOR-a)	<i>Phalaenopsis</i> (fail-en-OP-sis)
<i>Anathallis</i> (an-a-THAL-liss)	<i>guttatum</i> (gut-TAY-tum)	<i>Phragmipedium</i> (frag-mih-PEED-ee-um)
<i>anchoraelabia</i> (an-kore-ee-LAY-bee-a)	<i>Habenaria</i> (hab-ih-NARE-ee-a)	<i>Platystele</i> (plat-ee-STEE-lee)
<i>andersonianum</i> (an-der-son-ee-AY-num)	<i>helleborine</i> (hell-leh-BORE-ih-nee)	<i>Pleurothallis</i> (plur-oh-THAL-liss)
<i>antennifera</i> (an-ten-NIF-fer-a)	<i>helleri</i> (HELL-ler-eye)	<i>Polystachya</i> (pol-ee-STAK-ee-a)
<i>aspergillum</i> (ass-per-GILL-lum)	<i>heteranthum</i> (het-ter-AN-thum)	<i>porpax</i> (PORE-paks)
<i>atrorubens</i> (at-roh-ROO-benz)	<i>hirtzii</i> (HIRTZ-ee-eye)	<i>Porroglossum</i> (pore-roh-GLOSS-sum)
<i>aurea</i> (AW-ree-ah)	<i>hololeuca</i> (hoh-loh-LEW-ka)	<i>portillae</i> (pore-TEE-eye)
<i>besseae</i> (BESS-ee-eye)	<i>huebschii</i> (HEWB-she-eye)	<i>portmannii</i> (port-MAN-ee-eye)
<i>bivalvis</i> (bye-VAL-viss)	<i>Huntleya</i> (HUNT-lee-a)	<i>Prosthechea</i> (pros-THEK-ee-ah)
<i>blepharoclinium</i> (blef-are-oh-KLIN-ee-um)	<i>hutchinsonii</i> (hutch-in-SONE-ee-eye)	<i>pugiunculi</i> (poog-ee-UN-kew-lee)
<i>boissierianum</i> (bwa-see-ay-ee-AY-num)	<i>ibaguense</i> (ih-bah-GWEN-see)	<i>punicum</i> (PEW-nee-kum)
<i>borjaense</i> (bore-ha-EN-see)	<i>irrorata</i> (ir-rohr-AY-ta)	<i>purpurata</i> (pur-pur-AY-ta)
<i>bouffordianum</i> (boo-ford-ee-AY-num)	<i>Jumellea</i> (joom-ELL-a)	<i>pusilla</i> (pew-SILL-la)
<i>Broughtonia</i> (brow-TOH-nee-ah)	<i>klotzscheana</i> (kla-schee-AY-na)	<i>pygmaea</i> (PIG-mee-a)
<i>bulbophyllopsis</i> (bulb-oh-fill-OP-sis)	<i>koreanum</i> (kore-ee-AY-num)	<i>ramiro-medinae</i> (ram-ear-oh-med-EE-nee)
<i>Calanthe</i> (kal-AN-thee)	<i>lacustre</i> (la-KUS-stree)	<i>redowskii</i> (red-OVZ-kee-eye)
<i>calanthum</i> (kal-AN-thum)	<i>lanceolata</i> (lan-see-oh-LAY-ta)	<i>regalis</i> (ree-GAY-liss)
<i>calceolus</i> (kal-see-OH-luss)	<i>lankesteriana</i> (lan-kes-ter-ee-AY-na)	<i>Rhynchostylis</i> (rin-koh-STYE-liss)
<i>Catasetum</i> (kat-a-SEE-tum)	<i>latifolia</i> (lat-ih-FOL-lee-a)	<i>Rodriguezia</i> (rod-rih-GUESS-ee-a)
<i>Cattleya</i> (KAT-lee-a)	<i>latifolium</i> (lat-ih-FOL-lee-um)	<i>rosea</i> (ROH-zee-ah)
<i>Cattlianthe</i> (kat-lee-AN-thee)	<i>lehmannii</i> (leh-MAN-ee-eye)	<i>roseola</i> (roh-zee-OH-la)
<i>Chaubardiella</i> (show-bard-ee-ELL-ah)	<i>lendyana</i> (len-dee-AY-na)	<i>rubens</i> (ROO-benz)
<i>chocoensis</i> (cho-koh-EN-sis)	<i>leontoglossum</i> (lee-on-toh-GLOS-sum)	<i>rufescens</i> (roo-FESS-senz)
<i>Chondrorhyncha</i> (kon-droh-RINK-ah)	<i>Lepanthes</i> (leh-PAN-theez)	<i>sanguinea</i> (san-GWIN-ee-a)
<i>claviculata</i> (klav-ik-yew-LAY-ta)	<i>lilijae</i> (LEE-lee-hee)	<i>saragurensis</i> (sair-a-gur-EN-sis)
<i>Cochleanthes</i> (kok-lee-AN-theez)	<i>lindenii</i> (lin-DEN-ee-eye)	<i>scaphophorus</i> (ska-FEF-ore-rus)
<i>Coelogyne</i> (see-LOJ-ih-nee)	<i>Listera</i> (LISS-ter-a)	<i>sessilifolia</i> (sess-sil-ih-FOL-ee-a)
<i>colombiana</i> (koh-lum-bee-AY-na)	<i>loddigesii</i> (lod-ih-GEEZ-ee-eye)	<i>Sobralia</i> (so-BRAL-ee-ah)
<i>comorensis</i> (koh-more-EN-sis)	<i>Lycaste</i> (lye-KASS-tee)	<i>speciosum</i> (spee-see-OH-sum)
<i>cordata</i> (kore-DAY-ta)	<i>lycinum</i> (lye-SIN-um)	<i>sphaerantha</i> (sfair-AN-tha)
<i>cotacachiense</i> (koh-ta-kach-ee-EN-see)	<i>Lycomormium</i> (lye-koh-MORE-mee-um)	<i>Stanhopea</i> (stan-HOPE-a)
<i>crispiloba</i> (kris-pee-LOH-ba)	<i>macranthum</i> (mak-RAN-thum)	<i>Stelis</i> (STEE-liss)
<i>crispum</i> (KRIS-pum)	<i>Macroclinium</i> (mak-roh-KLIN-ee-um)	<i>Stenotyla</i> (sten-oh-TYE-la)
<i>cristata</i> (kris-TAY-ta)	<i>Masdevallia</i> (mas-deh-VAIL-lee-ah)	<i>strictum</i> (STRIK-tum)
<i>crystallina</i> (kris-TAL-lee-na)	<i>matangense</i> (mat-ang-EN-see)	<i>tectasepala</i> (tek-ta-SEE-pa-la)
<i>cylindrostachys</i> (sil-in-droh-STAK-iss)	<i>Maxillaria</i> (maks-ill-AIR-ee-a)	<i>Telipogon</i> (tell-ih-POH-gon)
<i>Cymbidium</i> (sim-BID-ee-um)	<i>misasiana</i> (miss-ass-ee-AY-na)	<i>tetragonum</i> (tet-rah-GO-num)
<i>Cypripedium</i> (sip-rih-PEED-ee-um)	<i>moniliforme</i> (mon-ill-ih-FOR-mee)	<i>thyrsiflorum</i> (thir-sih-FLOR-um)
<i>Cyrtochilum</i> (sir-toh-KYE-lum)	<i>monophyllos</i> (mon-oh-FILL-oss)	<i>tongolensis</i> (tong-ol-EN-sis)
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PRESIDENT'S MESSAGE

IN CASE YOU did not know, this President's Message, along with all the other articles in this issue of *Orchids* magazine had a deadline of six weeks ago. Why am I informing you of this? I want to go back to November and tell you some exciting news that came out of the American Orchid Society's 2018 fall Members' Meeting.

The meetings were held in Apopka, Florida, at the 115-year-old Highland Manor, an historic building, surrounded by old live oak trees, draped in Spanish moss. The venue was very different from normal hotel meeting rooms, not only in décor but in atmosphere. It was a charmer!

The biggest news from the meeting is that the American Orchid Society now has over 10,000 members! We are so happy to see our membership grow and we hope that number continues to climb. We are trying very hard to make you, the member, proud to be associated with AOS.

I mentioned in a previous President's Message that we have negotiated a room at our headquarters (Fairchild) for an archive room. We obtained three bids to have the room converted to "archive ready" and the Board of Trustees has approved the funds for the refurbishment. It is our hope that by the end of 2018, or just after, the archive room will be ready to receive our valuable collections of prints, stamps and similar orchid memorabilia that have been in storage since we moved to the Fairchild.

We also reviewed the results of a survey of *OrchidsPlus* subscribers, presented by Information Technology (IT) chair, Jay Balchan. These results give the IT Committee a direction in which to go as we are updating, adding and changing *OrchidsPlus* to make it more user-friendly. It was exciting to see so many people participate in this survey and the IT Committee has listened.

At the townhall meeting, in addition to reports given by our committee chairs, a number of recognition awards were given.

Greg Filter was presented with the Silver Medal granted in 2014 for his hundreds of hours of time donated to advance our IT projects. It was announced in 2014 but for many reasons never formally presented. At this meeting, we rectified the situation with a great BIG thank you from all of us at the American Orchid Society for the endless amount of work he continues to do for us.

Denise Lucero received a Certificate



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- [1] The Highland Manor in Apopka, Florida. Steeped in 115 years of history, the Highland Manor provided a classic and unforgettable backdrop for our fall 2018 Members' Meeting. Built by the Eldridge family in 1903 on the site of what was known as the Townsend Plantation, the property was purchased in the 1940s by the McBride family. In 1985, the house, the other historic buildings and most of the live oaks were moved to this current location.
- [2] The townhall meeting on Saturday saw a virtually standing-room-only crowd.
- [3] Ron McHatton (right) presents Greg Filter (left) his AOS Silver Medal in appreciation of his years of stewardship of our information technology development.

of Appreciation from the chair of the Affiliated Societies Committee, Deb Bodei, for her tireless energy. Denise creates the AOS Corner, the newsletter sent each month to our affiliated societies. Congratulations to Denise on a job well done!

Graham Ramsey received a plaque as outgoing chair of the Membership Committee (now merged with Marketing). We appreciate all of the work he has done for the Membership Committee.

Taylor Slaughter, chair of the Judging Committee, announced those judges who were elevated to their next judging phase and those accepted as student judges at this meeting. It was fun for me to greet our newly accredited, associate, and student judges at the meeting. It was especially exciting to congratulate Tom Pickford (newly accredited) and Lynne Murrell (new associate) because they are from my judging center! Congratulations again to all who were promoted or accepted into the program!

The last bit of business at our town hall meeting Saturday morning was my presentation of a President's Award. Recipients of President's Awards are selected solely by the president of the AOS to recognize those who have made outstanding contributions to our society. My choice already has a Silver Medal and an Outstanding Hybridizer's Award to his credit but I believe a President's Award is the perfect way to recognize all of the other contributions he has made to not only the AOS but for numerous societies at the local level. I am talking about Alan Koch of Gold Country Orchids. He has been a very strong supporter of the AOS, serving on the board as well as many of our committees over the years. He has been a major force behind many judging centers starting up Speakers' Days to help give back and say thank you to local societies associated with those centers. Not once have I ever heard of his turning down a speaking engagement, especially last-minute ones due to speaker cancellations. If he can physically get there, count on him to help! This all while running his own orchid business, judging, remaining very active in his own local orchid society, and acting as auctioneer for many society auctions AND the AOS semiannual auctions. Alan has been my friend and judging buddy for 30-plus years and I am proud to have selected him for an AOS President's Award.

Thank you to Wes and Laura Newton for all of the photography they did during the meetings! All their photographs can be



viewed at <https://tinyurl.com/ycveug6e>.

Our spring 2019 meeting will be in San Diego, California, March 20–24, at the Hilton San Diego Mission Valley. The customary Trustees' Planning Session will take place on Wednesday afternoon, March 20, 2019, followed by the Judges' Forum (don't let the name scare you off — anyone can attend) that evening. Our spring meeting is very important because it includes the election of trustees for 2019–2021. Mark your calendar now, so you do not miss our next Members' Meeting.

Our thoughts and prayers are with the people of California who are undergoing trial by fire and smoke as we go to press. I was near ground zero for the Camp Fire, which has demolished the entire town of Paradise (in northern California), when I gave a presentation to the Chico Orchid Society. The Camp Fire is a 2 ½-hour drive from Modesto, where I live, and to come

[4] Denise Lucero (left) is present an AOS Certificate of Appreciation by President Susan Wedegaertner (right).

[5] Graham Ramsey (left) receives recognition as the outgoing chair of the Membership Committee.

[6] Left to right: Phyllis Prestia (newly accredited judge – Pacific South Judging Center), Susan Wedegaertner (AOS President – California-Sierra Nevada Judging Center [CSNJC]), Tom Pickford (newly accredited – [CSNJC]) and Laura Bonnell (new accredited – [Toronto]).

upon burned pastureland for miles upon miles was devastating. I cannot imagine how people who lost their homes in all of the fires are coping and wish them only the very best.

Until next time, happy growing!
— Susan Wedegaertner, AOS President
(email: susan@aos.org).

Gifts of Note

In addition to vital support through membership dues, the American Orchid Society relies on grants, bequests and other gifts to support its programs. We would like to thank the following donors for gifts received between November 1, 2018 and November 30, 2018.

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V. Kultana 'Maui' • Photo is Courtesy of Cheryl Langseth

January: The Month of Persistent Instability

By Thomas Mirenda

A LITTLE OVER a year ago, at the last World Orchid Conference (WOC) in Guayaquil, Ecuador, I was, of course, enthralled by the wildly beautiful displays, featuring the astounding biodiversity of our favorite plant family. But there were also some extraordinary insights presented by the topnotch speakers at the symposium that ran concurrently with the exhibition, particularly about the reasons why orchids are so incredibly diverse. It would be impossible to summarize them all in a department article such as this (although the proceedings of the 22nd WOC will be released shortly); however, there was one presentation that, in my opinion, shed brilliant explanatory light on the subject of orchid biodiversity, and even has parallels to our own human existence.



Thomas Mirenda

Dr. James Ackerman spoke about the “persistent instability principle” and how the ever-changing environments of orchid habitats have led to the extraordinary breadth of speciation we see in the Orchidaceae, particularly in the epiphytic species. When you think about it, life in the trees is particularly subject to disturbance, be it forces of extreme weather or cataclysm; fires, earthquakes and eruptions come immediately to mind, as we all have vivid examples in the recent news. Orchids have the amazing, unique ability to not only adapt and recolonize new habitat after a cataclysm, but seemingly to evolve quickly to new situations, with new symbionts, be they host trees, differing mycorrhizae, or a separate cohort of pollinating partners. Did you know that Tungarahua Volcano in Ecuador, only 3,000 years old, is the habitat for many new species, including 12 telipogons found nowhere else? I leave you to ponder what this means for orchids in an evolutionary context.

Whether or not you believe climate change is natural, or exacerbated by human activity, I am heartened to think orchids may survive and even speciate further, if the changes do not come too swiftly. It also gives me hope that my own existence, and that of my friends, so often darkened by personal cataclysms, may actually lead to stronger adaptive abilities within us and ultimately, transcendence

into something even greater than we are today.

CHANGE IS GOOD This month your collection, while often in glorious bloom, is mostly sleeping, and really does not need too much fussing over. Watering and fertilizing should be minimal for those blooming phalaenopsis, cymbidiums, lycastes, and nobile dendrobiums. Of course, unless they are truly deciduous orchids, such as catasetums and habenarias, they should be somewhat hydrated or flowers will wilt. Just be sensitive to the fact that until new growth commences as the photoperiod increases, too much food and water can do more harm than good.

CHANGE IS BAD Even if your plants have shifted into dormancy, and seem to require wild seasonal shifts to complete their life cycles (certainly true of temperate terrestrials and dry forest epiphytes), the overwhelming majority of tropical epiphytes that populate our collections actually need some consistency in temperature, humidity and light levels. It is often a really subtle shift that results in an excellent blooming, such as letting your temperatures dip slightly below 60 F (15.6 C) at night this time of year. Many of the popular orchids we classify as intermediate growers — cattleyas, oncidium intergenerics, many slipper orchids, etc. — respond gloriously to these gradual changes. This is the time of year during which temperature and photoperiod shifts begin to induce inflorescences on many spring-blooming orchids. Take advantage of this natural variability, so easy to manipulate when it is colder outside.

CHANGE IS CONSTANT The fact that the earth rotates and its seasonal precession about its axis contributes in profound ways to the complexity of our planet, and not coincidentally, on the orchids that inhabit it. Often orchids from five continents may inhabit the same windowsill, greenhouse or garden. It is a tribute to their incredible adaptability and plasticity that they can still survive together under a prescribed set of cultural parameters that we often define as warm-, intermediate- and cool-growers. These three regimes are actually woefully inadequate for the cultural classification of orchids, leading us to create microclimatic

subsets within our growing areas. Success is often the result of trial and error (or hopefully, trial and success). If a plant does not seem to be doing well, read about its individual needs and try to find a place in your growing area more amenable to its nature.

THE STATE OF FLOW When humans are thriving, with everything going smoothly, we have everything we need and happiness abounding, we are said to be in a state of “flow.” While I believe this is a more common state of being here in Hawaii, for both people and orchids, we may have to work harder at providing this in other parts of the world, particularly as we approach the poles. This month as we approach the most frigid and least comfortable and hospitable season for orchids outside, at least in the northern hemisphere; please pay serious attention to the heating, lighting, airflow and hydration in your collection. While the needs indeed vary from plant to plant, some basic needs are common to them all, just as they are to all people. Get to know each plant as you would a new friend, and they will respond to your interest and kindness with kindnesses of their own.

Although persistent instability may be a driver of evolution and future progress, for those of us in the here and now, a little support and cultural stability will lead to glorious and thriving plants as well as beautiful orchid friendships.

— *Tom Mirenda has been working professionally with orchids for over three decades. He is an AOS accredited judge and is the chairman of the American Orchid Society's Conservation Committee. He recently coauthored The Book of Orchids: A life-size guide to 600 species from around the world (email: biophiliak@gmail.com).*

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PAST, PRESENT, FUTURE

The Taiwan International Orchid Show

By Ron McHatton

Photographs courtesy of the Taiwan Orchid Growers Association unless otherwise credited



The first of the six landscapes, entitled **High Mountains With Lofty Ridges** is intended to convey to the visitor the sky line created in China by layers of ancient mountains.



STUNNING, DAZZLING, GORGEOUS, impressive, sensational, spectacular, striking, wonderful, out-of-this-world, amazing, magnificent, overwhelming...just a few of the adjectives that come to mind viewing the Taiwan Orchid Growers Association display at the 2018 Taiwan International Orchid Show in February of 2018.

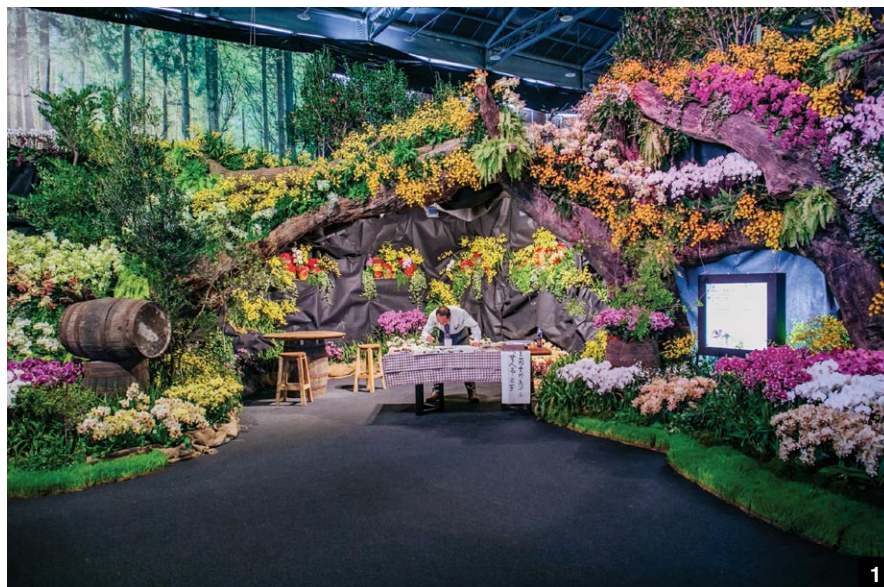
My first experience with the show was as an AOS judging at the 2002 show and over the last 17 years, this show has continued to become ever more spectacular, now sprawling through four separate huge halls. In February of this year I was invited by the Taiwan Orchid Growers Association (TOGA) organizers to return and experience what the show has become. It clearly belongs on every orchid grower's bucket list.

Visitors to the show were first greeted by the TOGA display which occupied all of hall 1. This year, over 200,000 plants (yes, the decimal point is in the right place) were used to create the six integrated landscapes that portray the form of "nature, humanity and art" reproducing ancient scenes from the Preface to the Poems Composed at the Orchid Pavilion. Here visitors, young and old, traveled back in time experiencing the amusement and delightful enjoyment of Wang Xizhi's springtime gatherings.

EXCEPTIONAL QUALITY If the sight of 200,000 orchid plants woven into tens of thousands of square feet (thousands of square meters) of display is not overwhelming enough, perhaps the more than 1,400 superb specimens entered for judging consideration might be. The Taiwanese companies and growers who take part in the Taiwan International Orchid Festivals are exceptional growers and breeding efforts are some of the best in the world.

Although the show this year was not AOS judged, results from prior years will give you some idea of the level of quality to which visitors are treated. Last year there were 123 AOS awards in 17 different genera, 12 of which were First Class Certificates (FCC)! I am old enough to remember when 12 FCCs was a big number for our entire judging system. Along with those 12 FCCs, there were 92 Awards of Merit, 11 Certificates of Cultural Merit, three Certificates of Cultural Excellence (more than 90 points), a Gold Certificate to a display scoring more than 90 points and three Silver Certificates went to additional displays scoring between 85 and 89 points. Although Taiwanese breeders are world renowned for their work in phalaenopsis, they are also making stunning headway in paphiopedilums, cattleyas and the vandaceous alliance.

THE VENDORS For the shopaholic in all of us, the Taiwan International Orchid Festival doesn't fail to deliver there too with more than 100 vendors selling everything from orchid related collectibles to plants — and more plants...and more



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- [1] The second landscape from the Orchid Pavilion, *Discussing Poetry While Warming Wine*.
- [2] *Tall Bamboo Groves Amid Dense Forest*, is the fourth of the Orchid Pavilion's landscapes.
- [3] *Maple Bridges* invites viewers to share in the same elated enjoyment as the scholars of the time of the Orchid Pavilion Collection. What a delightful experience!
- [4] Just a small sampling of the 1,400 outstanding plants entered for judging.
- [5] This specimen of *Dinema polybulbon* was nearly 3 feet (approximately a meter) across and hand hundreds of 1-inch (2.5 cm) flowers.
- [6] Many Taiwanese growers produce exceptional specimen plants. This *Rhynchostylis gigantea* was in the running for Grand Champion.
- [7] *Rhyncholaeliocattleya* Sung Ya Green, one of the cutting-edge breeding lines in Taiwan.

plants. If you go, do yourself a favor and get an import permit from the United States Department of Agriculture (www.aphis.usda.gov/aphis/home/) before you go. You will regret not doing so if you go without one. There are exceptions to the requirement for an import permit for small numbers of hand-carried plants but there is always the risk of having them confiscated.

