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ORCHIDS

THE BULLETIN OF THE AMERICAN ORCHID SOCIETY

VOL. 88 NO. 12 DECEMBER 2019



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ORCHIDS

The Bulletin of the American Orchid Society

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Volume 88, Number 12 December 2019 *Orchids* (ISSN 1087-1950) is published monthly by the American Orchid Society, Inc., at Fairchild Tropical Botanic Garden Editorial Office: 10901 Old Cutler Road, Coral Gables, Florida 33156 (telephone 305-740-2010; fax 305-747-7154; email theaos@aos.org; website www.aos.org). ©American Orchid Society, Inc. 2019. Printed by Allen Press, 810 East 10th Street, Lawrence, Kansas 66044. Subscription price of *Orchids* is \$65 a year within the US, \$85 Canada and Mexico and \$105 for all other countries. Single copies of current issue cost \$6.99 (plus shipping and handling). Prices are subject to change without notice. Although *Orchids* endeavors to assure the reliability of its advertising, neither *Orchids* nor the American Orchid Society, Inc. can assume responsibility for any transactions between our advertisers and our readers. Periodical postage paid at Miami, FL and additional offices. POSTMASTER: Send address changes to: *Orchids*, PO Box 565477, Miami, FL 33256. The American Orchid Society follows the *World Checklist of Selected Plant Families* with regard to questions of botanical nomenclature and synonymy in orchid species names and the International Orchid Register for hybrid nomenclature and parentage in editorial. The opinions and recommendations that appear in *Orchids* regarding the selection and use of specific plant-care products, including but not limited to pesticides, fungicides and herbicides, are those of the individual authors, and not those of the American Orchid Society, which neither adopts nor endorses such opinions and recommendations and disclaims all responsibility for them. When selecting and using such products, readers should seek and obtain the advice of the manufacturer and of responsible government agencies. Mail date: November 25, 2019.



Printed on 10 percent post-consumer recycled paper.

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Phragmipedium × talamancanum, flowers of the wild plant, cultivated for over 70 years, from which the holotype was prepared. Photograph by Franco Pupulin.

AMERICAN ORCHID SOCIETY

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The mission of the American Orchid Society is to promote and support the passion for orchids through education, conservation and research

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The American Orchid Society provides leadership in orchids

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PRONUNCIATION GUIDE

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

acuminata (a-kew-min-AY-ta)
Aerangis (Aerangis (air-RANG-iss))
albida (AL-bee-dah)
alexandrae (al-leks-AN-dree)
amaniensis (a-man-ee-EN-sis)
anceps (AN-seps)
andicola (an-DEE-kol-lah)
andreettae (an-dre-ETT-tee)
Angraecopsis (an-gray-KOP-sis)
Angraecum (an-GRAY-kum)
Ansellia (an-SELL-lee-a)
atrorubens (at-roh-ROO-benz)
autumnalis (aw-tum-NAY-liss)
ballantineana (bal-lan-teen-AY-na)
barkeriana (bar-kare-ee-AY-na)
barthiorum (barth-ee-ORE-um)
bicornutum (bye-korn-YEW-tum)
Bletia (BLEE-tee-ah)
Bletilla (bleh-TILL-la)
Brassavola (brass-AH-vol-lah)
Bulbophyllum (bulb-oh-FILL-lum)
bulbosa (bulb-OH-sa)
Calanthe (kal-AN-thee)
Calypto (ka-LIP-so)
candida (KAN-dee-dah)
Catasetinae (kat-a-SET-ih-nee)
Cattleya (KAT-lee-a)
caudatum (kow-DAY-tum)
Caularthron (kawl-ARE-thron)
cirrhosum (sir-HOH-sum)
cooperi (KOO-per-eye)
Coryanthes (kore-ee-AN-theez)
Cycnoches (SIK-noh-keez)
Cycnoides (SIK-noh-deez)
Cymbidium (sim-BID-ee-um)
Cynorkis (sin-ORE-kiss)
Cypripedium (sip-rih-PEED-ee-um)
dawsonii (daw-SON-ee-eye)
Dendrobium (den-DROH-bee-um)
Diaphanthe (dye-aff-an-AN-thee)
Dracula (DRAK-yew-la)
Eburneum (ee-BURN-ee-um)
effusa (ef-FEW-sa)
Epidendrum (ep-ih-DEN-drum)
Epipactis (ep-ih-PAK-tiss)
Eulophia (yew-LOH-fee-a)
exstaminodium (eks-stam-in-ODE-ee-um)
felis (FEE-liss)
floribunda (flor-ih-BUN-da)
fouleri (FOUR-yea-eye)
Galeandra (gal-ee-AN-dra)
glauca (GLAW-ka)
glicensteinii (glih-sen-STYNE-ee-eye)
guianense (gee-an-EN-see)
Habenaria (hab-ih-NARE-ee-a)
herradurae (hair-ra-DUR-ee)