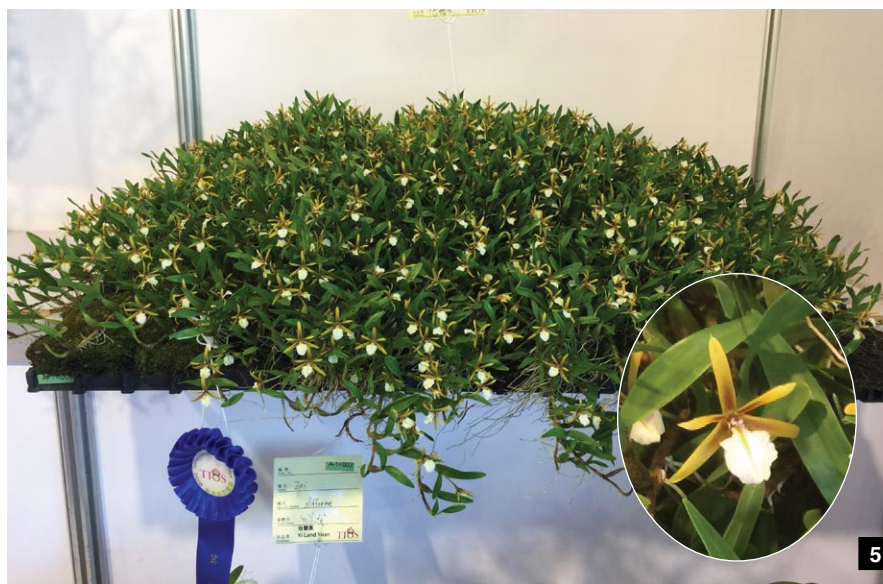
The TOGA organizers have perfected the process of issuing phytosanitary certificates and CITES documentation at the show. The vendor sales hall includes a station, manned throughout the show, where government officials inspect plants and issue required documents. The process is very efficient and very fast. When I went it took me less than 20 minutes, start to finish. There are even bins to facilitate the barerooting of your purchases; a requirement for importations into the United States.

A word about the exchange rate. Do not forget that the exchange rate between the new Taiwan dollar (NT\$) and the United States dollar (\$) is around 31 NT\$ to US\$ so when you see those NT\$200 price tags, that is only a bit over \$6! Did I say shopaholic?

Oh, and take cash or an ATM card. A very few of the largest vendors accept credit cards but most do not and, to be honest, finding an ATM machine wasn't an easy task either. There's nothing more frustrating to an orchidaholic to be immersed in a sea of vendors selling every plant we've ever imaged we had to have and either running out of money, or not having a permit facilitating easy importation. If this is a once-in-a-lifetime trip, make it so. — Ron McHatton (email: rmchatton@aos.org).



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**2019 Taiwan International
Orchid Show
March 1–11, 2019**

GETTING THERE IS easier than ever as numerous daily flights to Taipei and Kaohsiung are available. Check out the Taiwan International Orchid Show website at <http://www.tiostw.com/> for detailed information regarding the connections from either Taipei or Kaohsiung as well as selecting accommodations. For the 2018 show, I stayed at The Place Tainan (<http://www.hotelroyal.com.tw/tainan/EN/index.aspx>). Rooms are comfortable, reasonably priced and the hotel is directly connected to a shopping mall with a number of good restaurants.



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From the AOS Conservation Committee

A CALL-OUT FOR CONSERVATION

THE AOS CONSERVATION Committee has a long legacy of helping upcoming generations of orchid conservationists around the world with small grants, publicity and dissemination of information about their important work. We are currently contacting our recent grantees to get updates on their activities and report to you, our readers, on the progress achieved in their conservation efforts.

We aim to continue nurturing orchid conservation initiatives well into the future. All AOS members can be proud of their contribution to this effort. To be most effective in the future, we feel it is time for a self-assessment of our mission and activities in order to do the most good with our limited funds.

As part of this effort, we are hoping to get a better understanding of orchid conservation activities around the world. We are aware of many, but believe that collectively, we can get a better grasp on the worldwide effort generated by the multitude of individuals working in isolation toward the greater good. We hope to hear from you, our AOS members about conservation efforts, small or large, that you may have knowledge of, in order to broaden our own awareness of what efforts are being undertaken. We think it would be worthwhile to compile these conservation efforts into a listing resource and consortium bringing the disparate stakeholders of the orchid conservation world together. Such a resource would encourage collaboration, sharing of knowledge and expertise, and would give a greater awareness of where great progress is being made, as well as where further progress should be encouraged.

We are calling out to our membership and other interested parties to send us information on orchid conservation projects. If these amazing plants are to survive into the future, our collective efforts should be celebrated and supported. The Conservation Committee will look at all submissions to this consortium, publicize them in *Orchids* magazine and other journals where additional support might be obtained. We look forward to hearing from you.

AOS CONSERVATION AWARDS AND THE PHILIP C. KEENAN AWARD

THE AOS CONSERVATION Committee requests nominations for our annual conservation awards. These prizes are intended to encourage and reward conservation efforts, even smaller efforts that may be less prominent, but still meritorious. Perhaps you know of someone who monitors an in-situ orchid population, or propagating a rare species for reintroduction. Maybe it is a teacher who has shared their enthusiasm for wild orchids with their students, seniors or the general public. Do you know a photographer or artist who has raised awareness for the community regarding the fragility of orchid habitat and the importance of their ultimate survival? Please contact us at conservation_committee@aos.org if you have a conservation "hero or heroine" you would like to nominate for this prestigious recognition. Their efforts will be featured in *Orchids* magazine. To nominate a conservation hero, please see www.aos.org/about-us/orchid-research/conservation-awards.aspx

FOR BEGINNERS

Navigating the Sea of Information on the AOS Website

by Eileen M. Hector

A Multipart Series — Helping You Stay Afloat

CULTURE SHEETS

TO THOSE NOT familiar with the scientific world, the word "culture" may have a completely different meaning. Some may think it pertains to the arts and humanities. You could say that alternately as a verb it also applies to the art of growing orchids. The AOS website offers a full net of aids to help us with our most recent haul of orchids. Once you learn what kind of orchid you have, you must learn the conditions in which it will survive.

Under "All About Orchids" (<http://www.aos.org/orchids.aspx>) there is a drop-down menu titled "Culture Sheets." Here you will find easy-to-understand growing guides for many of the popular orchid genera. Some of the most popular genera have two levels of care sheets —

one level is for the novice grower. These guides offer the basics from common orchid nicknames, to phonetically correct name pronunciation, to light, temperature, water, humidity, fertilizer and potting requirements. Along with the list of culture sheets, there are several other documents on topics such as "Frequently Asked Questions," "Growing Orchids in Your Home," and "Watering Know-How."

Each culture sheet has the recommended basics all spelled out on a one-page printable document in PDF format. To help your orchids thrive, you might even want to print a page for each of the orchids in your collection and keep it as a handy reference in your growing area. Many of the printable culture sheets

are translated into other languages. You also have the option of reviewing html versions on the web page that can be translated into nearly any language. The html version includes full color orchid photos, too.

Overall, the culture sheets are a great catch for anyone fishing for the basics on how to grow orchids. To learn more in depth about the orchids that grow well in your area, consider joining a local AOS-affiliated society. See: <http://www.aos.org/About-Us/Affiliated-Societies/affiliated-societies-lookup.aspx>.

— Eileen Hector is an AOS Marketing and Membership Committee volunteer and a proofreader of *Orchids Magazine* (email: em.hector@verizon.net).

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A Project on a Genus, Species or

By Jean Allen-Ikeson

YOU MAY BE about to start a project on an alliance, genus, or an individual species or hybrid and its offspring for a presentation, for judging homework or for a school project. Although you know the topic as a starting point, you will also want to organize the project around the most important features or history. For that, you need to start looking for articles. The AOS Webinar called Research Sources for Orchid Judges will be useful in finding articles on aos.org. It will teach you a few tricks to enrich your efforts.

But you may still be at the point of deciding what species or hybrids are the most important. Perhaps you are researching a genus and want to know what has influenced the genus the most in its hybrids. For example, if you go to Award Search in *OrchidsPlus* (available at SHOP on the aos.org website; \$58.50 yearly for both the online and disk version), simply type in *Broughtonia* and check the species/hybrid box for species only. The program will generate a list of species for that genus with the award to each clone of that species. The advantage of the Award Search is that it shows how many awards have been given to each species, the photo (if available) and the description for each as you scroll down the page. This particular search rapidly makes it clear that *Broughtonia sanguinea* has the most awards and that there are a number of color varieties for it.

Bingo. You know the most awarded species but now you also know there are varieties to it, which may open different lines of breeding in hybrids. Of course, check the World Checklist of Selected Plant Families for *Bro. sanguinea* for varieties that are accepted. It may be that some of the earlier awarded varieties are horticultural rather than taxonomic varieties or formas.

Now that you have a list of the species, try doing a Hybrid Search from the Search menu for each species. You must put in the name of the species or hybrid for which you are searching. If you leave the genus out, you may get other unrelated genera, which confuses the matter such as *Masdevallia sanguinea*.

Note if you suspect that a name has changed, there are two choices for

The screenshot shows the 'Award Search' interface in OrchidsPlus. On the left, there are search filters: 'Award Number' (empty), 'Genus' (Broughtonia), 'Abbreviation' (Bro), 'Species / Hybrid' (Species), 'Name / Epithet' (Contains), 'Cultivar' (empty), 'Include Synonyms' (unchecked), 'International' (AOS), 'Award' (All), 'From' (1932-01-01), and 'To' (2018-10-09). The main table displays 18 records for *Broughtonia sanguinea* and its varieties. The table columns are Genus, Species or Hy..., Cultivar, Award, Score, Date, and Photo. The records include names like Memoria Clinto..., Hamlyn's Super..., Nicole Hamilton, Taino Spirit, Bredren, Elizabeth Cardo..., Paraiso, Mei-Ling, Cloud's Snowfl..., Kyleidoscope, Elizabeth, Claudia, Andrew Hamilt..., Jamaica, Elliott's First, White Knight, Bibs Chen, Bob's White, Robin, Krull's Snowball, White Angel, and Laina. The 'Krull's Snowball' record is highlighted in yellow.

18 records retrieved

Click on any name to see a detailed overview.

Names in **bold** indicate accepted names, plain list indicates non accepted names.

Odontoglossum crispum Lindl., Ann. Mag. Nat. Hist. 15: 256 (1845).

Odontoglossum crispum var. *andersonianum* (Rchb.f.) A.H.Kent in H.J.Veitch, Man. Orchid. Pl. 1: 25 (1887).

Odontoglossum crispum var. *bluntii* (Rchb.f.) Stein, Orchid.-Buch: 379 (1892).

Odontoglossum crispum var. *chestertonii* A.H.Kent in H.J.Veitch, Man. Orchid. Pl. 1: 26 (1887).

Odontoglossum crispum var. *flaveolum* Rchb.f., Gard. Chron., n.s., 13: 41 (1880).

Odontoglossum crispum var. *hyperxanthum* Rchb.f., Gard. Chron., ser. 3, 1: 477 (1887).

Odontoglossum crispum f. *hyperxanthum* (Rchb.f.) Christenson, Richardiana 7: 76 (2007).

Odontoglossum crispum var. *jenningsianum* (Rchb.f.) A.H.Kent in H.J.Veitch, Man. Orchid. Pl. 1: 26 (1887).

Odontoglossum crispum var. *latranum* Bosschere, Ill. Hort. 42: 189 (1895).

Odontoglossum crispum var. *lehmannii* Rchb.f., Gard. Chron., n.s., 13: 712 (1880).

searching for synonyms. First, try the World Checklist (<https://wcp.science.kew.org/qsearch.do>). Type *Odontoglossum crispum* into the Quick Search box. Clicking Search will produce 18 results, none of which are in bold type. To find the current accepted name, click on *Odontoglossum crispum* and the next screen will show that *Oncidium alexandrae* is the currently accepted name.

Secondly, in *Orchidwiz* (available from orchidwiz.com, \$295, \$95 annual renewal

- [1] Partial results of an *OrchidsPlus* search for species of *Broughtonia*.
- [2] Search results from the World Checklist of Selected Plant Families for *Odontoglossum crispum*.
- [3] Partial results of an *OrchidWiz* search for *Odontoglossum crispum*.

an Important Hybrid

The screenshot shows the OrchidWiz X5.0 application window. The search results table is as follows:

Genus	Hybrid Name (Epithet)	Author/Registr.	Year
Odm	crispum	Lindl.	1845
Odm	crispum (Premier type)		
Odm	crispum f. album		
Odm	crispum f. aureum		
Odm	crispum f. flaveolum	Rchb.f. in ?.	
Odm	crispum f. hyperxanthum	(Rchb.f.) Christe	2007
Odm	crispum f. luteo-radiatum		
Odm	crispum f. maculatum		
Odm	crispum f. punctatum		
Odm	crispum f. purpurascens		
Odm	crispum f. roseoviolaceum		
Odm	crispum f. tipo		
Odm	crispum f. virginale		

The detailed view on the right shows the species *Oncidium alexandrae* with a green checkmark and the registration '(Bateman) M.W.Chase & N.H.Williams (2008)'. Below this, it lists 'Awards: 57', 'F1 Offsp.: 475', and 'Progeny: 8,388'. There are also buttons for 'Cross with...', 'Profile', 'Names', 'Awards', 'Genus', 'F1 Offsp.', 'Img Refs', and 'Cultivate'.

for updates issued quarterly), go to the Search tab in the upper left corner of the start screen. Click the down arrow and scroll to Orchid. Type *Odontoglossum* in the Genus box and *crispum* into the Orchid Name box and click search. On the left you will see synonyms and varieties but on the right, there is a large box with *Oncidium alexandrae*, which is the current name. In that large box, there is a button with Names. Click on that and it will bring up another screen with the accepted name with a green check by it and a long list of synonyms and varieties. *OrchidsPlus* only gives the accepted name so previous awards under *crispum* will be under *alexandrae*. However, as you search for articles, you now know that you need to search for both names

It is useful to also search *orchidspecies.com* for basic descriptions and *in situ* locations for the species. Taxonomic references are given under each species, which may be useful if you are developing a historical side to your project.

It is easy to assume that the most important species or hybrids are the ones that are most awarded or have the most

awarded offspring, which you can extract from *OP*. There is a flaw in this. A species may only have a few awards to it but it may have been instrumental in the development of a major breeding line such as so-called bulldog or complex paphiopedilums or a species or hybrid may have been popular and awarded by the Royal Horticultural Society numerous times while it was 'hot' and therefore does not appear in the AOS record (which began later) with numerous awards. *Cymbidium Alexanderi* only has six AOS awards spread over four clones, yet many more clones were awarded by RHS in the early part of the twentieth century when it was a sensation and became the basis for numerous breeding lines.

Another approach to finding the significant species or hybrids of a genus is to use *Orchidwiz*. The LIST menu is probably one of its most useful features for this purpose. There are a number of lists that I find beneficial. Orchids Most Awarded, Orchids Most Hybridized and Orchids with the Most Awarded Offspring are my favorites. You can limit the search to a genus such as *Tolumnia* or an overall breeding group like the *Oncidium* Alliance,

and by species, hybrids or both. If you are looking for miniature species within a group, using List, go to Species and the menu for that gives you the option to just search for mini species.

Orchids Most Awarded produces a list with a group of orchids that have been recognized for quality or horticultural aspects ranked from most to least awards within the group or genus. *Orchids Most Hybridized* suggests the ones that have been most popular and *fertile* in hybridizing while *Orchids with the Most Awarded Offspring* suggests the orchids that have made quality hybrids. I blend the three lists together manually and come up with a list of possible orchids to cover. However, there are plants that will not be high on all three lists: *Onc. Alexanderi* has few awards because it is around 100 years old yet it has a huge number of progeny, many of which have been awarded. So, it would wind up on my list of plants to cover because it is obviously significant.

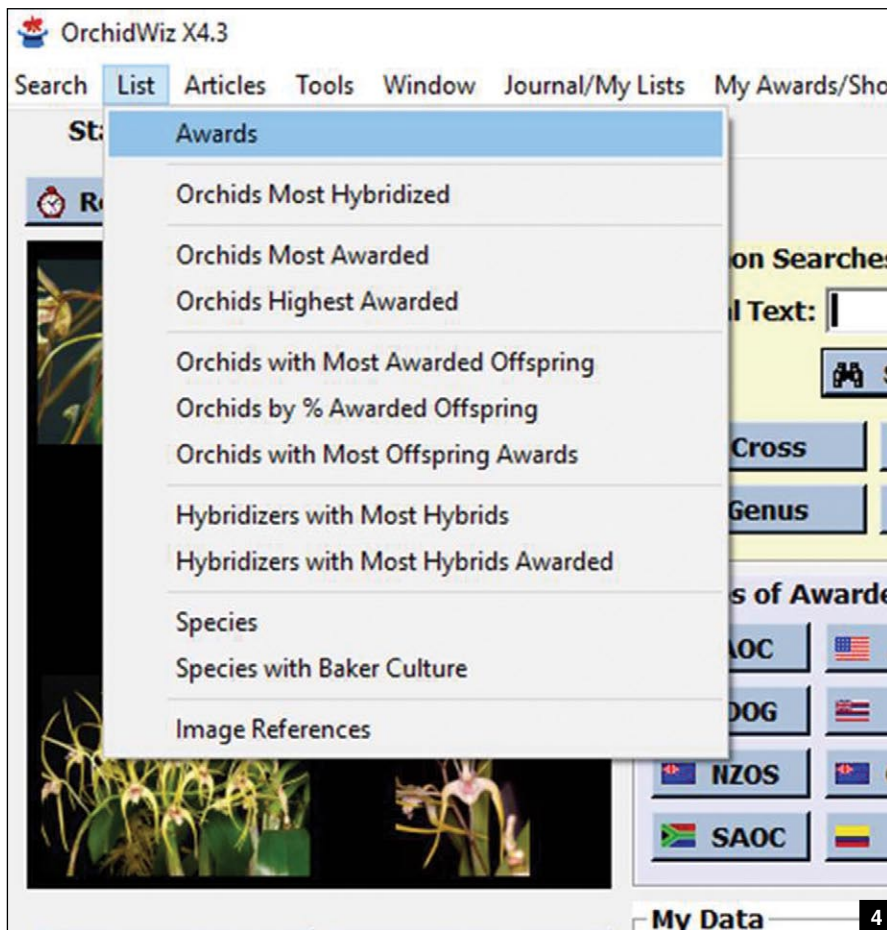
A reverse may be true for a species that was found relatively recently or a hybrid registered in the last ten years or so. These may have received many awards but have

not been around long enough to be in the top 20 or 50 on a list as a parent, yet nevertheless are already showing promise. Consider these for your list.

Clicking on the F1/Offspring button on the Profile page for any species (you can also click on the Primary button to access only hybrids between two species) or hybrid in *OrchidWiz* provides you with a list of hybrids, and on each line, the other parent, the name of the hybrid, the number of offspring for the resulting hybrid, the number of awards (from multiple awarding groups), and the date of registration. You can quickly get a general idea of how they breed by scrolling down the list of hybrids and just *looking* at the flowers. It is obvious that *Dendrobium tetragonum* is dominant for form and when crossed onto flowers without markings, the resulting hybrid often loses the markings or they are lessened. But there are exceptions, notably when *Dendrobium speciosum* is the other parent as in the case of *Dendrobium* Hilda Poxon. This is what makes studying hybridizing so interesting. You may find strong trends, but there are always exceptions to the rule. Speculating on why is even more interesting. We know why markings appear from science, but not why they appear in certain places on a flower or why the markings take on a particular form such as spots versus a picotee. Those interested in the patterning on appaloosa horses are ahead of us in that aspect and have begun to work the genetics out.

So what is left is to pick out the best and/or the most interesting hybrids per se and their awards, what is significant about an award, and those that have potential for further breeding or to point out that fertility seems to disappear after a few generations. This is not uncommon, although perseverance of hybridizers may overcome the early perceived limitations, for example, *Cattlianthe* Chocolate Drop.

Finally, now that you are an expert, you might speculate on future directions in breeding by line breeding of the species, or new crosses in the hybrids, and by consulting with experts in these orchids. For that, look at who is receiving the awards and who has been registering the hybrids in the last 15 years as a start. Contact such people last, not first!!! You want your questions to be cogent and you cannot expect the expert to write the project from scratch for you! Last but not least, reference your sources properly and use the style guide on <http://www.aos.org/about-us/article-submissions/style-guide-for-aos-publications.aspx> and scroll down



to the References section. It is also a good idea to copy the pertinent sections from articles or books that you have used in your project. As you make copies, write on the copy the journal name, volume, issue, and page number or, for books, the publisher, location of the publisher and the date of publication and the title of the book.

— Jean Allen-Ikeson chairs the AOS Editorial Board. She is an accredited judge in the Toronto Center and serves as the Center's Training Coordinator (email: Jean.Ikeson@gmail.com).

[4] Use List in *Orchidwiz* to generate a list of possible species or hybrids to cover in your project. By printing and collating Orchids Most Hybridized for the genus or group you are covering, and similarly with Orchids with Most Awarded Offspring and Orchids Most Awarded, you can come up with the majority of important orchids to cover.

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Aerangis. *Angraecum*. *Cattleya*: aclandiae; amethystoglossa; intermedia; lawrenceana; leopoldii; luteola; schilleriana; violacea; walkeriana. *Cyanoches*: barthiorum; cooperi. *Dendrobium*: atroviolaceum; johnsoniae; laevifolium; purpureum; spectabile. *Encyclia*. *Oncidium*: papilio; papilio v. alba; kramerianum. **MANY MORE!**

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March 12, 2019 at 8:30 pm EDT — Shop Like a Judge (Orchid Q&A) with Lois Cinert, Chair of the Chicago Judging Center.

For webinar announcements and login information check www.aos.org/orchids/webinars.aspx. Webinar announcements are posted to Facebook, Instagram and in the AOS Corner of your affiliated society's newsletter.

GREATIdeas

Text by Jean Allen-Ikeson

Space for More

DO NOT EVER tell me there is not room for one more orchid, even a miniature, in my growing area! Otherwise, I think I might suffer Victorian vapors like a damsel in an old silent movie. Here are a few clever ideas for making more room and saving you from no-more-room orchid despair.

Although many of these are suitable for sunrooms and greenhouses, a few will work for growers using lights and windowsills. The common idea is that once you have used up your bench or shelf space, which are horizontal surfaces, go vertical or hang your orchids. This does not mean that you can only hang mounted plants or vandas and stanhopeas in baskets, you can also hang plants grown in pots. Pot hangers are easily purchased or you can bend your own.

But what to hang them on, you ask? Think outside the box. My brother Don Maples in College Station, Texas is one such outside-the-box thinker. He noticed that a local store was throwing out a tall, "gadget display stand" and offered to take it to the dump for them. Actually, there would be a detour to his greenhouse. But such a stand could also be placed in front of a window or alongside sliding glass doors.

Vinyl-covered wire shelves like the kind used in remodeling closets can be placed at the end of benches for a vertical rack from which to hang plants, hung from the ceiling or used as a shelf in your growing area or windowsill. When used as a shelf, these can have pots placed on them, and plants can also be hung from them. The best ones are those with a lip from which you are meant to hang clothes hangers in addition to having shelf space.