herrenhusanum (hair-en-hoo-SAY-num)
hookeri (HOOK-er-eye)
horichii (hore-IK-ee-eye)
humboldtii (hum-BOLT-ee-eye)
insigne (in-SIG-nee)
Jumellea (joom-ELL-a)
Klotzschianum (kla-schee-AY-num)
Laelia (LAY-lee-a)
lehmannii (leh-MAN-ee-eye)
leo (LEE-oh)
Lepanthes (leh-PAN-theez)
lilacinum (lye-la-SEE-num)
lindenii (lin-DEN-ee-eye)
longifolium (lon-gee-FOL-lee-um)
Lorifolia (lore-ih-FOLE-ee-a)
Lycaste (lye-KAS-tee)
macrantha (mak-RAN-tha)
micrantha (mye-KRAN-tha)
Macroclinium (mak-roh-KLIN-ee-um)
macrophyllum (mak-roh-FILL-lum)
majalis (mah-JAY-liss)
Masdevallia (mas-deh-VAIL-lee-a)
mejiana (meh-hee-AY-na)
mentawaiensis (men-ta-why-EN-sis)
Microcoelia (mye-kroh-SEE-lee-ah)
Miltonia (mil-TONE-ee-a)
Mormodes (more-MOH-deez)
massiae (MOSS-ee-eye)
Myrmecophila (mir-meh-KOF-ill-a)
nobile (NOE-bih-lee)
Odontoglossum (oh-don-toe-GLOS-sum)
Oncidium (on-SID-ee-um)
Orchis (ORE-kiss)
Paphiopedilum (paff-ee-oh-PED-ih-lum)
perrinii (pare-RIN-ee-eye)
Phalaenopsis (fail-en-OP-sis)
Phragmipedium (frag-mih-PEED-ee-um)
Platanthera (plat-AN-ther-a)
Pleione (plye-OH-nee)
pleurothalloides (plur-oh-thal-OY-deez)

Polystachya (pol-ee-STAK-ee-a)
Pterichis (TER-ih-kiss)
purpurata (per-per-AY-ta)
Rangaeris (ran-gah-ERR-iss)
Rhipidoglossum (riff-id-oh-GLOSS-sum)
Rhyncholaelia (rin-koh-LAY-lee-a)
rubescens (roo-BESS-enz)
Schomburgkia (shom-BURG-kee-a)
sesquipedale (ses-kwi-peh-DAY-lee)
sinuata (sy-nyew-AY-ta)
speciosa (spee-see-OH-a)
stamfordianum (stam-ford-ee-AY-num)
Stenorrhynchos (sten-oh-RIN-kos)
stolzii (SHTOLST-ee-eye)
suberbiens (soo-PER-bee-enz)
superba (soo-PER-ba)
talamancanum (tal-a-man-KAY-num)
Telipogon (tell-ih-POH-gon)
tezontle (tee-ZON-tl)
Thunia (TOON-ee-a)
Trianae (TREE-an-ee)
Trichocentrum (trik-oh-SEN-trum)
Tridactyle (try-DAKT-ee-lee)
turneri (TURN-er-eye)
Vanda (VAN-da)
vestita (ves-TEE-ta)
warszewiczianum (var-schuh-vitz-ee-AY-num)
warszewiczii (var-schuh-VITZ-ee-eye)



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Orchids in the Wild 2020



P. bellatulum

Yunnan, China Mar 14 – Mar 27. To follow the Taiwan WOC. Tour includes Jinghong Botanic Garden, Wild Elephant valley, and sites for *Paph. bellatulum*, *villosum*, and *wenshanense*. Other orchid genera will include *Coelogyne*, *Dendrobium*, *Holcoglossum*, *Phalaenopsis*, *Pleione*, *Vanda* and more.