You can also buy heavy wire panels meant to be used as filler for metal-frame gates that farmers either buy or build themselves. Farm supply stores such as Tractor Supply Center (TSC in Canada) often sell them. There have traditionally been two sorts: cattle fence panels (also called feedlot panels) with narrower spaces at the bottom than at the top and 50-inch (1.27 m) high or 34-inch (86 cm) high hog panels. Both are made using welded 4-gauge wire, which is a bit more than 0.2 inches (5.1 mm) in diameter. These come in 16-foot (4.9 m) lengths, but you can take a pair of bolt cutters to the store and cut them small enough to fit



1

DON MAPLES



2

DON MAPLES



3

DON MAPLES



4

DAVID BUTLER

- [1] Don Maples' discarded "gadget rack." Stores often toss these in the trash when merchandising changes. They can make excellent hanging racks.
- [2] Here a vinyl clad shelf has been used to create a vertical hanging space for additional plants.


- [3] Here a piece of fencing material has been used to create a hanging ceiling for relatively light-weight plants.
- [4] Here David Butler has used fencing material to create a vertical hanging wall in front of a greenhouse wetpad.

in a van or a pickup. Or perhaps the store will deliver them if you need several for a larger greenhouse. They cost less than \$25 in the USA and \$90 in Canada.

For smaller areas, such as to attach to the back of a plant light stand, you can also find “wire deck panels” that are 2 × 4 feet (61 cm × 1.2 m) with ¼-inch (6.4 mm) thick, rigid wire similar to the larger cattle panels. You could also hang one of these smaller panels from the top of a window frame or suspend it from “eyes” that are screwed into the top of window trim where they do not show. Note you will probably have to have eyes long enough to go through to studs in the wall, especially if the trim is thin or medium-density fiberboard. You may also hang these panels on the back or side of a light stand to hang small plants.

Another take on wire panels comes from David Butler in Australia, who has covered the back wall of a greenhouse or shade house with these heavy-duty wire panels and hangs the pots in rows. If you flipped the “vertical bench” to horizontal, it would look like a normally spaced orchid bench. Such an installation gives you room for a LOT more than one or two plants. It is probably a good idea to set the panels off from the wall if you are doing this in a sunroom or porch so that there is space beyond the panel to hook the pot hangers over and to provide more air circulation to your plants. You might also offset the bottom of the panel farther than the top from the wall so that the pots are more likely to hang straight. He has made his own hangers by wrapping heavy, stiff wire just under the pot rim and then crisscrossing it around to either side and looping the ends over the wire panel. Note that you need to have panels with small enough spaces in them that the pot bottom butts against another wire rather than the bottom tipping through the panel or to space the pots so that the bottom is centered over a vertical wire.

Any of these heavy wire panels can also be suspended from the ceiling horizontally so that you can hang plants from them. Hangers that grasp the rim of pots are easily available, although they work best and are more stable on clay pots. You can always use a clay pot as a holder and drop plastic pots into them, which is another way of recycling old clay pots that have become saturated with mineral salts. All these solutions for hanging plants obviously will accommodate both mounted plants and orchids in pots. If you have solutions I missed, please send them to me so that we can share them with our




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5 DAVID BUTLER

orchid friends.

— *Jean Allen-Ikeson chairs the AOS Editorial Board. She is an accredited judge in the Toronto Judging Center and serves as the Center's Training Coordinator.*

[5] Circular wire hangers. Having two hooks at the back of the hanger adds to the hanger's stability. These work best with clay pots because of the larger rim. A plastic pot can always be slipped into the empty clay pot.



Stenotylis panhysteriana

Sylvia Strigari

Stenotyla lankesteriana

Text by Franco Pupulin/Watercolor by Sylvia Strigari

Tribe Cymbidieae
Subtribe Zygopetalinae
Genus *Stenotyla* Dressler

Stenotyla lankesteriana (Pupulin) Dressler, *Lankesteriana* 5:96 (2005). Basionym: *Chondrorhyncha lankesteriana* Pupulin, *Lindleyana* 15:21 (2000). Type: Costa Rica. Without definite locality, a confiscated plant flowered in cultivation at Lankester Botanic Garden at Paraiso de Cartago, 1,400 m, 19 May 1999, *F. Pupulin 1467* (holotype USJ; isotype SEL-spirit!).

An epiphytic, caespitose, fan-shaped herb to about 20 cm tall. *Pseudobulb* vestigial, ovoid, complanate, ca. 10 x 4-5 mm, completely hidden by the leaf sheaths, apically provided with a rudimentary leaf and enclosed by 5–9 distichous sheaths, the upper ones foliaceous. *Leaves* subcoriaceous, oblanceolate to linear-lanceolate, acute, with slightly undulate margins, 7–20 x 1–1.3 cm, contracted at the base into a conduplicate petiole to 2.8 cm long. *Inflorescences* 1–2 per shoot, erect to gently arched, single-flowered, lateral, produced from the base of the stem and arising from the axil of basal cataphylls; peduncle terete, stout, 3.2–4.2 cm long, provided with a funnel-shaped, broadly ovate, acute bract 7 mm long. *Floral bract* conspicuous, funnel-shaped, acute to acuminate, 7 mm long. *Pedicellate ovary* clavate, arcuate, with low, undulate wings, 1.2 cm long including the pedicel. *Flowers* spreading, white, the lip blotched adaxially with dark purple at the base, this slightly visible without. *Dorsal sepal* narrowly elliptic to lanceolate, acute, concave, dorsally carinate, 24 x 8 mm. *Lateral sepals* linear-elliptic, subfalcate, acute, connate with the base of the column foot, strongly concave, subgeniculate at the middle, the basal margins convolute, apically strongly divergent, 26 x 8 mm. *Petals* elliptic-lanceolate, acute to obscurely apiculate, with revolute apex, 22 x 9 mm. *Lip* entire, tubular, elliptic when spread, truncate, with a short apicule, obscurely cordate at the base, the apical margins slightly undulate/crisped, the basal lobes erect, clasping the column, 27 x 18 mm; the base of the disc with a low, deltoid, truncate, laminar callus 4-toothed at apex. *Column* straight, semiterete, widening toward the stigma, with a short foot, 12 mm long.

Anther cap cucullate, obovate-complanate, 4-celled. *Pollinia* 4, narrowly obovate, in two pairs of different size, on a short, obdeltoid stipe scarcely distinct from the hyaline, shield-shaped viscidium.

Bob Dressler proposed the genus *Stenotyla* in 2005 for a small group of species previously assigned to *Chondrorhyncha* and *Warczewiczella* with small, somewhat vestigial pseudobulbs almost completely concealed in the leafy sheaths (Whitten et al. 2005). The so-called *Chondrorhyncha* complex is a derived group within the Zygopetalinae, and one of its characteristics is the loss of the pseudobulb, which represents the ancestral condition in the subtribe. The species of the more basal groups, both those with plicate leaves close to *Warrea*, and those with conduplicate leaves close to *Zygopetalum*, are truly pseudobulbous. Nevertheless, it should not be surprising that this ancestral state of the stem (in the subtribe) may reappear, though not frequently, in the form of small, and probably nonfunctional, pseudobulbs, in the derivative group of species of the *Huntleya* clade. I have personally observed vestigial pseudobulbs not only in *Stenotyla*, but occasionally also in *Chaubardiella* and *Warczewiczella*, and recently Uribe-Velez and Saulea (2018) have recorded the presence of a reduced pseudobulb, barely 5 mm long, in another species of the group, that the authors newly described as *Chondrorhyncha chocoensis*. *Stenotyla* is uncommon in the *Chondrorhyncha* complex due to the consistent presence of pseudobulbs in all its species. The species of the genus can be distinguished among other Zygopetalinae of the *Huntleya* clade by the narrow, laminar callus at the base of the lip (not in the middle) and the short chin at the base of the lip. Bob Dressler first noted the distinctiveness of the “*Chondrorhyncha*” species allied to *Chondrorhyncha lendyana*, and he keyed out the group on the basis of the column without wings and the narrow, toothed callus (Dressler 2000). The phylogenetic analyses based on DNA sequences by Whitten and collaborators (2005) placed the species of *Stenotyla* in a clade with strong bootstrap support, which has moderate support as sister to *Cochleanthes*.

Uribe-Velez and Saulea (2018) have recently argued that the phylogenetic

analyses of the Zygopetalinae, which made use of data from the chloroplast only, “cannot resolve the taxonomy” of the group, and I agree that the use of a wider genetic basis could probably better resolve some of the uncertainties of the evolutionary tree. Phylogenetically, however, the sampled species of *Chondrorhyncha* form a strongly supported clade, sister to rest of the *Huntleya* clade, excluding *Chaubardia* and *Huntleya* (Whitten et al. 2005). Nevertheless, the “groups” recovered by the analysis carried out by Whitten and colleagues (2005) are not only based on a genetic rationale, but also present quite a strong consistency from both morphological and a phylogeographic points of view. While it is true that “*Chondrorhyncha rosea* also has a narrow callus” (Uribe-Velez & Saulea 2018), this is placed at the center of the lip, and not at the base as in the species of *Stenotyla*. Furthermore, the lip of *Chondrorhyncha* does not have a basal mentum (chin), which is a consistent feature in the species of *Stenotyla* (Pupulin 2009a, 2009b, 2009c). As treated by Dressler and Dalström (2004), *Chondrorhyncha* is a group of probably five to six species exclusively Andean in distribution, while the five species of *Stenotyla* are strictly central American, being restricted in distribution to the north of the Panamanian isthmus (Pupulin 2009b). I hope that the phylogenomics of the so-called “next generation” (but really an actual generation today...) would better resolve the relationships among the groups of Zygopetalinae, but meanwhile the framework recovered by the studies of Whitten and collaborators offers a consistent way to interpret the evolutive patterns in the subtribe and an acceptable model of morphologically diagnosable nomenclature.

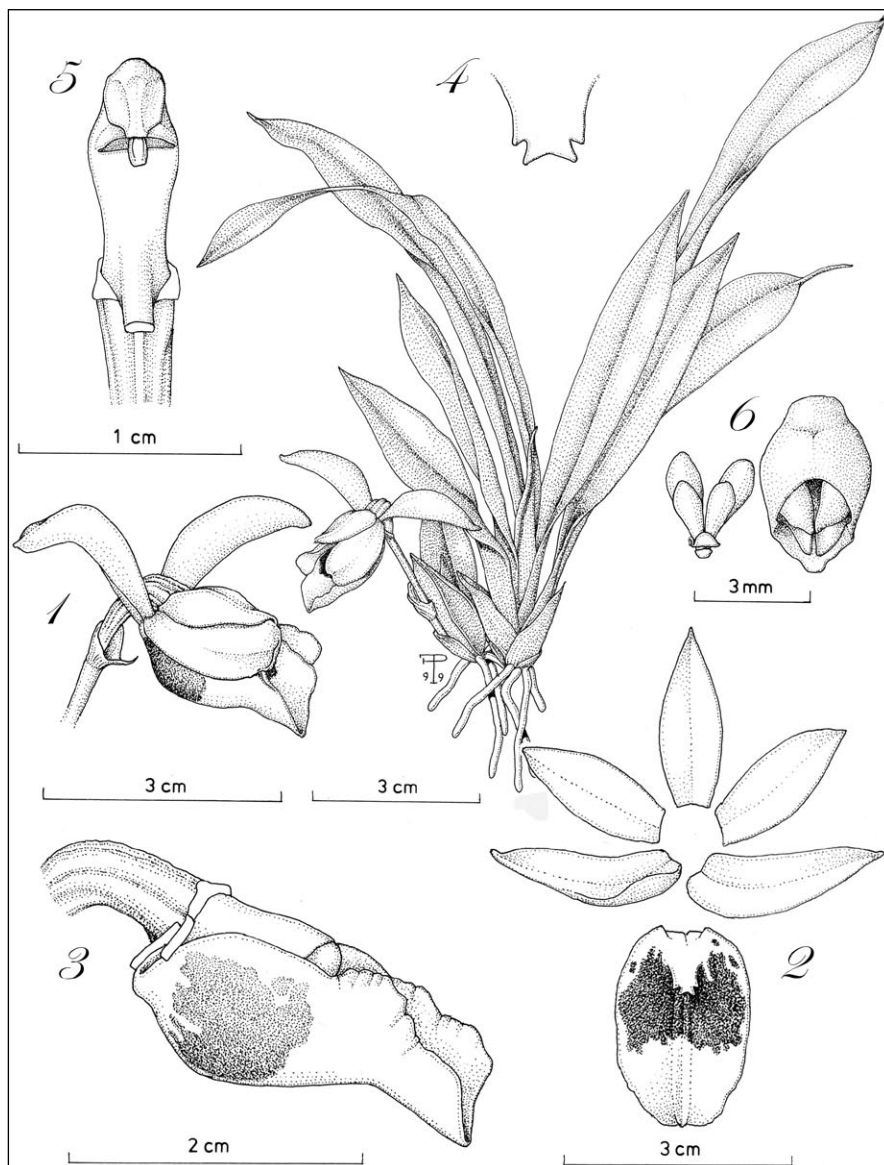
Stenotyla is typified with the former *Chdrh. lendyana*, a species described by Reichenbach in 1886 from a cultivated plant with no geographic data, which we know today is limited in distribution to the northern part of the Central American isthmus. Dressler derived the generic name from the greek words *stenos*, narrow, and *tylo*, callus, alluding to the very narrow, 2-4-toothed callus in most species of the group. Even though it is very “stenotyloous” in any other aspect, and the analysis of chloroplast DNA recovered it as a member

of this group, *Stenotyla picta* has a partly ridged callus that is somewhat atypical in the genus (Pupulin 2009b).

Stenotyla lankesteriana has been around quite a long time in the living collection of the Lankester Botanical Garden before we decided to formally describe it. A single plant, originally confiscated from a poacher by officers of the Ministry of the Environment, flowered year after year, and together with Bob Dressler we discussed several times its lack of a proper name and about the convenience to baptize this species without a precise idea about its provenance. As the plant had been confiscated together with other orchids native to Costa Rica, we were at that time reasonably sure that the plants had been collected somewhere in the country, but we still lacked solid evidence. Finally, in 2000, we made our move and described this beautiful species in honor of our botanical garden, with the name of *Chdrh. lankesteriana* (Pupulin 2000). We were confident that, as it often happens, once our species would have a name, new plants – hopefully with locality data – would begin appearing among the collections of the numerous aficionados of Costa Rica, or maybe at one of the several exhibitions held yearly in the country. We proved right, and in October 2001, Esteban Viquez, a grower in Cartago, presented us a specimen collected at Orosi, a little more than 30 minutes by car from the Lankester Botanical Garden. This plant was illustrated, still with the name *Chdrh. lankesteriana*, in the first volume of *Vanishing beauty - Native Costa Rican orchids* (Pupulin 2005). Nevertheless, *Sty. lankesteriana* remains an exceedingly rare and quite enigmatic species, with only a handful of geographically documented records, all from the region of Orosi, Purisil, and Tapantí, at the northernmost end of the Cordillera de Talamanca.

Based on our records, *Sty. lankesteriana* inhabits the premontane wet to cloud forests of central Costa Rica, where it is apparently restricted to the Caribbean watershed of the Talamanca mountain chain, ranging south to the region of Bocas del Toro in Panama (RL Dressler, pers. comm.). Populations have mostly been observed near water courses, at 1,100–1,400 m of elevation. Plants of *Sty. lankesteriana* flower at the end of the dry season, from March to May.

Stenotyla lankesteriana is closely related to *Stenotyla helleri* and *Stenotyla lendyana*, with which it shares a similar low, laminar callus, but in *Sty. lankesteriana* the tubular lip is not spread apically, it has a large, red-purple blotch at the base and a 4-toothed callus.



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Stenotyla lankesteriana. The plant.

1. Flower.
2. Dissected perianth.
3. Column, and lip, lateral view.
4. Callus of the lip.
5. Column, ventral view.
6. Pollinarium and anther cap.

All drawn from Pupulin 1467 (USJ) by Franco Pupulin.

Whitten, W. M., N. H. Williams, R. L. Dressler, G. Gerlach & F. Pupulin. 2005. Generic relationships of Zygopetalinae (Orchidaceae: Cymbidieae): combined molecular evidence. *Lankesteriana* 5:87–107.

Selected Botanical Terms

abaxial – lower surface
 acuminate – tapered to a point
 acute – pointed
 adaxial – upper surface
 apex – tip or top
 apicule – small point
 apiculate – ending abruptly in a small point
 arcuate – bow-shaped, curved
 caespitose -densely clumping
 carinate – having a keellike ridge
 cataphyll – reduced, small modified leaf
 clade – a group of taxa sharing a single common ancestor
 clavate – club-shaped
 concave – bowl-shaped
 complanate – in one plane
 connate – fused
 conduplicate – folded lengthwise
 convolute – rolled longitudinally upon itself
 cordate – heart-shaped
 cucullate – hooded
 deltoid – triangular, widest basally
 distichous – arranged alternatively in

two opposite vertical rows
 elliptic – oval
 epiphyte – plant that grows harmlessly on another plant
 equitant – fan-shaped
 foliaceous – foliage- or leaflike
 hyaline – glassy, translucent appearance
 infundibuliform – funnel-shaped
 laminar – platelike
 lanceolate – a narrow oval tapering to a point at each end
 linear – narrow, in a straight line
 mentum – chin or short spur
 monophyllous – with one leaf
 obdeltoid – triangular, narrowest basally
 oblanceolate – like an upside down lance
 obovate – egg-shaped with the narrow end down
 obtuse – blunt or rounded
 ovate – egg-shaped with the narrow end up
 pandurate – fiddle-shaped
 pedicel – a stem carrying a single

flower
 peduncle – the lower part of the inflorescence below the first bud
 petiole - the stalk joining a leaf to a stem or pseudobulb
 phylogeography – study of historical processes responsible for contemporary geographical distributions
 plicate – folded, corrugated, pleated
 revolute – curved or curled back
 rostellum – projecting structure at the tip of the column
 semiterete – not quite round in cross-section
 stipe – stalk
 subcoriaceous – almost leathery
 subfalcate – irregularly or not quite sickle-shaped
 subgeniculate – irregularly or not quite bent at a sharp angle
 terete – pencil-shaped
 truncate – ending abruptly; as if cut off
 viscidium – sticky pad to which orchid pollinia are attached



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Try New Things

Text by Sue Bottom/Photographs by Terry Bottom

ORCHID GROWERS ARE always tinkering with their growing regimens and experimenting with different approaches. Courtney Hackney likes to see how newly purchased orchids growing in different commercial mixes will fare in his greenhouse. He watches the plant carefully, of course, to see whether the mix will get thumbs up or thumbs down under his growing conditions. Some cattleyas he has purchased in cypress mulch have had a fabulous root system and growth response, so the search is on for a reliable source of high-quality cypress mulch (a product that unfortunately is quite variable in quality based on our local experiences). Some of the plants he has gotten in sphagnum moss were found to have compromised root systems. Whether the moss was too old, of low quality or just stayed too wet, the experiment was terminated and the plants repotted in his mix of choice.



Sue Bottom

CATASETUM HERESY Today's catasetum growers are told repeatedly that catasetums require a dry winter, and that all water should be restricted during dormancy. I have generally followed this advice except for the couple of plants that refused to drop their leaves such as *Catasetum discolor*. This year the resting catasetums were put in a dryish section of the hoop house, but they did receive some overspray from the overhead misting system. Not only did they not suffer any negative consequences from the misting, the pseudobulbs remained plump, showing no signs of winter desiccation. For some interesting observations on winter watering, take the time to reread Stephen R. Batchelor's article on catasetum culture as a function of growth cycle (Batchelor 1983).

The new growths began to appear in December and January, so it was time to start repotting. The root systems were so robust that it was difficult to get the pseudobulbs out of the pot, even with a knife. Time for catasetum heresy No. 2: Each pot was set in a bucket of water so the roots could absorb moisture, allowing the plants to be removed more easily from



1



2

the pot. With a little urging from the knife, they popped out of the pot without too much damage to the roots. This clearly violates the rule about no watering of plants until the new roots and growths are 4–5 inches (10–12.5 cm) tall.

Then it was decision time; cut away all the old roots and pot up the pseudobulbs, as has been my practice for so many years? After hydrating the root mass, it was easy to tell whether the roots were healthy or distressed. When there was a dense mass of white, thick roots throughout the pot, this pot was simply dropped into a larger pot with a little extra sphagnum moss. Grayish, dry looking roots were removed,

[1] Some of the catasetums with healthy root systems were slip-potted — dropped into larger pots with a little extra moss. This means the pots are larger than in prior years, but the plants do not seem to mind as long as there is enough Styrofoam at the bottom for drainage.

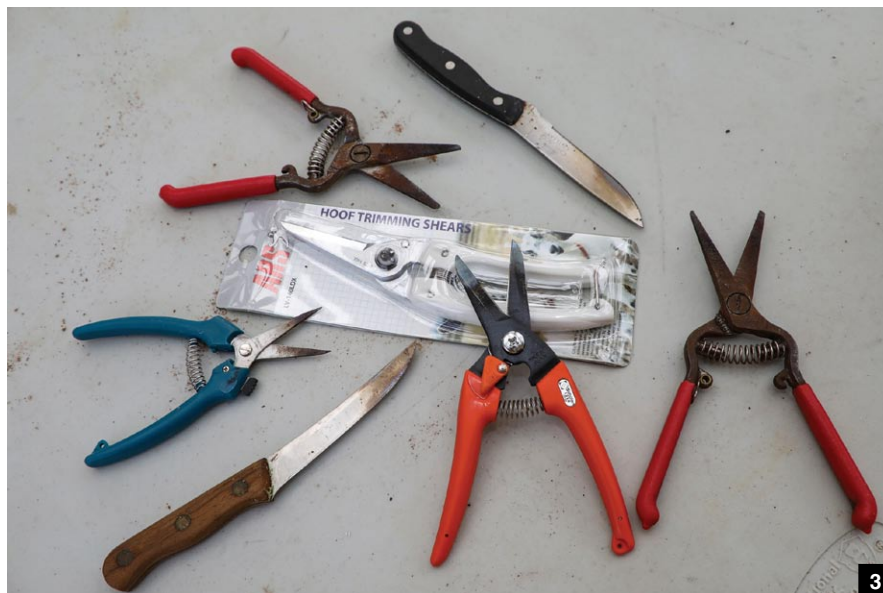
[2] The white, plump roots on the left are healthy and ready to fuel this year's growth; this plant was slip-potted. The plant on the right has some healthy roots and some not so healthy; these roots were cut away so the plant could regenerate fresh roots.

often to the base of the pseudobulbs. Sometimes there was a very healthy section of roots in one area of the pot and not so healthy roots in other sections, for these a hybrid approach was used in which only the viable roots were maintained and surrounded with fresh sphagnum. The lesson learned from this experience is you should know the rules as well as understand the reason behind the rules. After that, trust your instincts. Do not be afraid to break the rule if it seems like the right thing to do.

There are some new products we will be trialing this year, as well as some new ways of using old staples from the potting shed.

SHEEP HOOF TRIMMING SHEARS Christmas arrived early when I received a package from Keith Davis containing two sets of shears along with a catalog from the Mid-States Wool Growers. The shears are tough, sharp and durable, designed for cutting sheep hooves. One of the shears is the ARS Hoof Shear, described as being “made of a high carbon steel, precision ground, and hardened for strength. Because of the thickness and strength of their blades, they can be sharpened many times over.” The second was a Saboten Hoof Trimmer described as “lightweight, easy action, very sharp, making for easy cutting.” I am hoping this will solve my shears dilemma where I buy five or six pairs each year and the torch dulls them quickly. Even though Terry sharpens them, they have to be replaced at the end of the year. So far, these shears are great. Only Keith would come up with the idea of using these on orchids. Of course, this is the same guy that gets iron filings from the shop that turns brake drums as a supplement for his rupicolous laelias and uses a clothespin to train his flowers to display properly.

BRAN FLAKES FOR LUBBERS Grasshoppers, and more particularly, lubber grasshoppers, can do quite a bit of damage to your orchid plants and flowers. Lubber control used to consist of “capture and stomp,” until a friend in my orchid club told me about NoLo bait, also sold as Semaspore Bait. Linda spreads the bait around her property in the spring when the lubbers first emerge from the ground. They are attracted to the bran and consume the *Nosema locustae*, a target-specific pathogen that infects and kills 90 species of grasshoppers, locusts, and crickets. The Arbico Organic website states “Death may occur in 1 to 3 weeks in juvenile grasshoppers. Third instars or older may take more time to



die. The insect pathogen multiplies in infected grasshoppers and passes from grasshopper to grasshopper throughout the season.” The product is easy to apply, certified for organic production and reported to be harmless to humans, pets, birds, beneficial insects, and other wildlife. I got the product midsummer after the lubbers were mature, so also ordered some EcoBran from Planet Natural. This bran bait is treated with Carbaryl, the active ingredient in liquid Sevin, and is intended for a quick grasshopper and cricket kill. Next year the applications will

- [3] Tired of your shears getting dull and rusted after a few months of torching? Try the more heavy-duty shears sold for trimming sheep hooves. They are thicker, stronger and more resistant to dulling. Hat tip to Keith Davis.
- [4] Lubber grasshoppers are attracted to the bran at this bait station. You can use NoLo bait early in the year to infect them with a pathogen, or poison them with EcoBran later in the year. Hat tip to Linda Stewart.

start much earlier, with hopefully even better results.

DIP 'N GROW LIQUID ROOTING HORMONE There are many different substances that orchid growers use to stimulate root growth; from natural products such as kelp extract that contain rooting hormones to synthetic products of various formulations and strengths. Dip 'n Grow is a synthetic auxin formulation containing 1.0% indole butyric acid (IBA) and 0.5% naphthalene acetic acid (NAA) dissolved in an isopropyl and ethyl alcohol solution. The IBA in alcohol-based products is designed to be readily absorbed into the plant tissue. John Stanton of the Orchid Trail in North Carolina told Courtney his trick for applying the auxin to get the best response. He uses the midrange 1:10 dilution rate and places the liquid in a spray bottle. When he has prepared the plant for repotting, he sprays the forward part of the rhizome to encourage root growth and then repots it, letting it dry slightly before drenching the pot. This seems to be a more targeted approach than just drenching with a seaweed solution after repotting and letting much of the active ingredient be washed from the pot. This product in and of itself is not that unusual, it is the way in which it is applied that is so clever. We will be using this during the repotting season and will report on the results. We hope to get the profusion of roots in recently repotted orchids as John reports, particularly for those sometimes-difficult bifoliate cattleyas that are so sensitive to repotting mistakes.

ORTHENE DRENCH FOR THRIPS If you have been tortured by thrips ruining your buds and flowers, you might consider an Orthene drench. When sharing my thrips frustration with Ben Oliveros of Orchid Eros, he mentioned that he had tried everything to get thrips under control including some of the new, multi-hundred dollar insecticides. Then one day he decided to use an Orthene drench despite the oft-repeated admonition that many pests have become resistant to Orthene. He added Orthene to the Dosatron suction bucket at a rate equivalent to 1 tsp/gal (1.3 ml/l) and drenched his plants. The Orthene was absorbed up through the roots into the plant and prevented thrips damage for 4 to 6 weeks. I repeated his experiment with the same great results and seem to have broken the cycle of recurring thrips damage in the greenhouse. After mentioning this success story with George Hausermann, he laughed and talked about his experience when EFG first relocated to



5



6

DeLand, Florida where there were many local fern growers for the florist trade. At that time, Orthene was ineffective in his greenhouse due to resistance problems. Many of these fern growers sustained damage after the hurricanes of 2004, and never rebuilt their operations. Now George can use Orthene again with great results, because his insects have not been exposed to it so they have not had a chance to develop resistance to the active ingredient Acephate.

HAMMER FOR VIRUS SAMPLE PREP I continue to test for and find virus in my cattleyas. The good news is that the cattleyas exhibiting the symptoms of virus

- [5] Using seaweed and rooting hormones is not new, but spraying a root stimulant on cattleya pseudobulbs and roots during repotting is a novel approach. Hat tip to John Stanton via Courtney Hackney.
- [6] Orthene is a very affordable systemic pesticide that has been used by orchid growers for ages. Try applying it as a drench to eliminate damage to your flowers and buds from thrips. Hat tip to Ben Oliveros.
- [7] If you are looking for something to mash up the plant tissue in the mesh bag when testing for virus, keep a hammer in your potting area. Hat tip to Plato Matthews.

in their leaves are gone, but I continue to find color break and necrotic streaking and spotting in the flowers. At one of the Cattleya Symposiums, I overheard Plato Matthews talking about how he prepares the leaf sample for testing with an Agdia strip with a hammer. Hmm, much more effective than the meat tenderizer I had been using. I have yet to determine how the virus is being transmitted despite all my sanitation precautions. I have not made the leap to using gloves during repotting. Perhaps I will this year or perhaps I will just keep a spray bottle of Lysol General Cleaner handy and wash my hands between plants.

Do not be afraid to try new things. You do not want to be stuck in the “this is the way I have always done it” mindset; neither do you want to try out every new suggestion on your entire orchid collection. Approach the change as you would a scientific experiment. Consider what you are trying to achieve; think through what result would constitute a success and what would be considered a failure. After that, your powers of observation will tell you if it is time to cut your losses and end the experiment or expand it to a larger trial. Try new things, as my sainted mother used to recite, “Every day, in every way, I



am getting better and better.”

Citations and Additional Reading

Batchelor, S.R. 1983. Beginner's Series 30, Catasetums and Cynoches — Part 6 — Culture Influenced by Growth Cycle. *American Orchid Society Bulletin* 52:1163–1169. www.aos.org/am/images/pdf/beginners_series-ctsm6.pdf.

— Sue Bottom started growing orchids in Houston in the mid-1990s after her husband Terry built her first greenhouse.

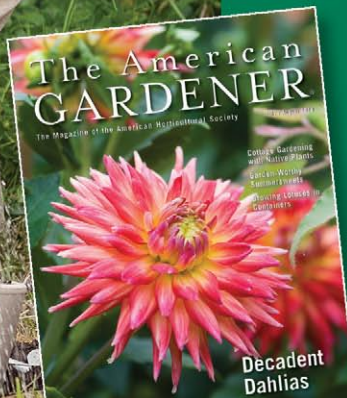
They settled into St. Augustine, Florida, Sue with her orchids and Terry with his camera and are active in the St. Augustine Orchid Society, maintaining the society's website and publishing its monthly newsletter. Sue is also a member of the AOS Editorial Board (sbottom15@gmail.com).



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156. A. *Epipactis latifolia* Allioni.
B. *Listera ovata* R. Brown.

Breitblättrige Sumpfwurz.
Eiblättriges Zweiblatt.

Epipactis by Peggy Alrich and Wesley Higgins

A Northern Hemisphere Genus



EPIPACTIS

THIS GENUS WAS first described by Zinn in *Catalogus Plantarum Horti Academici et Agri Gottingensis*, 85 (1757). The name is conserved by the International Code of Nomenclature vs. *Epipactis* Séguier (1754) Orchidaceae, and the type name is also conserved.

ETYMOLOGY From the Greek for “rupture-wort” (“epipaktis”); an ancient name employed by Theophrastus (371–287 BC), a Greek philosopher/botanist (sometimes called the father of botany), for a plant used to curdle (to turn sour or ferment) milk; found in the manuscript *Enquiry into Plants*.

LECTOTYPE *Epipactis helleborine* (Linnaeus) Crantz (*Serapias helleborine* Linnaeus) designated by Voss et al., *Regnum Veg.*, 111:333 (1983); Voss et al., *Mitt. Bl. Arbeitskr. Heim. Orch. Baden-Württ.*, 21(3):470 (1989) and P.J. Cribb and J.J. Wood, *Taxon*, 48:49 (1999).

Fifty-six species, 28 subspecies, and six varieties plus 29 natural hybrids are recognized. These terrestrial or occasionally saprophytic plants are found in low- to upper-elevation wetlands, sandy dunes, marshy seepage, hill scrub, along

river embankments, and in montane oak–pine forest margins in the northern temperate zones from Norway to Spain, Britain to across Russia (to Buryata), northwestern Africa (Ethiopia to Malawi), Turkey to Afghanistan, throughout eastern China, northern India (Kashmir to Assam), Myanmar to Vietnam, and Japan, with a few species found in western Canada and the western United States to northern Mexico.

In some areas these species are so common they are just considered wildflowers or even a weed, as in Michigan (https://www.canr.msu.edu/news/homeowners_battling_a_weedy_orchid_involving_lawns_and_flowerbeds).

This is a difficult genus taxonomically and is not generally an eye-catching genus. These large, sometimes colony-forming, plants have erect stems with spirally arranged flat to pleated leaves that proceed up the stem with leaf-like floral bracts often exceeding the size of the flowers.

The numerous- to few-flowered inflorescence usually has dull yellow, green-yellow, red or brown flowers

heavily suffused and veined purple, usually turned to one side on the rachis, that are either wide-spreading or loosely converging. The bilobed lip is divided into a basal part (hypochile) with or without side lobes; the lip is often deeply concave or saclike, and a flat, triangular midlobe (epichile) is not lobed but often has a pair of calli. The flowers have a short, footless column that curves over the lip. The two pollinia, pear- to club-shaped, soft and mealy, are without caudicles.

CULTURE These species can be grown in a flower bed or rock garden that has added leaf mold and peat (alkaline) in either full sun or shade. Plants are frost hardy and should be kept moist throughout the year.

Thanks to the Selby Botanical Gardens Library, Missouri Botanical Garden, Biodiversity Heritage Library and the Swiss Orchid Foundation for their help and as sources for illustrations.

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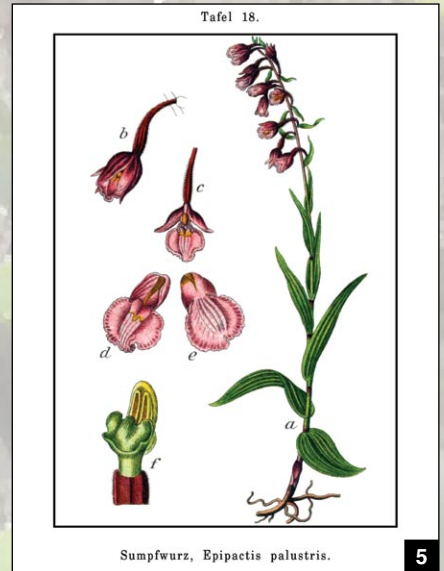
Epipactis latifolia Swartz.



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Antique Plates — *Epipactis*

- [1] *Epipactis latifolia* (*Epipactis helleborine*) and *Listera* (*Neottia*) *ovata*, *Flora von Deutschland, Oesterreich und der Schweiz*, 1:t.156 (1903).
- [2] *Epipactis helleborine* (*Epipactis helleborine*), *Flora Regni Borussici*, 1:t.12 (1832).
- [3] *Epipactis atrorubens*, *Flora Batava*, 19: t.1446 (1895).
- [4] *Epipactis sessilifolia* (*Epipactis purpurata*), *Die Orchidaceen Deutschlands, Deutsch-Oesterreichs und der Schweiz*, t.54 (1894).
- [5] *Epipactis palustris*, *Flora von Deutschland in Abbildungen nach der Natur, Zweite auflage*, 4:t.18 (1905).
- [6] *Epipactis palustris*, *English Botany or coloured figures of British plants*, 9:t.1482 (1869).
- [7] *Epipactis helleborine*, *Flora Batava*, 15: t.1124 (1877).
- [8] *Epipactis palustris*, *Album des Orchidées d'Europe*, t.14 (1923).
- [9] *Helleborine latifolia* (*Epipactis helleborine*), *Bilder ur Nordens Flora*, 3:t.648 (1922).
- [10] *Epipactis gigantea*, *Botanical Magazine*, 125:t.7690 (1889).



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Who Were These Guys? Part 7

George Ure Skinner (1804–1867)

BY DAVID ROSENFELD, MD

IN OUR MODERN age, travel, even to remote locations in the world, is generally quick and comfortable, whether it is by plane, train, automobile or boat. This was certainly not the case in the mid-19th century. Imagine what it was like for George Ure Skinner to travel successfully from England to Guatemala and back 39 times between 1830 and 1867. Tragically his 40th voyage was his last. He died of yellow fever in Panama while collecting orchids, of course. It was estimated that Skinner spent one-tenth of his 30-year career on intercontinental travel to and from England and Guatemala. Travel by mule train from Guatemala City in the highlands to the diabolically hot and humid Caribbean port city of Ysabal was just the first step of the journey. This could take a week in the dry months but a month during the rainy season from June to September. The second leg of the journey took about a week to get to Belize. From there it was a month's sail back to England, assuming there was no encounter with a hurricane.



David Rosenfeld, MD

George Ure Skinner and why so many voyages? Before answering this question let us discuss his unusual name. Why does his name have the strange word "Ure" in it? A little research

reveals that Ure is a Scottish family name common in the districts of Lancashire and Northumberland in the Scottish highlands. For this article I will refer to our orchid hunter and collector as George Skinner. Skinner came from a prominent multigenerational ecclesiastical family. It was assumed that Skinner would follow in the family's footsteps and become a member of the clergy. We are fortunate that Skinner's interests led him to follow a very different direction. Skinner's first desire was to join the navy, but his father, realizing that the church did



not appeal to his son, encouraged him to enter banking. This led to Skinner entering the business world as a general merchant in the northern England city of Leeds. Being adventurous, he was attracted to an opportunity to establish a trading relationship with the country of Guatemala. He arrived in Guatemala City in 1831 and soon entered into a partnership with a Charles Rudolph Klee, thus forming Klee, Skinner and Company of Guatemala. You might ask what commodities this company would likely

export in the 1830s? In 2018 the product you would think of would be coffee from the highlands, but not in the mid-19th century. The two commodities were cochineal and indigo, red and blue dyes, respectively. The cochineal or crimson scale (not to be confused with colchicine, a drug used to treat gout for centuries) is an indigenous tiny ticklike insect that only thrives on the prickly pear cactus of Guatemala and Mexico. The Aztecs discovered that when the tiny insect was crushed a drop of a scarlet red liquid was

liberated. They realized that the liquid made an excellent dye for their textiles. Approximately 70,000 insects produce a pound (0.45 kg) of the dye. Indigo, on the other hand, is a plant that has been used as a dye for thousands of years. India was the main supplier to the Greek and Roman world. Plants were brought to the Americas by the Spanish; eventually indigo plantations were established. These two dyes were valued products in Europe, and made Klee and Skinner very prosperous.

In his early years in Guatemala, Skinner became fascinated by the birds and insects and began collecting specimens and shipping them back to England. In 1834, an event occurred that changed Skinner's life forever. One of his shipments to the Natural History Museum in Manchester contained exotic plant material that attracted the attention of James Bateman, a horticultural student from Oxford. Bateman soon wrote the now-famous letter, describing and sketching orchids and asking Skinner if he would be interested in collecting orchid specimens and shipping them back to England. Thus began a close relationship that lasted until Skinner's death in 1869. As Skinner reiterated many times, it was as if he had received a special birthday present. "...I turned my attention to Orchidaceae.... I found by great success a fund of amusement and constant excitement that saved me from many a lonely hour during the many imprisonments from this fearfully disturbed state of the Country." It gave Skinner a new passion in life that lasted to his dying day. With the assistance of Bateman's descriptions, Skinner soon collected multiple species, all of which were not previously seen in England, including *Epidendrum aromaticum* (*Encyclia incumbens*), *Cattleya* (*Guarianthe*) *aurantiaca*, *Oncidium* (*Tricochentrum*) *cavendishianum*, and *Oncidium leucochilum*. Also in this shipment was *Barkeria skinneri* (originally named *Epidendrum skinneri*), named after the collector by John Lindley (for more information on John Lindley see my article in the June 2018 issue of *Orchids*). During the 30-plus years that Skinner was entranced with orchids he traveled throughout Central America and as far south as Peru, collecting and sending his specimens back to Europe. Despite his lack of formal botanical training, Skinner acquired a comprehensive botanical knowledge of the orchids of this region. Skinner often included in his meticulously packed shipments handwritten notes



- [1] This Photograph of George Ure Skinner by G.W.Walker of Aberdeen, Scotland was printed in the January 1990 issue of the *AOS Bulletin* (now *Orchids* magazine) from a negative owned by Mary (Peggy) Daniell, Skinner's great-granddaughter, of Fielding, New Zealand.
- [2-3] Two color forms of *Guarianthe* (*Cattleya*) *skinneri*; 'Debbie' FCC/AOS [2] and 'Magdalena Ledezma' FCC/AOS [3]. 'Debbie' was originally awarded as an alba cultivar but when grown in excellent light, the flowers actually have a noticeable light lavender blush..
- [4] *Barkeria skinneri* 'Rosita de Juarez' AM/AOS.

about each orchid, including its habitat and suggested culture. Skinner was possibly the first collector to stress the importance to English orchid growers of trying to simulate the temperate native environment of the Central American highlands where Skinner collected many of his genera.

Orchid collecting was not an occupation for the faint of heart. It required bravery, persistence, sacrifice and sometimes just being lucky. As Bateman stated in his eulogy, "In pursuit of this object there was scarcely a sacrifice he did not make, or a danger or hardship he did not brave. In sickness or in health, amid calls of business or perils or war, whether detained in quarantine on the shores of the Atlantic, or shipwrecked on the rocks in the Pacific, he never suffered an opportunity to escape him of adding the long array of his botanical discoveries."

Orchids were becoming all the rage in mid-19th century England, and orchid auction houses were being founded. Skinner started the Stevens' Auction Rooms. Orchid aficionados would find Skinner at the auction house organizing and cataloguing his cargos of orchids, most of which he would put up for auction. He would keep a limited number to give his friends. He was also fortunate to establish a strong friendship with the Veitch family and the Veitch Exotic Nursery. They were more than happy to let Skinner use their glass greenhouses to store his imports until they were ready to be auctioned.

Within a few years after Skinner began sending orchids to James Bateman (1811–1897). The young Bateman, then only 26, had acquired the most extensive collection of Guatemalan orchids in England. Bateman then decided to produce a mammoth book on the orchids of Mexico and Guatemala. The tome, *The Orchidaceae of Mexico and Guatemala*, measured 27 inches (68 cm) in height by 15 inches (38 cm) in width. Forty orchids were illustrated with additional cultural and geographic data. The giant book weighed 38 pounds (17½ kg).

Well over 100 orchids were introduced by Skinner into the orchid-crazed Victorian English society. Among the most notable was *Lycaste skinneri* (properly called *Lycaste virginialis*) the national flower of Guatemala. The national flower of Costa Rica was another Skinner introduction, *Cattleya* (now *Guarianthe*) *skinneri*. His name is also commemorated by *Mormodes skinneri*. Other notable orchids he brought to Europe in-



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MAURICE MARIETTI



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JORGE ENRIQUE CÉSPEDES TRIGUEROS



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JAY NORRIS

clude *Myrmecophila* (*Schomburgkia*) *tibicinis*, *Epidendrum stamfordianum*, *Rossioglossum* (*Odontoglossum*) *grande* and many others.

George Ure Skinner was by all accounts a kind, generous, friendly and unselfish human being. On many occasions he went out of his way to help fellow travelers visiting Guatemala whether they were interested in orchids or other flora or fauna. Skinner received great pleasure in assisting others and rejoicing in their successes. Especially notable was aid to Mr. O. Salvin, an English ornithologist in his travels in Central America. It is truly unfortunate that Skinner did not have the opportunity to enjoy his retirement years with his orchids.

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— *David Rosenfeld, MD, has been growing orchids with his wife Joan for 40 years. David is a retired professor of pediatric radiology at the Rutgers Medical School. They have a 700-square foot (about 65-sq m) greenhouse with both warm and cool sections where they grow a mixed collection of species and hybrids. Their skill as growers is illustrated by their 88 flower quality and 26 cultural awards. David wrote about Wilhelm Micholitz (his 13th article) in the November 2018 issue of Orchids magazine (87(11):828-830) (email: orchidoc@comcast.net).*

- [5] *Epidendrum stamfordianum*
- [6] *Mormodes skinneri* 'Memoria Don Quino' AM/AOS
- [7] *Lycaste virginialis* 'Heatherglen' CCM/AOS
- [8] *Rossioglossum grande* 'Inca Fire' HCC/AOS
- [9] *Rhynchostele ureskinneri* 'Chunky' HCC/AOS



LARRY VIERHELIG



RAMON DE LOS SANTOS

The Japan Grand Prix International

Part 1: The early years

TEXT BY CLARE HERMANS AND JOHAN HERMANS WITH MUNEKAZU EJIRI
PHOTOGRAPHS COURTESY OF SUWADA ORCHID NURSERY



Birds-eye view of the 1998 Japan Grand Prix International Orchid Festival (JGPIOF).

Orchid Festival



THE JAPAN GRAND Prix International Orchid Festival (the Tokyo Dome Show or JGP for short) is one of the grandest and oldest orchid spectacles in the world; 2018 was the 28th edition. In the first part of this article, we look through the eyes and memories of Munekazu Ejiri, recalling some of the highlights of the early years. Munekazu is a third-generation proprietor of the internationally renowned Suwada Orchid Nursery, and has been involved with the show right from the start.

The second part will cover 2009 to 2018, when we had the privilege to attend the show ourselves.

HOW IT ALL STARTED The origin of the JGP dates back to the 12th World Orchid Conference held in Tokyo in 1987. Those were the days when these events were hugely popular and following its success it was decided to organize another show in 1989. There then was a two-year break before the next, the first to be called the JGP, took place. So, the first official JGP was held in February of 1991 in the immense baseball stadium, the Tokyo Dome, while its normal occupants, the Tokyo Giants baseball team were having their break. This tradition has continued every year at the same venue and time; in 2019 the show will be from February 15th to February 22nd.

THE FIRST TEN YEARS Munekazu recalls the first show in 1991 as being slightly chaotic; it was only the third large event for the exhibitors and everyone was still learning. One of the main difficulties was getting plants and props into the show site. Traffic access to the Dome is strictly regulated through airlocks; the trucks can only go very slowly and one way round the site and there is limited parking, so there was some organized chaos and even some reported squabbling among the exhibitors. Another unforeseen problem occurred the night before judging, when Munekazu learned that over 1,300 copies of plant entry forms were required, so he spent the whole night photocopying and carried on the next day without any sleep. All his hard work was not wasted. Suwada was very successful that year; their *Cattleya loddigesii* 'Yoranda Nakazone' became Grand Champion. It was their first big prize. The Mazda car they received was then used by Munekazu's younger brother, Koji for getting to school and later, to University.

These early shows benefited from fewer restrictions on orchid movements compared to the current day. On average 20 countries from around the world came to exhibit and sell; Cal-Orchid, J&L Orchids, Rod McLellan, Santa Barbara Orchid Estate and Zuma Canyon Orchids from the United States all participated. From Europe Ratcliffe Orchids came in 1992, they were extremely popular with the many paphiopedilum growers in Japan. The same year Michael Tibbs created a display including a red London telephone box, it later ended up in the sales greenhouse at Suwada. In subsequent years the Eric Young Orchid Foundation, Jersey and the Palmengarten, Frankfurt, Germany also exhibited. In 1992 Suwada created a historical display for the first time, showing the evolution of



- [1] 1991 Grand Champion, *Cattleya loddigesii* 'Yoranda Nakazone' SM/JPG, SM/JOGA.
- [2] Construction of the 1992 JGPIOF.
- [3] 1994 Grand Champion, *Paphiopedilum* Cover Story 'Koga' SM/JPG.
- [4] 1997 Grand Champion *Rhynchostylis gigantea* 'Tokai Spot'.
- [5] This photograph of the central awards display only hints at the magnitude of the crowds.
- [6] 1999 Grand Champion *Lycaste* Shoalhaven 'Kyoto'.
- [7] Just a small part of the 1999 Suwada Orchid Nursery display.
- [8] 2001 Mukoyama Orchids Best Display in Open Competition.

paphiopedilum breeding. Although it did not receive an award it was commended by Sir Alasdair Morrison, Chairman of the RHS Orchid Committee, on live Japanese TV, which delighted Munekazu's father, Koichi, then owner of the nursery.

Over the next few years the JGP increased in both size and visitor numbers, resulting in Munekazu becoming ever busier with expanding sales. Nonetheless, there was still time to produce a second Grand Champion; in 1994 *Paphiopedilum* Cover Story 'Koga' won the big prize. Munekazu has a theory that its success was due to the judges realizing yellow was a very attractive color under artificial light because it was the second yellow winner in three years. Around this time Munekazu became a member of the Show Organizing Committee. He stayed for a couple of years, but found he could not carry on due to his mounting nursery commitments. However, the family tradition continues until today, with his brother Koji as one of the senior members of the Committee.

Controversy is never far away at orchid shows, and in 1997 the owner of the Grand Champion, *Rhynchostylis gigantea* 'Tokai Spot' happened to mention that he had just bought the plant in Taiwan. This did not go down well with the judges. As a consequence the next year the Judging Rules were changed and a new requirement was made, plants had to be owned for at least six months before being entered. That same year, 1998, was also the first time a Suwada plant display received a major award. However, their educational display the following year was less successful; it showed the history of cattleya and paphiopedilum breeding but unfortunately the Japanese judges did not get the message. On a more positive note, the same year Munekazu remembers the Grand Champion *Lycaste* Shoalhaven 'Kyoto' as an amazing flower and credits it as a milestone in lycaste breeding. Lycastes, like paphiopedilums, have a large following in Japan, and there are some notable firms, including Goshima and Abou Orchids, that specialize in them.

Apart from the show, culture classes and talks were also arranged in the arena. In 1997 Andy Easton gave a class to the Japanese growers on New Zealand cymbidium culture, which is very different from the Japanese way; despite this Munekazu enjoyed doing the translation for Andy. Munekazu recalls Andy as the only foreigner ever to do a culture class at the show. Since then overseas specialists

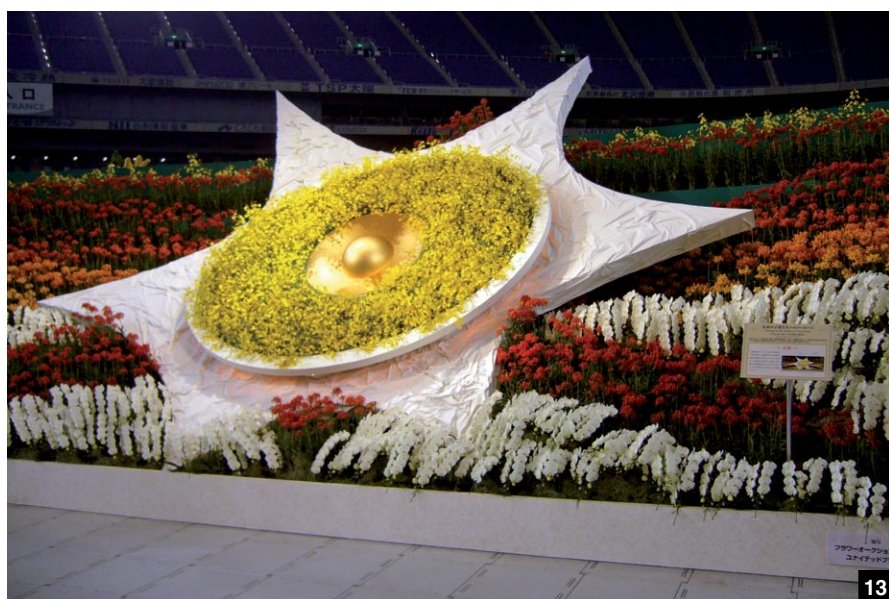


have given broad-ranging orchid talks to the general public, and the culture classes are run by the Japanese only.

ROYAL CONNECTION The 10th anniversary show in 2000 was attended by their Imperial Highnesses Emperor Akihito and Empress Michiko; later Empress Michiko was also present at the 20th installment in 2010. Both visits were a great honor to the Japanese orchid community. In 2000 security was tight and after judging everyone had to leave the show site and re-enter through airport-style security barriers. It was even tighter in 2010, when only the members of the Organizing Committee and invited guests were able to meet the Empress during her unannounced visit; the rest were held in the stands until she left.

Her Imperial Highness Princess Takamado and her daughters are also great supporters of the event. This royal connection also led to the fascinating tradition of displays by Ambassador's wives or partners: every year a group from the Tokyo diplomatic community is invited to create a small display representing their home country. This is taken very seriously and competition to create the most splendid tabletop is great.

MORE SUWADA EXHIBITS AND PLANTS Over the years Suwada has pushed the boundaries with their exhibits; one example was in 2000. The judging rules stipulate exhibits with Western orchids and those with Eastern or oriental species should be judged separately. However, Munekazu made his display a combination of the two and included some Toyoran (Japanese cymbidiums) and native *Dendrobium moniliforme*. Although it was not awarded he nevertheless regards it as one of his best; this division still remains to some extent at the JGP. In 2001, in another change, he decided to use fewer orchids and leave more space between plants, a style he had seen during his international travels. While building it he was told by members of the Organizing Committee that it did not contain enough flowers as "more is better" was the right way. Against all expectations it was popular with both the public and the judges; it gained an award and set a precedent for the future. Keeping it simple, the following year Munekazu used only plants of *Coelogyne cristata* with great effect. 2002 was also the year when "Night Mode" was tried at the show; the main lighting was dimmed for the last hour of the show. It caused a few problems the first time for some vendors who were left in the virtual dark





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in their booths.

Their sales booths have now become a spectacle in themselves; they are often a mass of color and are crammed with flowers.

Apart from dazzling exhibits, Suwada continued to excel in growing plants. Another of their winners was *Coelogyne cristata* f. *hololeuca* 'Pure White', which gained the RHS 200th Anniversary Trophy in 2004. The very same plant would go on to become Grand Champion in 2011. It was the first-ever red ribbon winner or second in its class to be put forward for a higher trophy, and this was allegedly done at the suggestion of Dr. Henry Oakeley, then Chairman of the RHS Orchid Committee. It has never happened again.

The last years of the millennium were the golden days. Attendance figures remained above 400,000, slightly below the peak of 470,000 in 2002; the entrance display was always lavishly decorated, including a memorable orchid clock in 2005, and generally all the displays were opulent. Even artificially painted phalaenopsis flowers appeared for the

first time in 2007. It is easy to look back now at those heady days with a sense of wonder at what the JGP achieved; it had become the pinnacle of the worlds' orchid shows.

Next month — The next 10 years.

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— *Munekazu Ejiri is a third generation proprietor of the internationally renowned Suwada Orchid Nursery in Chiba, Japan44 (email: m-ejiri@ra2.so-net.ne.jp).*

[9] 2001 Grand Champion *Lycaste virginalis* 'Mt. Okuiou'. Lycastes continue to this day to be extremely popular in Japan.

[10] Trophy winners are gathered together in a central display to highlight their special significance. This is the 2004 display of trophy winners.

[11] The clock display from the 2005 Tokyo Dome Show.

[12] The 2005 trophy winners.

[13] The massive size of the show venue drives the installation of massive displays. This huge display is from the 2008 show.

[14] Munekazu Ejiri (left) and his father, Koichi Ejiri (right) pose with their 2007 Grand Champion winner, *Coelogyne cristata* var. *hololeuca* 'Pure White'.

Ecuador and My Orchid Obsession

BY LARRY SEXTON

I AM AN orchid addict! I began in 1982 with three orchids, one of which is still in my collection, which grew exponentially from three, to 10, to 65, to 140, to over 235 in less than three years. I even thought about naming my new pet cat after my favorite orchid group. I just could not name it *pleurothallis*, but Max that was short for *maxillaria* did work.



Larry Sexton

So when I had the opportunity to spend two weeks in Ecuador, I jumped at the chance. I was able to judge the orchids at the 22nd World Orchid Conference and then spend an additional eight days in the Ecuadorean Andes studying habitat and photographing orchids in the wild. Ecuador is orchid heaven.

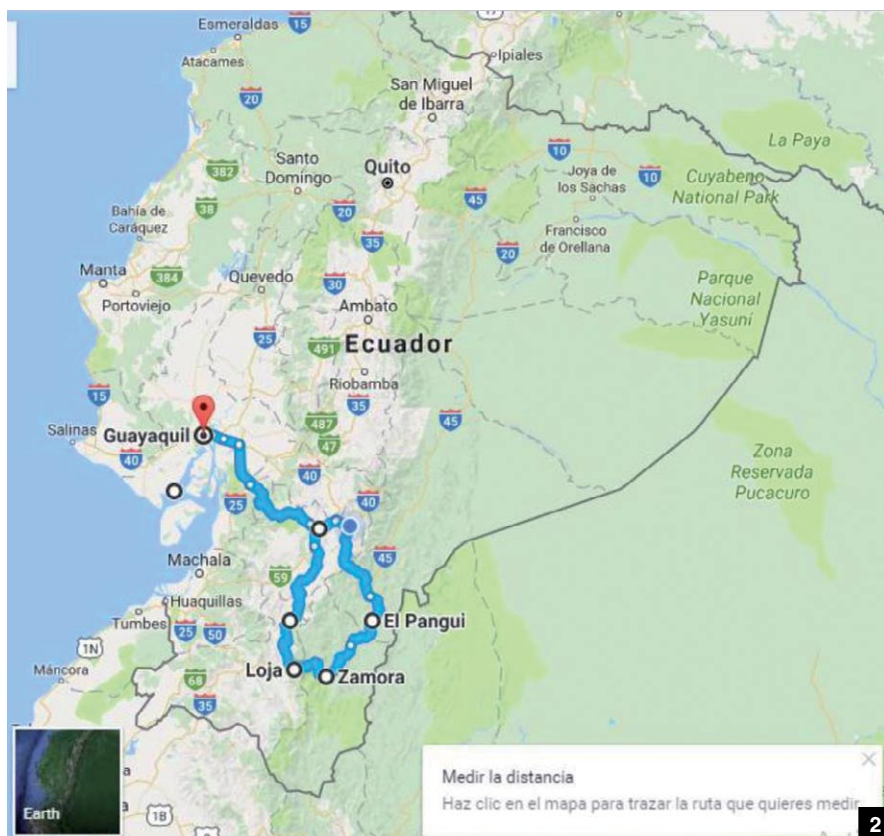
The highlight of the show was the Ecuagenera exhibit, which contained over 3,000 orchids and over a thousand different species in bloom. It was like being in a living South American orchid catalog! Orchids I had only read about were right in front of me.

There were at least 75 specimens of my favorite group, *pleurothallids*. These included *Pleurothallis niveoglobula*, *aspergillum* and *portillae*, and *Acianthera dodsonii*. A glass case was dedicated to just *Porroglossum* species such as *Porroglossum dreisei*, *lycinum* and *olivaceum*. There were specimen *Platystele* plants such as *misasiana*, and *viridis* gracefully showing off their newly won ribbons. These specimen-sized plants were so large that the ribbons covered only about 20 percent of the plant. Dangling down from the top of another exhibit were four plants of *Cyrtochilum macranthum*, all with their 15–20-foot (4.6–6.1-m) inflorescences covered with beautiful yellow flowers.

As an orchid addict, I now wanted to see how these grew in the wild and hopefully bring a few plants, which turned into more than 150, back home. I had signed up for a tour with Ecuagenera, so



LARRY SEXTON

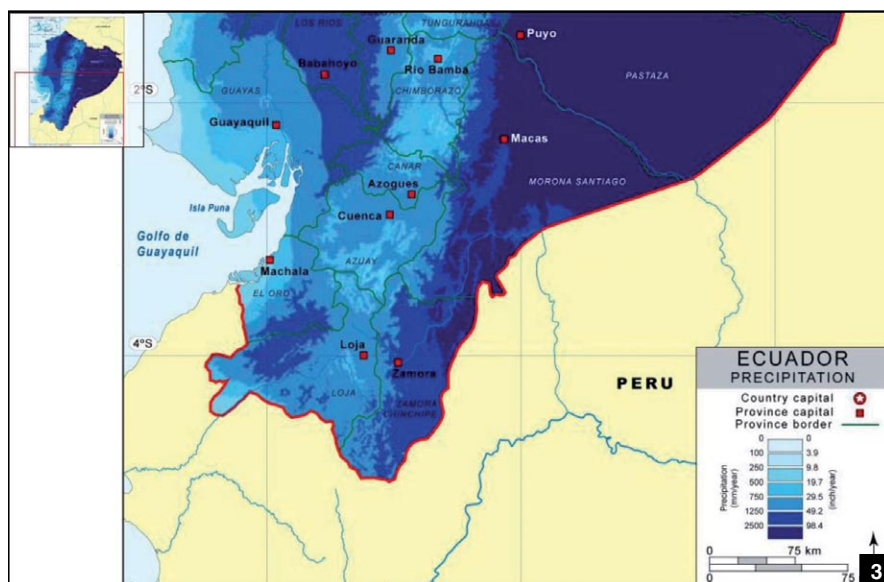


after the show, our tour group headed off into the Andes Mountains.

The western slope of the Andes drains down to the Pacific Ocean. This side is much dryer than the eastern slope, which drains into the Amazon Basin. Weather on the west side is controlled by the breezes and fogs that come inland off the Pacific Ocean. These western peaks are mostly cloud forests. They receive heavy dews from clouds and fog banks. The eastern slope moisture comes up the mountains from the Amazon Basin. This creates much more moisture leading to frequent late-afternoon and early-evening thunderstorms. This moisture difference helps create some of the different microclimates I was about to experience. We went to 13,400 feet (4,084 m) and over the top of the western Andes and down to about 7,500 feet (2,286 m) on the east side of this slope. The views were breathtaking.

The first stop of the trip was the town of Gualaceo. Our tour group was scheduled for a half-day nursery tour. As I walked into the first greenhouse my eyes glazed over, and I felt light headed. There they were — rows of pleurothallids, stelis, epidendrums and maxillarias. Many were ones I had just seen in bloom at the show. I pulled out my wish list of orchids I wanted to buy and soon had about 15 new pleurothallids for my collection. Next came the *Stelis*, and soon I had 10 new ones. Maxillarias were next! Many of the ones I had seen in bloom at the show were now hopefully going to bloom in my greenhouse. My addiction was being fed! Ten new epidendrums were next and I added a *Dracula*, a few *Platystele* species, some lycastes, and, just for good measure, six porroglossums. By the time that Sunday was over, my collection had grown by nearly 100 plants!

We moved from there to the first hike, which was at 8,500 feet (2,591 m) elevation on the western slope of the Andes. This area was dry pasture land that had not had significant rain for three months. November is the start of the wet season for this area and runs from November until July. The temperature during the day was around 70 F (21 C). At night, it would dip to around 50 F (10 C). Heavy dew would roll into this area at night. A light breeze kept the air fresh and buoyant. Orchids growing here included *Cyrtochilum edwardii*, *Epidendrum cylindrostachys* and *Cyr. macranthum*. Both cyrtochilums were large plants. They draped themselves over many branches. The first of these was in bloom about 10



MIKE ROLLINGER



MIKE ROLLINGER

feet (3 m) above our heads. It had 2–3-inch (5.1–7.6-cm), large purplish flowers growing in a 3-foot (0.9-m) clump. Also growing in this pasture were some out-of-bloom stelis and pleurothallids.

The next stop was a road cut at 9,600 feet (2,926 m) on the eastern side of the Andean slope. The weather was cool with the temperature close to 60 F (15.6 C). There was heavy dew in the air and the ground was also damp. Here we found *Pleurothallid lilijae*, *Epidendrum ibaguense* and *Altensteinia fimbriata*. The *lilijae* clung to the side of the hill at eye level. A large clump about 1.5 feet (46 cm) wide had several mud-brown flowers about an inch (2.5 cm) long, dancing in the sunlight. The *ibaguense* was about 20 inches (51 cm) topped by a tuft of reddish blooms. *Altensteinia fimbriata* showed as two inflorescences about half open with pale-green flowers protruding above the

- [1] A tiny portion of the massive Ecuagenera World Orchid Conference (WOC) show display, this glass wardian case contains exclusively species of Porroglossum.
- [2] Map of our tour route. The red location marker indicates the city of Guayaquil and the site of the WOC. The highlighted blue route represents our tour itinerary.
- [3] Precipitation map of southern Ecuador indicating the dramatic variation in rainfall across the region. Precipitation varies from near zero (very lightest blue) to 100 inches (250 cm) or more annually.
- [4] *Cyrtochilum macranthum*. Aptly named, the individual flowers of this dramatic species can reach 4 inches (10 cm) or more across.
- [5] *Altensteinia fimbriata*. Species of *Altensteinia* grow at very high elevation requiring cold conditions and are not common in cultivation.

ground about 30 inches (76 cm).

As we progressed down to 8,885 feet (2,713 m), it began to warm into the 70 F (21 C) range. Most of this area was muddy with sporadic rainfall, making it humid, damp and wet. Out of the rocky, wet and steep slopes sprang *Cyrtochilum matangense*, with its graceful 4–5-foot (1.2–1.5-m) inflorescence floating out over the mountainside several stories above us. It had at least 100 cream-and-red flowers, making it quite easy to spot even that far up the hill. Along the same hillside were *Epidendrum cotacachiense*, *Epidendrum neoviridiflorum*, and an as-yet-unidentified new epidendrum species. These were much closer to the road and not far up the hillside. The plants were from 3 to 6 feet (0.9–1.9 m) tall. The *Epidendrum cotacachiense* flowers were cream and purple with 7–10 flowers per cluster.

The next stop was a bit lower. It was still wet, muddy, and about 70 F (21 C). Here a *Cyr. macranthum* with a 20-foot (6.1-m) inflorescence was in bud. Our guide walked up the slope about 8 feet (2.4 m) to show us a portion of the inflorescence that had wrapped itself around 6–8 scrubby trees and bushes. One bud was about half the length of his finger. As I traveled up and down the slopes of the Andes I learned this was the marker plant for 8,000 feet (2,438 m) in elevation. It was tolerant of different moisture levels, but was always to be found near 8,000 feet (2,438 m). It is a cool grower — but not too cool.

Elleanthus hirtzii showed its small yellow flower heads along the road cut. It grew to about 20 inches (51 cm) with the yellow tuff topping out the plant.

As I descended down the mountain about every 350 feet (107 m), the microclimate and orchid species would change as the temperature, moisture, sunlight and humidity changed. At 7,700 feet (2,347 m), *Maxillaria aurea* and *Oncidium* (formerly *Odontoglossum*) *portmannii* danced among the rocks of the road cut. A pollinator at this time of year must like yellow, as this was the main flower color on the hillside. The *Max. aurea* had single butterscotch-yellow flowers.

Oncidium portmannii thrust its inflorescence out from the scrub brush at just below eye level. It had ten pretty, 2-inch (5.1-cm), mahogany-and-yellow, flat flowers. At this elevation, I was just in short sleeves as the temperature had warmed. This area was still prone to cooler evenings around 60 F (15.6 C).

At 7,000 feet (2,134 m), sobralias



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[6] *Pleurothallis lilijae*

[7] *Epidendrum cotacachiense*

[8] A hillside of *Sobralia virginialis* in flower. Flowers of this species last typically but a day although colonies such as this one tend to flower gregariously, with all plants in flower simultaneous. Plants repeat flowering every few days. Inset photograph is a close-up of the dramatic flowers.

[9] *Elleanthus hirtzii*

[10] *Oncidium* (*Odontoglossum*) *portmannii*

[11] *Epidendrum blepharoclinum*

[12] *Macroclinium borjaensis* illustrates the damp, lichen and moss covered habitat. Inset photograph by Dennis Rollinger is a beautiful specimen of *Masdevallia pumilla*, another species that grows in this sort of habitat.

[13] *Phragmipedium besseae* in situ.

started to show up. First *Sobralia virginalis* and *Sobralia klotzschiana* showed their large, pretty white flowers. They both grew about 10 feet (3 m) above the road. Waterfalls and road washouts were becoming more common in this area. Where we were now entering was prone to heavy daily, afternoon thunderstorms. It was nearing 3 pm in the afternoon and the rain was starting to come down heavily. Out came the poncho and off to find more orchids I went!

A little farther on, there was a hillside with over 100 *Sobralia rosea* in bloom. It was a spectacular sight to see, as these only last 1–2 days at the most, according to our guide! Also at this elevation were a few *Epidendrum blepharoclinium* with their majestic 2-foot (61-cm) inflorescences and beautiful pink flowers peppering the side of the cliff. Along the way were stops to examine wet moss and lichen-covered trees. Here were many miniature twig orchids including *Epidendrum porpax* and *Macroclinium borjaense*. Both were in bloom and no more than 3–4 inches (7.6–10.2 cm) high. The *borjaense* flowers looked like small purple-and-white clusters of its pollinator.

One of the most interesting microclimatic zones I saw was at 4,000 feet (1,219 m) on the eastern slope of the eastern Andes range. This slope is one of the wettest areas I visited, with many long waterfalls. These drain down the eastern slope to form the head waters of the Amazon Basin. Heavy rain and daily thunderstorms drench this area. This area is quite humid, shady and home to the brilliant-red *Phragmipedium besseae*. They were in bloom, growing on flat granite rock sheets with water dripping down the cliffside on them. Damp moss was everywhere. This area was full of pleurothallids, such as *Pleurothallis cordata*, with its small, heart-shaped, brownish flowers, and *Pleurothallis sphaerantha*. Also present was *Stelis pugiunculi*.

One of the most interesting orchids I saw was *Lycomormium fiskei*, which blooms like a stanhopea from the base of the pseudobulb. Its buds looked like little mushrooms pushing out of the soil about 2 feet (61 cm) from the plant. *Masdevallia pumila* showed a nice cluster of about 20 beautiful white, star-shaped flowers. The cluster was growing about 15 feet (4.6 m) up the side of a moss-covered tree. It was one of the top five prettiest plants I saw in flower on the trip. In a nice contrast, I saw *Prosthechea vespa*, about 25 inches (64 cm) tall growing next to *Prosthechea*



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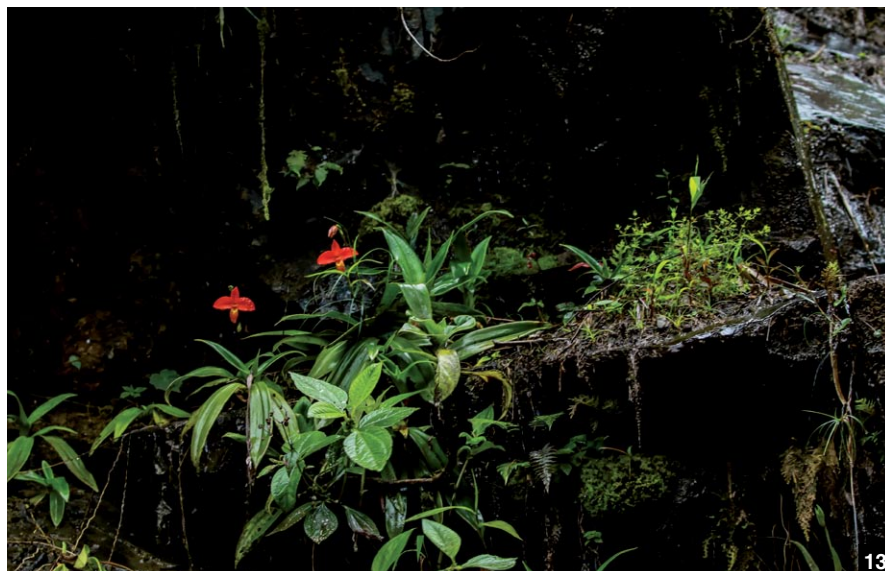
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pygmaea, which is only a quarter to a third the size. Both plants were in bloom.

One night was spent in El Pangui. This area is in the Amazon Basin. Temperatures range from highs of 85 F (29.4 C) during the day to nighttime lows of 61 F (16.1 C). The air is moist and humid. Fog drifted off and on over the town. The rivers were full from the daily thunderstorms. The town's streets were wet and muddy from the previous night's heavy rain. Trees in town were frequently covered with *Rodriguezia lanceolata* and their stunning deep-pink, small-flowered inflorescences. *Erycina pusilla* and its nice yellow flowers were also in bloom. It is a small fan-shaped twig epiphyte.

Also in the town of El Pangui was the Rio Bombuscaro, one of the tributaries of the Amazon River. A hike along this river provided some interesting orchid species. Branches of trees along and hanging over the water were covered with orchids. This microclimate was humid, shady and about 82 F (27.8 C). *Dichaea anchoraelabia* and *Dichaea morrisii* were draped down from the branches about 10 feet (3 m) above our heads. The *Dich. anchoraelabia* were in bloom and showed off their multiple small, round, white flowers. In the fork of a tree sat a *Maxillaria rufescens*. Burnt-orange and salmon-colored flowers were peeking out from around the base of the plant. A large *Xylobium leontoglossum* hung out its cluster of creamy-white flowers. From a *Gongora scaphephorus* dropped a 20-inch (51-cm) inflorescence in bud. There were 18 cream-colored buds hanging 20 feet (6.1 m) over our heads. Twenty-five-inch (64-cm) inflorescences of *Oncidium heteranthum* and *Oncidium nebulosum* showed their pretty yellow flowers from the branches well over our heads. *Pleurothallis troglodytes* was at waist level, low enough on a branch for me to view its squat purple flower.

About 200 feet (61 m) elevation above the river was home to *Phragmipedium boissierianum*. This area was much dryer than near the river. There were multiple plants on a hillside. Four of them were in bloom! I could just barely see them in the thick brush cover they were growing in. Their green color blended in well with the surrounding vegetation.

The next excursion was into a mountain range set between the eastern and western Andean ranges. The first elevation stop was 3,700 feet (1,128 m). It was sunny, windy and about 70 F (21.1 C). Night temperatures were cool. We explored the road cuts, where we found *Myoxanthus monophyllus*, with its



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small cluster of multiple cream-yellow flowers clustered around its base, and a *Cyrtorchilum pastasae* with an extremely long inflorescence of large reddish-chocolate flowers wrapped around several branches of a large bush. There were at least 50 flowers easily viewable from the road.

At 5,800 feet (1,768 m), the temperature was starting to cool. The tall *Epidendrum lacustre* were in full bloom. Cream-white-to-yellowish flowers topped the 3.5-foot (1.1-m) plants, forming a 10-inch (25-cm) cluster of about 15 flowers.

Here also were 3.5-foot (1.1-m) *Max. aurea*. Along the top, they were dotted with ½-inch (1.3-cm), round yellow flowers. *Elleanthus aurea* were also growing and blooming, but they were much closer to the ground. Their burnt-orange and yellow flower clusters were about 2 feet (61 cm) above the ground.

A little farther along the highway our van stopped for additional orchid viewing. As we got out of the van, we nearly stepped on two *Habenaria monorrhiza* plants. They had about half of their flowers open. There were multiple white flowers on a 15-inch (38.1-cm) inflorescence.

Epidendrum calanthurum grows at this elevation. Both the normal pink form and the rarer white form were in flower in the same area. The white form was most prevalent. The plants were about 2.5 feet (76 cm) tall.

The next microclimate explored was in the middle Andean Mountain range at 7,500 feet (2,286 m). This area is dryer than the eastern Andean range. It was cool, about 65 F (18.3 C), and not too humid. A cow pasture, complete with live cattle, was next on the exploration list. This pasture had steep, sloping hillsides and cow paths as trails. The area was quite open and exposed to high light. It was also fairly dry but received heavy evening fog and dew. Hanging from the few trees in the cow pasture were multiple plants of *Oncidium strictum*. Their 6–12-inch (15.2–30.5-cm) inflorescences and small pink flowers were abundant. Also growing on these trees were *Vitekorchis excavata* and the spidery fern-shaped plants of *Maxillaria saraguensis*. Neither were in bloom. Walking farther, the area became more shaded.

This elevation, although on the dry side, is high enough to be covered by clouds and fog that provide heavy dew most nights. This moisture was enough to keep medium-sized pleurothallids moist during the three-month dry season from August through October. Growing



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- [14] The town of El Pangui, Ecuador.
- [15] Our group hunting for warmer growing orchids along the Rio Bombuscaro in fairly heavy shade.
- [16] *Rodriguezia lanceolata*. The inset photograph is *Erycina (Psygmorchis) pusilla*.
- [17] *Cyrtorchilum pastasae*
- [18] *Epidendrum lacustre*
- [19] The white form of *Epidendrum calanthurum*.
- [20] *Habenaria monorrhiza*
- [21] *Phragmipedium boissierianum*

in this area were also *Anathallis regalis*. They were in bloom with 12-inch (30.5-cm) spikes and white flowers. Each inflorescence had about 15–18 1-inch (2.5-cm) flowers all pointing in the same direction. It was nice to see such a large pleurothallis in bloom in a rather dry environment.

Farther along the cow path but in a little deeper shade were more of my favorite little twig orchids. Both the white and pink forms of *Masdevallia bulbophyllopsis* were in bloom on small moss-covered twigs. Each type had 2–3 inflorescences with 3–5 flowers on each. Also blooming on these small twigs were more orchids from my favorite group, *Muscarella claviculata*, *Lepanthes aeora* and a beautiful yellow 1-inch (2.5-cm) flower of *Pleurothallopsis norae*. I was surprised to see how much light they were all getting. All three plants were only about 6 inches (15.2 cm) tall at the most. The *Lths. aeora* had about 10 bright-red flowers and buds. Flowers of *claviculata* were a combination of green and purple. It is a successive bloomer.

Along the road cuts at this elevation were *Epidendrum excisum* and the marvelous *Cyr. macranthum*. The *excisum* had multiple clusters of cream-colored flowers, and the *macranthum* displayed large 3-inch (7.6-cm) flowers that were draped over multiple bushes and vines. It reminded me of the one I had seen earlier in the trip at the World Orchid Conference.

More high-elevation orchids were found while hiking off the road into a much shadier area at 8,500 feet (2,591 m). Large, unbloomed clumps of *Epidendrum fruticetorum* hung at eye level. Slightly farther in this wooded area was one of the holy grails of orchids, *Telipogon hutchisonii*. They were looking back at me at eye level. The flowers were about 3 inches (7.6 cm) across and bright yellow with heavy maroon stripes. The whole plant was barely larger than the flower. This area was shady, cool, windy and with ample moisture provided by the heavy night fog.

Back along the road at a slightly lower elevation were clumps of the reedstem *Epi. ibaguense*. They were about 3 feet (0.9 m) tall and covered with tufts of light-pink flowers. Also present was a new, burnt-orange reedstem epidendrum. It is currently in the process of being named.

Also in this same area was *Maxillaria acuminata* with a spectacular clump of 80–100 cream–white flowers all in bloom. The clump was nearly 2 feet (51



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[22–23] The two color forms of *Masdevallia bulbophyllopsis*.

[24] Typical trichoceros habitat. Inset photograph is the flower of what was identified to us as *Trichoceros antennifer*.

[25] *Pleurothallopsis norae*

[26] *Cyrtorchilum pardinum*

[27] A *Telipogon* identified to us as *Telipogon venustus*. Like *Trichoceros*, species of *Telipogon* are notoriously difficult to accurately identify without careful, close-up examination of the flowers.

[28] *Pleurothallis lindenii*

[29] *Myoxanthus monophyllus*

cm) across and about two stories up the side of the hill. Moving farther west in the Andes but still at the same elevation were *Trichoceros onaensis* and *Trichoceros antennifer*. These were growing in a dry area, much dryer than I expected. Growing alongside of these were agave plants. Once again, the evening fogs and mists provided enough moisture for these orchids to flourish and bloom.

Stepping up in elevation to around 10,000 feet (3,048 m) was another dry microclimate. This area had heavy evening dews and fog banks that roll down the steep slopes. The area was quite cool, but bright, with only low scrubby trees and bushes providing places for the orchids to grow. *Fernandezia crystallina* with their tiny yellowish flowers were growing there. This is a small plant of about 2 inches (5.1 cm). I was again surprised by how much light these were getting. There were a few *Telipogon venustus* showing their 1-inch (2.5-cm), brown-striped flowers. They hung tightly to the scrub brush because it was windy at this elevation. Also present were *Cyrtochilum pardinum*, with a nice inflorescence of yellow-and-red flowers. The plant was about 3 feet (0.9 m) tall, easily rising above the scrub brush vegetation. Multiple clumps of *Pleurothallis bivalvis* showed their small brownish flowers. The plants were about 6–10 inches (15.2–25.4 cm) tall. They were growing on rocks at ground level. This is another plant that needed high light.

Nearby were *Pleurothallis lindenii*, with multiple 3–4-inch (7.6–10.2-cm) chains of yellow flowers. These also were low to the ground, with the plant again being only 6–10 inches (15.2–25.4 cm) tall. A special treat for me was seeing *Lepanthes gargantua* with its 0.5-inch (1.3-cm), yellow-and-orange flowers in bloom. The plant was about 20 inches (50.8 cm) tall. It had one nearly dead leaf and a few other yellowish leaves that showed the effects of the bright light. I would never think to grow *Lepanthes* in such high light. The ground at this elevation was covered with rocks, ferns, dry grass and a mixture of live and dead moss. The nights at this elevation go down into the 40s F (c. 7.2 C). The daytime temperature that afternoon was about 57 F (14 C), clearly jacket weather. I made a mental note to myself not to buy any of these orchids, as I could never duplicate these conditions in my greenhouse.

As all good things must come to an end, so too did my two weeks in orchid heaven. I saw over 140 different Ecuadoran species on the field portion of



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the trip; five were possibly new species. I also learned a great deal about culture. The only question yet to be resolved was whether I could put all the cultural tips I learned to good use and get the 180 orchids I bought to bloom. Once an orchid junkie, always an orchid junkie!

—Larry Sexton started growing orchids in Batavia, Illinois in 1992. He became a student orchid judge in 1998. Six years later he became an accredited judge. His collection consists of about 700 plants, mostly species. He likes to combine travel with visits to orchid areas. He is the past president of the Batavia Orchid Society, and currently is the training coordinator for the Chicago Judging Center (email: orkiddoc@aol.com).



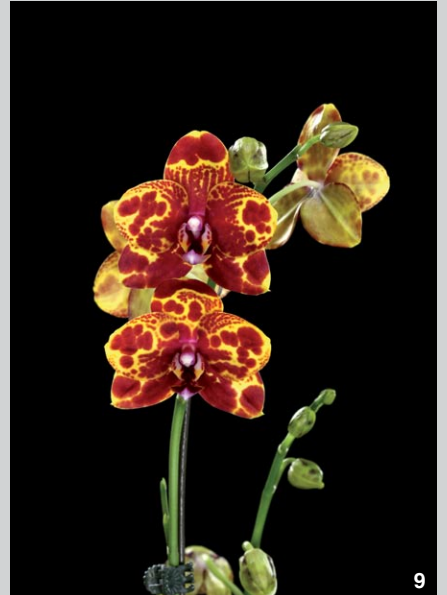
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- [1] *Encyclia* Shinfong Flag 'Ong' AM/AOS (Rioclarense × *cordigera*) 80 pts. Exhibitor: Weng Hsin-Hsiung; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phragmipedium schlimii* 'Cocoa' AM/AOS 80 pts. Exhibitor: Cocoa Orchid Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Paphiopedilum* Carnusianum 'Miki #3' AM/AOS (*haynaldianum* × *spicerianum*) 83 pts. Exhibitor: Miki Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Paphiopedilum* Arco Emerald 'L.S.F.' AM/AOS (Irish Moss × Emerald Sea) 83 pts. Exhibitor: CS Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Paphiopedilum* Wössner China Moon 'Golden Sunlight' AM/AOS (*armeniacum* × *hangianum*) 84 pts. Exhibitor: Sunlight Orchid Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Paphiopedilum* Michael Koopowitz 'M' AM/AOS (*philippinense* × *sanderianum*) 83 pts. Exhibitor: Ho De-Ming; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Paphiopedilum* Prince Edward of York 'Yin Shi' AM/AOS (*rothschildianum* × *sanderianum*) 85 pts. Exhibitor: Tristar Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Paphiopedilum* Cocoa Green 'Round' AM/AOS (Hamana Med × Yi-Ying Spring Mist) 81 pts. Exhibitor: Cocoa Orchid Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Paphiopedilum* Michael Koopowitz 'Tristar' AM/AOS (*philippinense* × *sanderianum*) 87 pts. Exhibitor: Tristar Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Paphiopedilum* Prince Edward of York 'TN-2391-2' FCC/AOS (*rothschildianum* × *sanderianum*) 91 pts. Exhibitor: Shen-Liu Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Paphiopedilum* Prince Edward of York 'TN-9690-1' AM/AOS (*rothschildianum* × *sanderianum*) 85 pts. Exhibitor: Shen-Liu Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Paphiopedilum* Shin-Yi Princess 'Alian' AM/AOS (*rothschildianum* × Booth's Sand Lady) 83 pts. Exhibitor: Ho De-Ming; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Paphiopedilum* Doya Green Prince 'DY' AM/AOS (Hsinying Citron × In-Charm Silver Bell) 84 pts. Exhibitor: Doya Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [14] *Paphiopedilum* Prince Edward of York 'TN-9690-1' AM/AOS (*rothschildianum* × *sanderianum*) 85 pts. Exhibitor: Shen-Liu Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [15] *Paphiopedilum* Yang-Ji Hawk 'Golf' FCC/AOS (*sanderianum* × *anitum*) 90 pts. Exhibitor: Golf Orchids Garden; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [16] *Paphiopedilum* Shin-Yi Pinky 'Leopard Queen' AM/AOS (Wellesleyanum × Winbell) 85 pts. Exhibitor: Ruey Hua Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center





- [1] *Paphiopedilum* Paiho Brutran 'Paiho #2' AM/AOS (Paiho Bruno × *tranlienanum*) 83 pts. Exhibitor: Paiho Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phalaenopsis* NanDares Gold Crown '103-9-1' AM/AOS (Chiada Beautyberry × Sogo Kitty) 84 pts. Exhibitor: Tainan District Agricultural Research; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Phalaenopsis* Fuller's Pink Gem 'FL 3451-10' CCM/AOS (Little Gem Stripes × Fuller's Pink Swallow) 84 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Phalaenopsis* Fuller's Pink Gem 'FL 3451' CCM/AOS (Little Gem Stripes × Fuller's Pink Swallow) 84 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center



- [5] *Phalaenopsis* Taisuco Little Vivien 'H99952' CCM/AOS (Philisander × Sogo Vivien) 86 pts. Exhibitor Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Phalaenopsis* Hualien Little Spark 'H289 #42' AM/AOS (Taida Vivien Stripes × Dendi's Treasure) 83 pts. Exhibitor: Hualien District Agricultural Research; photographer: Jea Shang Photography. Puerto Rico Judging Center



- [7] *Phalaenopsis* Luy Rose 'CX799' AM/AOS (Taiwan Peacock × Tying Shin Zebra) 81 pts. Exhibitor: Chian Xen Biotechnology Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Phalaenopsis* Pylo's Mosaic 'Chienlung #02' AM/AOS (*gigantea* × Brother Ambo Passion) 83 pts. Exhibitor: Chienlung Orchid Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center



- [9] *Phalaenopsis* GW Green World 'Y.H. Best' AM/AOS (Tying Shin Wonder × Haur Jin Princess) 83 pts. Exhibitor: Marshall Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Phalaenopsis* Taisuco Courier 'B95062' AM/AOS (Taisuco Bolt × Taisuco Verve) 84 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Phalaenopsis* Lioulin Claire 'Lee 1097' FCC/AOS (Lioulin Elf × Chian Xen Piano) 91 pts. Exhibitor: Char Ming Agriculture Co. Ltd; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Phalaenopsis* Lioulin Yenlin 'CX491' CCM/AOS (Lioulin Grape × Chia E Yenlin) 85 pts. Exhibitor: Chian Xen Biotechnology Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Phalaenopsis* Kdares Black Swan 'PP-123-S1' AM/AOS (Purple Martin × Haur Jin Princess) 83 pts. Exhibitor: Kaoshiung District Agricultural Research; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [14] *Phalaenopsis* Lioulin Yenlin 'CX491' AM/AOS (Lioulin Grape × Chia E Yenlin) 84 pts. Exhibitor: Chian Xen Biotechnology Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [15] *Phalaenopsis* Mituo Sun Queen '63-3' AM/AOS (Mituo Bellina × LD's Bear Queen) 82 pts. Exhibitor: Mituo Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center





- [1] *Phalaenopsis* Tying Shin Little Prince 'Marshall's Luck' AM/AOS (Fuller's Lily x Liu's Triprince) 81 pts. Exhibitor: Marshall Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phalaenopsis* Chian Xen Gold 'CX213' AM/AOS (Sogo Pride x Buena Jewel) 82 pts. Exhibitor: Chian Xen Biotechnology Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Phalaenopsis* I-Hsin Bright Star 'ISM 0729' AM/AOS (I-Hsin Sunflower x I-Hsin Amy) 82 pts. Exhibitor: I-Hsin Biotechnology Co. Ltd.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Phalaenopsis* Lioulin Lawrence 'FL 89023' AM/AOS (Sogo Lawrence x Sogo Shito) 83 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Phalaenopsis* Taisuco Succubus 'BA4093' AM/AOS (Nankung's 4.55 PM x Taisuco Sudan) 84 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Phalaenopsis* Lioulin Imp 'CX630-2' AM/AOS (Chian Xen Piano x Yu Pin Polar Star) 84 pts. Exhibitor: Chian Xen Biotechnology Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Phalaenopsis* Taisuco Pink Blush 'C5010' AM/AOS (Taisuco Outvalue x Taida Blush) 83pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Phalaenopsis* Taisuco Mulberry 'B99150' AM/AOS (Ruey Lih Beauty x Shih Hua Girl) 80 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Phalaenopsis* Taisuco Pink Blush 'C5010' CCM/AOS (Taisuco Outvalue x Taida Blush) 84 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Phalaenopsis* Laurel Classy Girl 'LX-109' CCM-AM/AOS (Pinlong Cheris x Leopard Prince) 84-82 pts. Exhibitor: Laurel Flora Co.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Phalaenopsis* OX Little Beauty 'OX 3039' AM/AOS (OX Happy Girl x OX Golden Sands) 83 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Phalaenopsis* Charming Crystal Water Lee '1288' CCM-FCC/AOS (Tying Shin Valentine's Day x Fureshing Mark) 87-92 pts. Exhibitor: Char Ming Agriculture Co., Ltd; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Phalaenopsis* OX Little Prince 'OX 1712' AM/AOS (Chih Shang's Stripes x OX Black Jack) 82 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [14] *Phalaenopsis* Dragon Tree Firerose 'LS #136' FCC/AOS (Luchia Fire x Rose Valentine) 90 pts. Exhibitor: Dragon Tree Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [15] *Phalaenopsis* I-Hsin Cherry Bomb 'KHM 2315' AM/AOS (Leopard Prince x I-Hsin Golden Stone) 82 pts. Exhibitor: I-Hsin Biotechnology Co. Ltd.; photographer: Jea Shang Photography. Puerto Rico Judging Center





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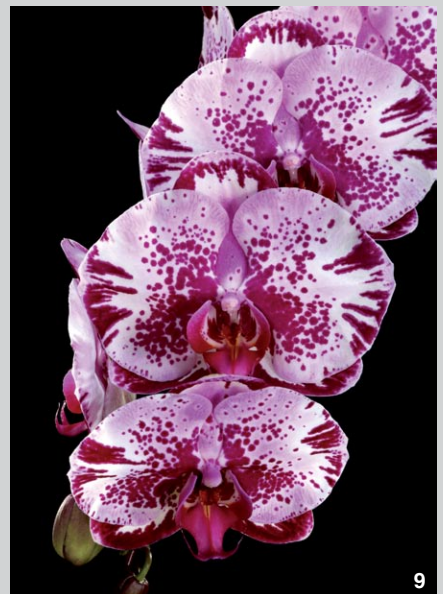


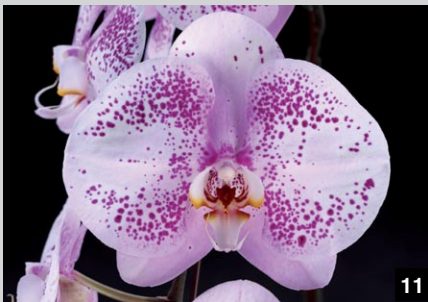
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- [1] *Phalaenopsis* Taida New Luchia 'Lee 860' CCM-AM/AOS (Jincheng Lover x New Cinderella) 85-84 pts. Exhibitor: Char Ming Agriculture Co. Ltd; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phalaenopsis* Hinamatsuri 'OX 1511' AM/AOS (Musashino x Naughty Pink) 82 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Phalaenopsis* Orient Empress 'K10' CCM/AOS (Sogo Yukidian x Sweet Wine) 85 pts. Exhibitor: Royal Base Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Phalaenopsis* Hong Lin Jewelry 'HJ7' AM/AOS (Jiuhbao Sweetie x Shyang Fa Red Diamond) 80 pts. Hong Lin Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Phalaenopsis* Heliodor 'Darwin' AM/AOS (Jiuhbao Stream x Morning Moon) 85 pts. Exhibitor: Tai-Ling Biotechnology Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Phalaenopsis* Taisuco Green Apple 'BA4120' AM/AOS (Sogo Yukidian x Heliodor) 83 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Phalaenopsis* Taisuco Anna 'K71303' CCM-AM/AOS (Hilo Lip x Taisuco Carol) 82-84 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Phalaenopsis* Taisuco Green Apple 'BA4119' AM/AOS (Sogo Yukidian x Heliodor) 81 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Phalaenopsis* Golden Apollon 'Apollon' AM/AOS (Morning Moon x Kinu no Taiyou) 84 pts. Exhibitor: Laurel Flora Co.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Phalaenopsis* OX Rose Queen 'OX 3041' AM/AOS (OX Fair Rose x OX Queen) 83 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Phalaenopsis* OX Pink Yukidian 'OX 1747' AM/AOS (OX Honey x Sogo Yukidian) 83 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Phalaenopsis* Taisuco Suffusion 'BA4154' AM/AOS (Taisuco Daybreak x Yu Pin Easter Island) 82 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Phalaenopsis* Taisuco Dazzle 'B97030' AM/AOS (Shih Hua Queen x Shiu-Dong Sweet Heart) 80 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [14] *Phalaenopsis* Fuller's Pink Rose 'FL 3431' AM/AOS (Fuller's Pink Swallow x OX Red Eagle) 86 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center





- [1] *Phalaenopsis* Taisuco Deiform 'B97342' AM/AOS (Leopard Prince × I-Hsin Gold Dust) 81 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phalaenopsis* OX Leo Prince 'OX 3004' AM/AOS (OX Honey × Leopard Prince) 82 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Phalaenopsis* OX Red Lion 'OX 1668' AM/AOS (OX King × OX Black Jack) 81 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Phalaenopsis* Fuller's 3545 'FL 8014-1' FCC/AOS (Fuller's Purple Queen × OX King) 93 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Phalaenopsis* Fuller's 3545 'FL 89074' AM/AOS (Fuller's Purple Queen × OX King) 82 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Phalaenopsis* I-Hsin Egyptian Mau 'KHM 2353' AM/AOS (I-Hsin Panda × I-Hsin Spot) 80 pts. Exhibitor: I-Hsin Biotechnology Co. Ltd.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Phalaenopsis* OX New Moon 'OX 3015' AM/AOS (Liulin Moon × OX Success) 80 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Phalaenopsis* Fuller's 3600 'FL89037' AM/AOS (Fuller's Dance × Fuller's Purple Queen) 84 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Phalaenopsis* Younghome New York 'KA01801' AM/AOS (Fuller's Maiden × Luchia Lip) 84 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Phalaenopsis* Taisuco Red Speckle 'BA5143' AM/AOS (Nobby's Pink Lady × Taisuco Parakeet) 84 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Phalaenopsis* Fuller's D-Plus 'FL 89135' FCC/AOS (Yu Pin Easter Island × Fuller's Purple Queen) 91 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Phalaenopsis* Fuller's 3580 'FL 89105' AM/AOS (Fuller's Purple Queen × Fuller's Cow) 80 pts. Exhibitor: Fuller's Orchids Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Phalaenopsis* Taisuco Red Speckle 'BA5145' AM/AOS (Nobby's Pink Lady × Taisuco Parakeet) 85 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [14] *Phalaenopsis* OX Eagle King 'OX 1671' AM/AOS (OX Red Eagle × Sunrise Beautiful Girl) 84 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center





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- [1] *Phalaenopsis* Giant Lin Duo Er-Guen 'VMA3504' AM/AOS (Sin-Yaun Golden Beauty × Ark's Cinderella) 85 pts. Exhibitor: Taiwan Sugar Corporation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phalaenopsis* OX Lottery Star 'OX 632' AM/AOS (OX Lottery × OX Honey Star) 86 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Rhynchosopsis* Kdares Perfume Angel 'GH-55-S2' CCE-AM/AOS (*Phalaenopsis* Timothy Christopher × *Rhynchostylis gigantea*) 90-86 pts. Exhibitor: Kaoshiung District Agricultural Research; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Dendrobium* Lai's Angel 'L. S. F.' AM/AOS (*sanderae* × Silver Bells) 86 pts. Exhibitor: Ling Sing Fang Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Vanda* Tristar Blue 'Yen' AM/AOS (Kimi-gayo × Manuvadee) 85 pts. Exhibitor: Yen Shih-Cheng; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Cymbidium kanran* 'Yang's Queen' AM/AOS 83 pts. Exhibitor: Amigo Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Cymbidium tortisepalum* var. *longibracteatum* 'Great Wealth' FCC/AOS 92 pts. Exhibitor: Amigo Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Vandaenopsis* Kdares Orange Lover 'KHS-22' AM/AOS (Irene Dobkin × *Phalaenopsis amabilis*) 82 pts. Exhibitor: Kaoshiung District Agricultural Res; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Phalaenopsis* OX Golden Roll 'OX 3018' AM/AOS (Golden Sands × OX Honey Egg Roll) 83 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Vanda* Bronze Butterfly 'Tariflor - No. 5' AM/AOS (*lamellata* × *denisoniana*) 82 pts. Exhibitor: Taiwan Agricultural Research Institute; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Phalaenopsis* King Car Big Orange 'KC 80311' AM/AOS (King Car Odeon King × Salu Pecker) 82 pts. Exhibitor: King Car Biotechnology Industrial Co. Ltd.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Holcostylis* Pink Yawi 'TSS 1-14' AM/AOS (*Holcoglossum* Pink Jenny × *Rhynchostylis gigantea*) 83 pts. Exhibitor: Taiwan Seed Improvement and Propagation; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Vandachostylis* TSS Taiwan Gandharva 'TSS 12-2' AM/AOS (Lou Sneary × *Rhynchostylis gigantea*) 81 pts. Exhibitor: Taiwan Seed Improvement and Propagation; photographer: Jea Shang Photography. Puerto Rico Judging Center





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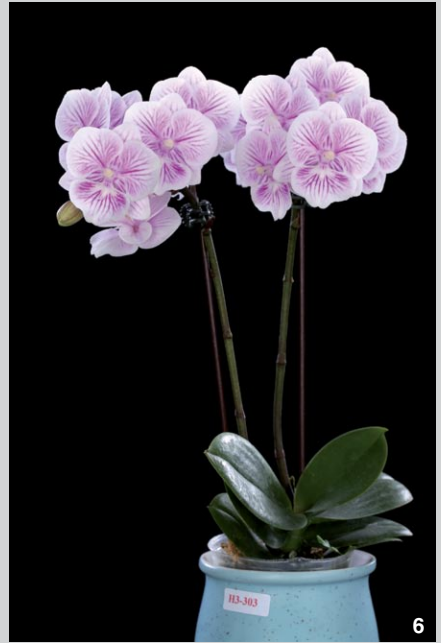


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- [1] *Catasetum pileatum* 'G.D. P71' FCC/AOS 91 pts. Exhibitor: Yang Chang-Jung; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Rhyncholaeliocattleya* Budai Win Eyes 'SK1' AM/AOS (*Cattleya* Jungle Eyes × Budai Win) 82 pts. Exhibitor: Shih Kuang Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Phalaenopsis* ANMIO Yellow Bat 'AN #21' AM/AOS (Sogo Pride × ANMIO Pride) 84 pts. Exhibitor: Huang, Min-An; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Phalaenopsis* Ming Yuan Rainbow '1' FCC/AOS (Chian Xen Pearl × Yushan Little Pearl) 90 pts. Exhibitor: Char Ming Agriculture Co. Ltd; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Phalaenopsis* Chienlung Gelblinosa 'NAN #05' AM/AOS (Jade Gold × Yungho Gelbliambo) 83 pts. Exhibitor: Chienlung Orchid Nursery; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Phalaenopsis* Mituo Golden Tiger 'White Tiger' AM/AOS (Magnificent Mibs × Lyndon Reflex) 82 pts. Exhibitor: Mituo Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Phalaenopsis* OX Black Tea 'OX 1707' AM/AOS (Coral Lake × OX Spot Queen) 83 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Phalaenopsis* Chian Xen Garfield 'CX601' AM/AOS (Chian Xen Snow Scene × Chian Xen Angel) 80 pts. Exhibitor: Chian Xen Biotechnology, Inc.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Calanthe vestita* 'JB #1' FCC/AOS 90 pts. Exhibitor: Jumbo Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Phalaenopsis* OX Eagle King 'OX 1671' AM/AOS (OX Red Eagle × Sunrise Beautiful Girl) 81 pts. Exhibitor: OX Orchids Farm; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Maxillaria variabilis* 'L. S. F.' CCE/AOS 95 pts. Exhibitor: Ling Sing Fang Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Dendrochilum cobbianum* 'W. Chan' CCM/AOS 85 pts. Exhibitor: Yen Shih-Cheng; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Bulbophyllum* Hsinying Grand-arfa 'CS' CCE/AOS (*grandiflorum* × *arfakianum*) 90 pts. Exhibitor: Ching Sun Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center





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- [1] *Phalaenopsis* Mituo Reflex Dragon 'Blue #2' AM/AOS (Lyndon Reflex x LD Double Dragon) 81 pts. Exhibitor: Mituo Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [2] *Phalaenopsis* I-Lan Fairy 'LU2013-5' AM/AOS (I-Lan Diamond x Happy Ufo) 85 pts. Exhibitor: King Car Biotechnology Industrial Co. Ltd.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [3] *Phalaenopsis* Lianher Scallops '1060-11' AM/AOS (Tying Shin World Class x Lianher Happy Smile) 82 pts. Exhibitor: Lian Her Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [4] *Lysudamuloa* Yi-Ying Sakura 'L42' AM/AOS (*Lycamerlycaste* Jean Tolliday Kendolie x *Angulocaste* Yi-Ying Red Star) 82 pts. Exhibitor: Yi-Ying Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [5] *Phalaenopsis* Lianher Focus '1011-1' AM/AOS (Lianher Happy Song x E-Hsin Angel) 82 pts. Exhibitor: Lian Her Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [6] *Phalaenopsis* Lianher Happy Mini '3E-68' AM/AOS (Sogo Vivien x Tying Shin World Class) 83 pts. Exhibitor: Lian Her Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [7] *Dendrobium* Lai's Yukimei 'L. S. F.' AM/AOS (Lai's Saumei x Lai's New Yukidaruma) 86 pts. Exhibitor: Ling Sing Fang Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [8] *Rhynchosopsis* Dragon Charmy 'GH 749' AM/AOS (*Phalaenopsis japonica* x *Rhynchostylis gigantea*) 84 pts. Exhibitor: Kaoshiung District Agricultural Res; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [9] *Phalaenopsis* Lianher Scallops '1060-3' AM/AOS (Tying Shin World Class x Lianher Happy Smile) 82 pts. Exhibitor: Lian Her Orchids; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [10] *Phalaenopsis* King Car Velvet Peach 'KC 80494' AM/AOS (King Car Honey Peach x Fureshing Velvet Rose) 83 pts. Exhibitor: King Car Biotechnology Industrial Co. Ltd.; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [11] *Rhynchosopsis* Kdares Kitten 'GH-046-S1' AM/AOS (Suree x *Phalaenopsis japonica*) 86 pts. Exhibitor: Kaoshiung District Agricultural Research; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [12] *Vanda* Tariflor Noble Queen 'Tariflor - No. 4' AM/AOS (*lamellata* x Pakchong Blue) 83 pts. Exhibitor: Taiwan Agricultural Research Institute; photographer: Jea Shang Photography. Puerto Rico Judging Center
- [13] *Holcostylis* Wu Gift 'Kuo Fu #1' FCC/AOS (*Holcoglossum wangii* x *Rhynchostylis gigantea*) 91 pts. Exhibitor: Chien Kuo Fu; photographer: Jea Shang Photography. Puerto Rico Judging Center

In Search of *Maxillaria crispiloba*

Text and photographs by Pascal Sauvêtre

MAXILLARIA CRISPILOBA IS a Colombian orchid that was described in 2012 in *The Orchid Review*, but is still poorly known. It has been confused with neighboring species and the name is often not correctly applied. This article aims to make the species better known and to communicate such information as is available.

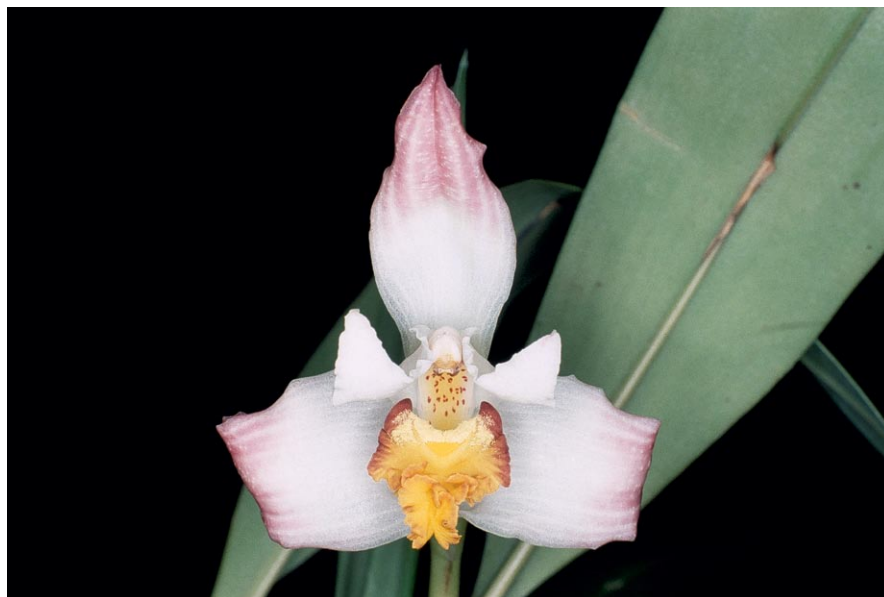
Originally this species was to be described by the American botanist Eric Christenson (1956–2011). He had recognized the features that made it a new, as-yet-undescribed species when I referred to it as *Maxillaria* species in my book *Les Maxillarias* (2009). Sadly, Eric's premature death put an end to that, and so my friend Michael McIlmurray (1940–2018), holder of the National Collection of *Maxillaria* in Smallfield, Surrey, Great Britain, and I decided that we would describe this remarkable new species.

Since then I have not stopped hunting for information about this orchid and, in particular, attempting to define its geographical range. Contacts with orchid specialists and orchid lovers, both Colombian and foreign, have yielded slim results. I repeat here the original description and also add some further points in the understanding of this plant.

***Maxillaria crispiloba* — a new species (Sauvêtre and McIlmurray, 2012 [with kind permission of Sarah Forsyth, *Orchid Review* editor]).**

The *Maxillaria grandiflora* complex contains approximately 40 related species that occur in the Andean montane forests of Colombia, Venezuela, Ecuador, Peru, and Bolivia. There are potentially about 10 new species in this alliance waiting to be described, growing in private collections (Christenson, pers. comm.). The recent description by the late Eric Christenson (Christenson, 2011) of two new species in this complex from Colombia, *Maxillaria colombiana* and *Maxillaria tectasepala*, illustrates his premise.

The new species that we describe here was purchased by one of us (PS) from a Colombian orchid grower in September of 2006 as *Maxillaria huebschii*. When the plant flowered three months later it was clearly not this species. When the details of this plant were published as *Maxillaria* species in the book *Les Maxillarias* (Sauvêtre, 2009), Eric Christenson



confirmed that it is a new, undescribed species (pers. comm.). We publish it here in honor of his memory.

***Maxillaria crispiloba* Sauvêtre and McIlmurray, sp. nov.**

Species haec Maxillaria grandiflorae (Kunth) Lindl. similis est, sed petalis triangularis spatulae undatus, lobo mediano labello crispatus, floribus coloribus differt.

TYPE Colombia, without precise locality, flowered in cultivation in Paris (France), Dec 2006. Collection P. Sauvêtre

[1–2] Face-on and side view of the large, attractive flower of *Maxillaria crispiloba*.

(PS200606) (Holotype: K).

DESCRIPTION Caespitose plant, 25–30 cm high. Pseudobulb ovate, compressed, 5.5 × 3 cm, subtended by 2–3 foliaceous bracts, the sheaths to 8 cm long, the blades to 20 × 3.5 cm. Leaves one, oblong, acuminate, petiolate, petioles to 10 cm long, the blades to 35 × 4 cm. Leafless pseudobulbs retain a 1 cm remnant of dry petiole. Inflorescences

erect scapes to 14 cm long, with 5 green bracts. *Ovary* arcuate, 5 × 0.4 cm with 1 green acuminate bract, 3.6 cm long. *Flower* basal, solitary, 4.5 × 5.5 cm. Delicate fragrance with hints of lemon early in the morning evolving to old rose later, fading altogether by the middle of the day. *Dorsal sepal* lanceolate, mucronate, spread, revolute margins, basal ⅓ white and apical ⅓ white with a pink purple flush, 3.6 × 1.7 cm. *Lateral sepals* ovate–triangular, mucronate, spread, margins slightly undulate, apex curled back, basal ⅓ white and apical ⅓ white with a pink purple flush, 3.6 × 2 cm. *Petals* triangular–spathulate, acuminate, lie forwards along column, undulate and revolute margins, recurved apex, white, 3 × 1.3 cm. *Lip* trilobed, 2 × 1.5 cm, outside color white flushed with pink–purple and golden yellow, two purple spots at the junction of the lateral lobes and the midlobe; the lateral lobes erect, elliptic, purple; the midlobe triangular, acute, slightly recurved, crispate margins, buff yellow; the callus tongue-like, thick, covered with dense yellow farinaceous trichomes, 1.2 × 0.6 cm. *Column* arcuate, canaliculate, dorsal side white, yellow splashed with purple streaks inside, 1.1 × 0.6 cm, the column foot 1.4 × 0.55 cm, pinched centrally to 0.45 cm. *Anther cap* globose, keeled, white with a facial brown spot, the *viscidium* saddle-shaped, purple, the *pollinia* four in two pairs (0.3 cm long), yellow.

HABITAT Unknown but probably wet montane forest (c. 1,800–2,300 m).

DISTRIBUTION Known only from Colombia, at present.

ETYMOLOGY From the Latin *crispus*, meaning irregularly waved and twisted, and *lobus*, meaning lobe referencing the conspicuously crispate margin of the labellar midlobe.

SIMILARITIES TO OTHER SPECIES The habit of the plant, especially the appearance of the flower, is similar to other species in the *Maxillaria grandiflora* complex, such as *Maxillaria huebschii*, *Maxillaria irrorata* and *Maxillaria lehmannii*. This is particularly noticeable in the characteristic features of the erect dorsal sepal, lateral sepals spread with revolute apices, and the column and anther cap. The size of the floral parts is similar to *Max. grandiflora* and *Max. roseola*.

This new species of *Maxillaria* is distinguished by the shape and configuration of the petals with undulate margins, the shape of the lip and the showy midlobe with crispate margins,

and the color of the flower. The lip is the masterpiece of this plant, unlike those of any other *Maxillaria* species, although there are similarities with *Maxillaria fletcheriana*.

Maxillaria crispiloba flowers from December to January; each flower lasting approximately four weeks. The fragrance of the flower is delicate and unusual, pleasant, slight and fleeting. It is reminiscent of lemon early in the morning, changing to old rose by late morning, and fading altogether by the afternoon.

CULTIVATION This species of *Maxillaria* grows well potted in a mix of two-thirds sphagnum moss and one-third pine bark. It does best in the cool to intermediate part of the greenhouse. It is a most attractive species that is sure to appeal to a wide variety of orchid growers.

ADDITIONAL INFORMATION With over 4,000 species, Colombia probably contains the greatest diversity of orchids in tropical America. It is an Eldorado for botanists, but the lack of security in some regions of the country makes scientific work difficult or even impossible. The number of maxillarias known at present is at least 215 species (Ortiz Valdivieso and Uribe Vélez, 2007). However, new discoveries are made almost every year. For example, six species occurring in the south (Valle de Sibundoy) can be added to the record, in particular a novelty in the *Maxillaria grandiflora* complex, *Maxillaria ramiro-medinae* (Szlachetko et al., 2017). It should be noted that the true *Maxillaria grandiflora*, discovered by Humboldt and Bonpland in 1801 somewhere around San José de Albán, Nariño, has still not been found again.

As for *Maxillaria crispiloba*, it came from the western Cordilleras, probably from the area around Santiago de Cali, Valle del Cauca. It occurs in humid forests, at altitudes of 1,600–1,900 m. In accordance with printed images, it was discovered and brought into cultivation in the 1990s.

Although the species may be grown by Colombian orchidists, it remains rare and is often given an incorrect name such as *Maxillaria eburnea*, *Maxillaria eburnea purpurata*, *Maxillaria fucata* or even *Maxillaria huebschii*.

Flower color in this *Maxillaria* is known to be variable, as is so often the case in the genus. The type specimen was described as having white sepals and petals with pink-purple tips and a yellow lip edged with purple. At least one variant occurs where the floral parts are white

except for the lip, which is yellow with or without purple margins. This form has led to confusion with *Maxillaria eburnea*.

Maxillaria eburnea is distinguished from *Maxillaria crispiloba* by the shape of the floral parts, in particular the lip, which has a tongue-shaped callus with two axillary calli and lacks a crisped edge to the midlobe, as well as the pure white color. *Maxillaria eburnea* occurs in the extreme south of Venezuela (Cerro Marahuaca, Amazonas) and has never been found again since its discovery by Robert Schomburgk in 1839 (Sauvêtre, 2010).

After 12 years, I can confirm that *Maxillaria crispiloba* is easy to grow. The color of the flowers and their scent makes it a choice species for hybridization. I believe that it has great potential for horticulture.

CONCLUSIONS We still do not know who discovered this species, nor in which year or where, let alone its habitat. In spite of these gaps, nothing stops us from appreciating this beautiful and delicate orchid. In July of 2018, I am still enjoying the perfume of this plant that I have grown since 2006. It is also for me a reminder of an amicable collaboration with Eric and Michael around our common passion for *Maxillaria*.

— *Pascal Sauvêtre, former deputy head gardener, worked for 30 years at the Jardin du Luxembourg in Paris. He has communicated his passion for orchids, in particular Maxillaria, in books, articles and at conferences (email: maxillaria-et-compagnie@wanadoo.fr).*

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- Ortiz Valdivieso, P. and Uribe Vélez, C. 2007. *Galeria de Orquideas de Colombia*. CD ed. Asociación Bogotana de Orquideología, Bogotá, Colombia.
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- Sauvêtre, P. and McIlmurray, M. 2012. *Maxillaria crispiloba* — A New Species. *Orchid Review* 120(1298):92–95.
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Acknowledgment

The author would like to thank Isovyl la Croix for the translation of this manuscript.

JANUARY

5–6—Sarasota Orchid Society presents “For the Love of Orchids,” Sarasota Municipal Auditorium, 801 N. Tamiami Trail, Sarasota, FL; Contact: Dennis Pavlock, 941–441–6273; dfpavlock@gmail.com

11–13—Miami Orchid Society’s “Tamiami International Orchid Festival,” Dade County Fairgrounds Expo Center, Fuchs Pavilion, 10901 Coral Way (SW 24 St.), Miami, FL; Contact: Martin Motes, 305–247–4398; martinmotes@gmail.com

15–20—Asociación de Orquidistas del Sur “Primer Festival de Orquidas de Puerto Rico,” Plaza del Caribe Mall, 2050 Ponce By Pass, Suite 111, Ponce, PR; Contact: Francisco Martinez, 787–487–1917; francisco.martinez@hilton.com

18–20—North Jersey Orchid Society Show and Sale, Rutgers University, Douglass Cook Student Center, 100 George St., New Brunswick, NJ; Contact: Carrie Buchman, 201–410–3089; cbuchman@tncb.net

25–27—Fort Lauderdale Orchid Society Show “Orchid Paradise,” War Memorial Auditorium, 800 NE 8th St., Fort Lauderdale, FL; Contact: Michael Schaberl, 954–683–9615; michaelshaberl@comcast.net

25–27—Gulf Coast Orchid Society Show & Sale, Gautier Convention Center, 2012 Library Lane, Gautier, MS; Contact: Jo Ann Vaz, 601–947–8777; joannvaz@bellsouth.net

26—National Capital Orchid Society “39th Annual Paphiopedilum Forum,” U.S. National Arboretum, 3501 New York Avenue NE, Washington, DC; Contact: Roddy Gabel and Jay Tullos, 301–646–3657; former_zygote@hotmail.com

26–27—Cape and Islands Orchid Society Show, The Resort and Conference Center, 35 Scudder Ave., Hyannis, MA; Contact: Tina Balog, 508–540–5006; tina@plaid.wholedu

26–27—Grand Valley Orchid Society “21st Annual Orchid Show,” Frederick Meijer Gardens & Sculpture Park, 1000 East Beltline NE, Grand Rapids, MI; Contact: Mei Ling Clemens, 231–557–2647; meilingclemens@gmail.com

26–27—Orchid Society of Minnesota “Winter Carnival Orchid Show,” Marjorie McNeely Conservatory, 1225 Estabrook Drive, St. Paul, MN; Contact: Michael Dyda, 612–223–4059; michael1027us@yahoo.com

26–27—Peninsula Orchid Society Show & Sale, Community Activities Building, 1400 Roosevelt Ave., Redwood City, CA; Contact: Chaunie Langland, 510–364–2274; chaunie.langland@earthlink.net

30—February 3—Asociación Guatemalteca de Orquideología Nacional Show, Zoológico La Aurora, 5 Calle, Interior Finca La Aurora, Zona 13, Guatemala City, Guatemala; Contact: Julio Fonseca, 011–502–5411–

0694; jfonsecaorchids@gmail.com

FEBRUARY

1–3—Central Vancouver Island Orchid Society Annual Show & Sale, Nanaimo North Town Centre, 4750 Rutherford Road, Nanaimo, BC, Canada; Contact: Darlene Rathwell, 250–753–4208; islander@telus.net

1–3—Susquehanna Orchid Society Show “For the Love of Orchids,” Milton and Catherine Hershey Conservatory at Hershey Gardens, 170 Hotel Road, Hershey, PA; Contact: Lorna Deibert, 717–825–7827; lornadeibert@aol.com

2–3—Madison Orchid Growers Guild “Orchid Quest,” Olbrich Botanical Gardens, 3330 Atwood Ave., Madison, WI; Contact: Terri Jozwiak, 608–592–7906; lodijoz@charter.net

2–3—Orchid Society of Greater St. Louis “Orchids in Paradise,” Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, MO; Contact: Lynette Dowell, 636–536–3392; correspondingsecretary@osogsl.org Erin Vasconcelles, 217–725–7749; president@osogsl.org

2–3—Venice Area Orchid Society Annual Show & Sale, Venice Community Center, 326 S. Nokomis Ave., Venice, FL; Contact: Carol Wood, 941–497–4995; showchair@vaos.org

7–10—Deep Cut Orchid Society Show & Sale, Dearborn Market, 2170 Route 35 South, Holmdel, NJ; Contact: Helen Kroh, 609–578–2854; krohsnest@optonline.net

8–10—*Greater Orlando Orchid Society Annual Show & Sale, Orlando Garden Club Inc, 710 East Rollins Street, Orlando, FL; Contact: Janet Dickinson, 407–310–0379; realtorjanet@bellsouth.net

8–10—New Hampshire Orchid Society Show “February Follies,” Courtyard by Marriott, 2200 Southwood Drive, Nashua, NH; Contact: Brenda Campbell, 603–668–3689; bbcampbell139@comcast.net

8–10—Newport Harbor Orchid Expo and Sale “Orchid Mania,” Westminster Mall, 1025 Westminster Mall, Westminster, CA; Contact: Richard Hara, 714–968–1983; worknut49@aol.com

9—*Diablo View Orchid Society “Valentine’s Orchid Show,” First Lutheran Church, 4000 Concord Blvd., Concord, CA; Contact: Eileen Jackson, 707–853–3963; eileen.jackson@att.net

9–10—Boca Raton Orchid Society Show “In Love With... Orchids,” Safe Schools Institute, 1790 NW Spanish River Blvd., Boca Raton, FL; Contact: Carla Lacher, 561–843–6134; cmlacher@gmail.com

9–10—*Prairie State Orchid Society Show & Sale, Washington Park Botanical Gardens, 1740 W. Fayette Ave., Springfield, IL; Contact: Carol Kolhauser, 217–502–

1083; orkidsrus@comcast.net

9–10—Southern Ontario Orchid Society Orchid Show & Sale, Toronto Botanical Garden, 777 Lawrence Avenue East, Toronto, ON, Canada; Contact: Cathy Dunn, 416–697–8747; show@soos.ca

11–13—Maui Orchid Society Valentine’s Show, Maui Mall, 70 East Kaahumanu Ave., Kahului, Maui, HI; Contact: Bert Akitake, 808–250–1585; jakitake@hotmail.com

15–17—Asociación Orquideológica de Escazú “Festival de Orquideas Escazú 2019,” Avenida Escazú, Escazú, San Jose, Costa Rica; Contact: Gabriel Antich, 506 8874–5558; gantich1981@gmail.com

16–17—Batavia Orchid Society Show, DuPage County Fairgrounds, 2015 Manchester Rd., Wheaton, IL; Contact: Larry Sexton, 630–406–8460; orkiddoc@aol.com

16–17—Greater Cleveland Orchid Society 2019 Spring Show & Sale, Cleveland Botanical Garden, 11030 East Blvd., Cleveland, OH; Contact: Margaret Evens, 330–998–1798; moggymate@gmail.com

16–17—Miami Valley Orchid Society Spring Show, Cox Arboretum MetroPark, 6733 Springboro Pike, Dayton, OH; Contact: Michele Little, 513–320–3409; my3snakes@yahoo.com

16–17—Port Saint Lucie Orchid Show “Orchids in the Garden,” Port Saint Lucie Botanical Gardens, 2410 SE Westmoreland Blvd., Port Saint Lucie, FL; Contact: Claudia Young, 757–879–2142; oma.young@ymail.com

22–24—San Francisco Orchid Society “Pacific Orchid Exposition,” Hall of Flowers at Golden Gate Park, 1199 9th Avenue, San Francisco, CA; Contact: Angelique Fry/Faye Rabino, 707–291–6029/415–571–9631; bfry@pon.net

22–24—Virginia Orchid Society Show, Strange’s Garden Center, 12111 West Broad Street, Richmond, VA; Contact: Reed Ginn, 804–370–6987; hrginn@yahoo.com

23–24—Amherst Orchid Society Show, Smith Vocational and Agricultural High School, 80 Locust St. (Rt. 9), Northampton, MA; Contact: Marc D. Gray, 802–348–7926; bulbophyllum@myfairpoint.net

23–24—Greater Lansing Orchid Society Orchid Show, Michigan State University, Plant & Soil Sciences Bldg., 1066 Bogue St., East Lansing, MI; Contact: Peter Ostlund, 517–449–5248; p.ostlund@yahoo.com

23–24—Naples Orchid Society Show, Naples Botanical Garden, 4820 Bayshore Drive, Naples, FL; Contact: Richard Phippen, 239–775–5220; rhippen@comcast.net

23–24—Orchid Society of the Royal Botanical Gardens “38th Annual Orchid Show,” Royal Botanical Gardens, 680 Plains Road West, Burlington, ON, Canada; Contact: Ben Boers, 905–979–4886; bmboers@hotmail.com

MARCH

1–2—Englewood Area Orchid Society “Orchids by Lemon Bay,” Englewood United Methodist Church, 700 E Dearborn Street, Englewood, FL; Contact: Mary Anne DiGrazia, 941–697–9237; tommaryanne@centurylink.net

1–3—Central California Orchid Society Spring Show, Fresno Home and Garden Show, Fresno Fair Grounds, 1121 S. Chance Ave., Fresno, CA; Contact: Gordon Wolf, 209–999–0181; gwsangca@yahoo.com

1–3—Martin County Orchid Society “Orchids in The Land of Oz,” Martin County Fairgrounds, Building G, 2616 SE Dixie Hwy., Stuart, FL; Contact: Debbie Wilson, 561–351–1515; davedebwilson@hotmail.com

1–3—Mobile Area Orchid Society 42nd Show, Bellingrath Gardens and Home, 12401 Bellingrath Road, Theodore, AL; Contact: Joseph Paine, 251–209–1008; joe6w@aol.com

1–3—Orchid Society of the Ozarks “9th Annual Orchids in the Garden,” Botanical Garden of the Ozarks, 4703 North Crossover Road, Fayetteville, AR; Contact: Stephen Marak, 479–841–4275; samarak@cox.net

1–10—Pennsylvania Horticultural Society “2019 Philadelphia Flower Show,” Pennsylvania Convention Center, 100 N. 20th St., 5th Floor, Philadelphia, PA; Contact: Betty Greene, 215–988–8826; bgreene@pennhort.org

2–3—Greater Akron Orchid Society Show, Donzell’s Garden Center, 937 East Waterloo Rd., Akron, OH; Contact: Jane Bush, 330–468–2589; bushjj@juno.com

2–3—Northeastern Wisconsin Orchid Society Show “Orchid Magic,” DoubleTree by Hilton, 123 East Wisconsin Ave., Neenah, WI; Contact: Cheryl Wilinski, 920–660–8777; cmwili33@gmail.com

2–3—Tampa Bay Orchid Society Show “Orchids ‘Round the World,” Tampa Scottish Rite Center, 5500 Memorial Highway, Tampa, FL; Contact: Eileen Hector, 813–368–7353; TampaBayOrchidSociety@verizon.net

2–3—Tucson Orchid Society Show “Fiesta de las Flores,” Mesquite Valley Growers, 8005 E. Speedway Blvd., Tucson, AZ; Contact: Wes Addison, 520–305–6150; wesadd@cwa-cpa.com

2–3—Victoria Orchid Society Spring Show, Our Lady of Fatima Hall, 4635 Elk Lake Dr., Victoria, BC, Canada; Contact: Barbara Davies, 250–477–2392; bygord@telus.net

8–9—Greater North Texas Orchid Society Show & Sale, Richardson Civic Center, 411 W Arapaho Rd., Richardson, TX; Contact: Linda Horton, 972–977–6969; henry.horton4@verizon.net

8–10—Atlanta Orchid Society Show &

Sale, Atlanta Botanical Garden, 1345 Piedmont Ave., Atlanta, GA; Contact: Danny Lentz, 770–362–0575; dblgongora@bellsouth.net

8–10—Gulf Coast Orchid Alliance Show, North Collier Regional Park, 15000 Livingston Road, Naples, FL; Contact: Jim Longwell, 239–340–5520; jlongwell1@comcast.net

8–10— Maryland Orchid Society Spring Show, Maryland State Fairgrounds, 2200 York Road, Timonium, MD; Contact: Joan Roderick, 410–992–1811; jomarod@verizon.net

9–10—Mount Baker Orchid Society Show & Sale, Skagit Valley Gardens, 18923 Peter Johnson Road, Mount Vernon, WA; Contact: Elizabeth Pernotto, 360–647–1752; betsyp1045@gmail.com

15–17—Orchid Society of Western Pennsylvania Annual Spring Show, The Artsmiths of Pittsburgh, 1635 McFarland Road, Pittsburgh, PA; Contact: Gary VanGelder, 412–638–9756; gvangelder@verizon.net

16–17—Ann Arbor Orchid Society “Orchid Festival,” Methaei Botanical Gardens, 1800 North Dixboro Rd., Ann Arbor, MI; Contact: Abby Skinner, 517–816–7979; aaos2019festival@comcast.net

16–17—Illowa Orchid Society Spring Show, Quad City Botanical Center, 2525 4th Avenue, Rock Island, IL; Contact: Dano Kandis, 309–737–2672; emkandis@mchsi.com

16–17—Jacksonville Orchid Society Show, Garden Club of Jacksonville, 1005 Riverside Ave., Jacksonville, FL; Contact: Art Russell, 904–309–3030; russell_art@bellsouth.net

16–17—London Orchid Society Show, Mother Teresa Catholic Secondary School, 1065 Sunningdale Road East, London, ON, Canada; Contact: Sean Moore, 519–645–7747; spmoore@rogers.com

16–17—Nutmeg State Orchid Society Show “Come See Our Bloomers,” West Hartford Meeting & Conference Center, 50 South Main St., West Hartford, CT; Contact: Sandy Myhalik, 860–677–0504; myhalik@comcast.net

22–24—Alamo Orchid Society Show, San Antonio Garden Center, 3310 North New Braunfels Ave., San Antonio, TX; Contact: Luis Valdez, 210–753–3693; valdezluis2013@yahoo.com

22–24—San Diego County Orchid Society Spring Show “Orchid Treasures,” Scottish Rite Center, 1895 Camino del Rio South, San Diego, CA; Contact: Deborah Halliday, 858–353–5392; debhallid@gmail.com

23–24—Greater Omaha Orchid Society “32nd Annual Orchid Show & Sale,” Lauritzen Gardens, 100 Bancroft St., Omaha, NE; Jim Pyrzynski, 402–734–4112; jpyrzynski@cox.net

23–24—Orchid Society of Highlands County “Orchids by the Lake,” Jack Stroup Civic Center, 355 West Center Avenue, Sebring, FL; Contact: Pete Otway/Lori Coon, 863–699–1575/863–414–3381; gatorgalanddoughboy@embarqmail.com

23–24—The Central Pennsylvania Orchid Society’s 54th Annual Orchid Show, Ag Arena, Penn State University, Park Avenue, University Park, PA; Contact: Wade Hollenbach and Cathy Riemer, 570–837–9157; wadeh@ptd.net

23–24—Vancouver Orchid Society 2019 Annual Show & Sale, VanDusen Botanical Garden, Floral Hall, 5251 Oak St., Vancouver, BC, Canada; Contact: Evelyn Nash, 604–874–5534; ewnash@live.ca

23–24—Wisconsin Orchid Society Show “Spring 2019 Orchid Festival,” Milaeger’s Garen Center, 4838 Douglas Ave., Racine, WI; Contact: Richard Odders, 262–632–3008; odders2445@gmail.com

29–30—Genesee Region Orchid Society’s 45th Annual Orchid Show, Rochester Museum & Science Center, Eisenhart Auditorium, 657 East Avenue, Rochester, NY; Jonathan Jones, 585–721–7150; jonathanjones2012@gmail.com

29–31—New Mexico Orchid Guild Show “Masked in Mystery—Mardi Gras,” Albuquerque Garden Center, 10120 Lomas Boulavard NE, Albuquerque, NM; Contact: Keith Mead, 505–379–6786; orchidsinabq@gmail.com

30–31—Central Ohio Orchid Society Spring Show, Franklin Park Conservatory and Botanical Gardens, 1777 East Broad St., Columbus, OH; Contact: Dave Markley, 614–354–9044; davemarkley27@gmail.com

30–31—Five Cities Orchid Society “Central Coast Orchid Show,” South County Regional Center, 800 W Branch St., Arroyo Grande, CA; Contact: Eric Holanda, 805–929–5749; cbh@charter.net

30–31—Michigan Orchid Society Annual Sale & Show, United Food & Commercial Workers Union Bldg., 876 Horace Brown Drive, Madison Heights, MI; Contact: Joe Peterson, 248–528–1453; jandjandabbey@aol.com

30–31—Nature Coast Orchid Society Spring Show 2019, VFW Post 8681, 18940 Drayton Street, Spring Hill, FL; Contact: Marita Riesz, 732–673–1179; maritariesz404@gmail.com

30–31—Spokane Orchid Society Show & Sale, Spokane Community College – Student Lair, 1810 N. Green St., Spokane, WA; Contact: Jim Pearce, 509–299–5152; info@spokaneorchidsociety.org

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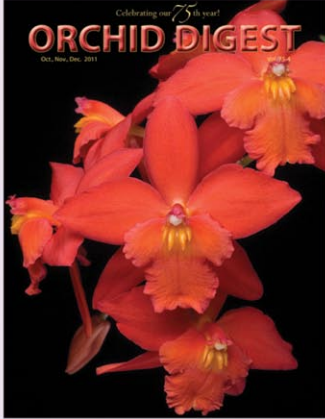
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Articles as well as inquiries regarding suitability of proposed articles should be sent to jean.ikeson@gmail.com or the editor at rmchatton@aos.org.

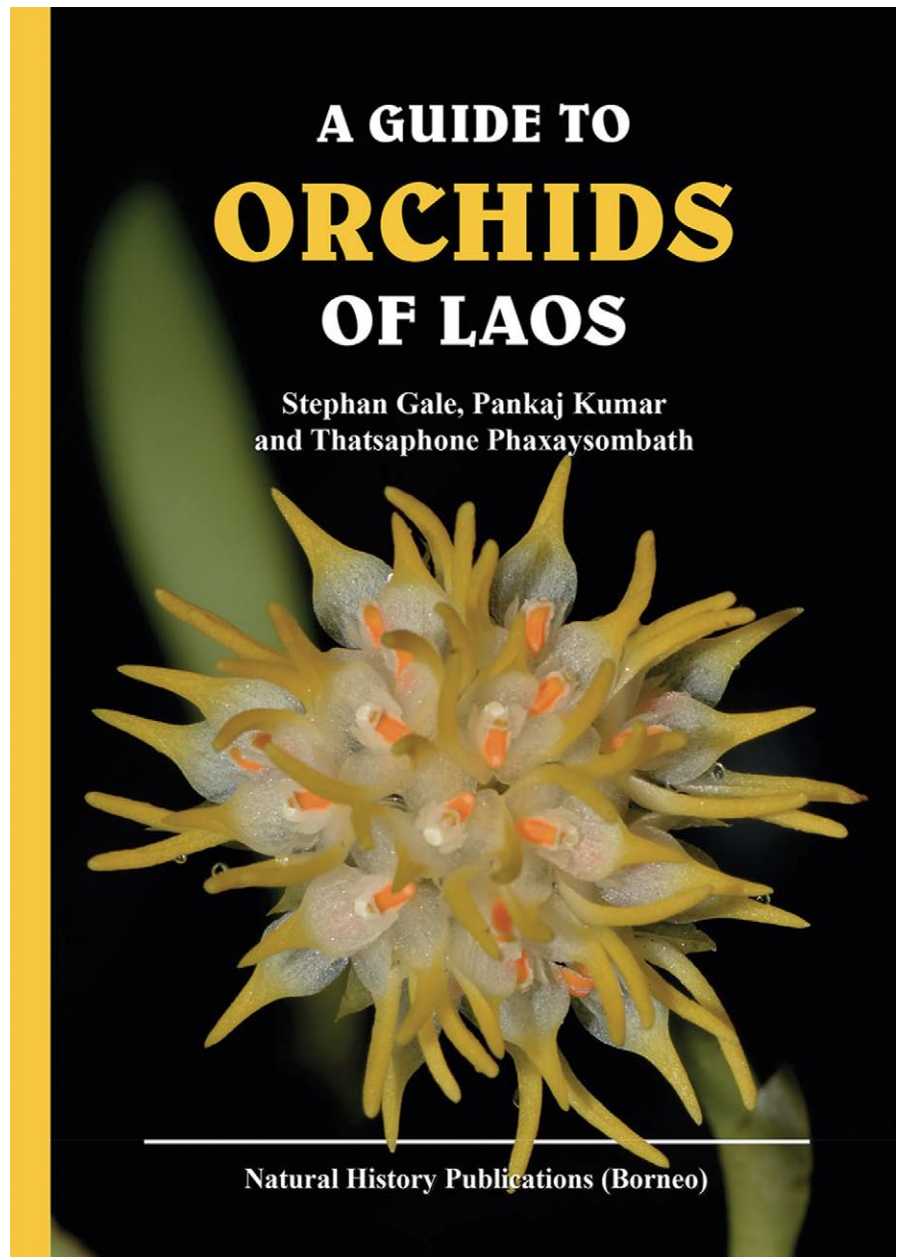
Gale, S., Kumar, P. & Phaxaysombath, T. 2018. **A Guide to the Orchids of Laos**. Natural History Publications, Kota Kinabalu, Sabah. Pp. 204, copious color photographs, map. ISBN 978-983-812-189-7. Price RM 55 (approximately \$13.20)

THE LAND-LOCKED country of Laos is one of the least known parts of Southeast Asia. It lies at the heart of the Indo-Burma Biodiversity Hotspot, one of the world's most biodiverse and most threatened ecoregions. Only in recent years has the country been opened up to tourism and some areas are still difficult, or even dangerous, to access. Until a few decades ago, virtually the entire country was clothed in tropical lowland and montane forest with a rich flora and fauna. Sadly recent years has seen extensive deforestation and changes of land-use and the loss or near-loss of many species, including large charismatic animals such as the tiger, Javan rhinoceros and kouprey ox. Protecting the remaining tracts of intact natural forest to ensure ecological resilience and to conserve biodiversity has become increasingly important.

An appreciation of the astonishing richness of life in Laos is vital in protecting the remaining biodiversity of this marvelous country. The study of the country's orchids, some of its most charismatic plants, will help the increasing clamour to protect more of the country's rich natural resources. So far, 683 orchid species (listed in an appendix to the book) have been recorded from Laos, accounting for more than 13% of its known flora, and this list will undoubtedly grow.

A broad range of native species are covered in this handy and beautifully produced guide book to these amazing plants. There is wealth of knowledge in the well-illustrated introductory chapters which cover a wide variety of topics, namely: orchids in Laotian culture; biological and environmental contexts; a history of orchid discovery in the country since the Frenchman Clovis Thorel's first collections made between 1866 and 1868; current knowledge of the Laotian orchid flora; what is an orchid; orchids in the Laotian landscape; and orchid conservation. Orchids have the power to captivate curious minds, unveil the workings of evolution and serve as a flagship for conservation in Laos and the wider region.

The main section covers a selection of 125 species in 64 genera arranged alphabetically, introducing the reader to the key morphological and ecological features that distinguish them. Each species is illustrated by two high quality photographs featuring the habit and a



close-up of a flower or flowers. The text provides for each species a succinct but informative description, ecology, flowering time and broad distribution. A handy line map of the country shows the known distribution of each species within the country.

This attractive format provides an accessible introduction to the rich Laotian orchid flora (and for that of neighbouring countries) which, as mentioned above, is still turning up exciting novelties, particularly from the karst regions that are still difficult to access. The design and

production of the guide-book is of the highest standard, a level that we have come to expect from the team at Natural History Publications, Kota Kinabalu, Sabah. With tourism to Laos increasing rapidly, I am sure that this guide book will sell well, particularly if it is available in bookshops in Laos and neighbouring countries. Altogether, this book is a credit to the authors, photographers and publishers and is highly recommended. I eagerly await a second volume!

— Phillip Cribb; Royal Botanic Gardens. Kew (email: p.cribb@kew.org).

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