Cat. trianae

Colombia May – June (See website). Tour includes flight to Inirida and 5 days in lowland Amazonian forests near Mavecure. Return to Bogota for visits to high forest, paramo, and Bogota. Optional after-tour to Yarumal and OCA supported orchid reserves of Salvamontes foundation in/near El Reposo.



Cal. discoidea

Western Australia September 19 - 28. Beginning in Perth, we will go south to Albany, visiting many orchid sites along the way. We expect to see *Caladenia*, *Diuris*, *Prassophyllum*, *Pterostylis*, and *Thelymitra*, etc., many interesting flowering and carnivorous plants, and parrots, cockatoos, and kangaroos.

Costa Rica Rescheduled to 2021.

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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 October 1, 2019 and October 31, 2019 and the support of our fall auction held October 18, 2019 in conjunction with the fall AOS meeting in Homestead, Florida

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Cheryl Erins

Greg Filter

Jason Fischer

Robert Fuchs

Alison Gallaway

Harry Gallis

George Hatfield

Julio and Eileen Hector

Catherine Higgins

Jean Hollebone

John Ingram

Denise Lucero

Nancy McClellan

Ron McHatton and Randy Young

Judy Mezey

Nancy Mountford

Laura Newton

Alexa Noel

Tom Pickford

Phyllis Prestia

Jennifer Reinoso

Bryon Rinke and Max Thompson

Jeff Saal

Jerrold Sharp

Frank Smith

Jean Stefanik

Bev Tall
 Susan Wedegaertner
 Linda Wilhelm
 Graham Wood
 Maria Wood
 – **Library**
 Nathan Bell
 Natalie Contreras
 Beth Davis
 George Hatfield
 Alan Koch
 Denise Lucero
 Nancy Mountford
 Tom Pickford
 Jennifer Reinoso
 Sergey and Elena Skoropad
 Susan Wedegaertner
 Linda Wendelschaefer
 – **In-Kind**
 Sandra Block-Brezner
 Bredren Orchids
 Victoria Clemente
 Melida Demorizi
 Ecuagenera
 Cheryl Erins
 Exotic Orchids of Maui
 Florida Suncoast Orchids
 Gold Country Orchids
 George Hatfield
 James Heilig
 Bill Jasen
 Jim-N-I-Orchids
 Just One More Orchid
 Lehua Orchids
 North American Orchid Conservation
 Center
 Odom's Orchids
 Orchids Limited
 Orquideas Del Valle – Colombia
 Lynn O'Shaughnessy
 Paph Paradise
 Jennifer Reinoso
 R.F. Orchids, Inc.
 Royal Palm Orchids
 Frank Smith
 Southern Ontario Orchid Society
 Jean Stefanik
 Waldor Orchids
 West Palm Beach Judging Center
 Ella May T. Wulff



Orchid Hybrid Registration Fee Increase

OPERATING ANY PLANT name registration system comes at a price. David Sander of Sander's Nursery, St. Albans, found the cost of compiling *Sander's List of Orchid Hybrids* a considerable drain on his nursery profits, and financial difficulties forced him to introduce a fee of 5 shillings (25 pence) per name registration along with an application form in 1957. The RHS took over running the International register of orchid hybrids in 1960, and continued to charge a fee which helped offset the cost of employing David Sander's former assistant, Mrs Marjorie Wreford as registrar, full-time. It has employed at least one full time registration staff ever since, often with one or more part-time assistants.

Apart from staff costs the RHS has invested heavily in computerization and subsequent digitization of the register, purchasing its first mainframe device in the late 1980s. Later, in the early 1990s a second prime mainframe dedicated to Orchid Registration was purchased for £43,000 and installed at Vincent Square. Most recently it has invested in enabling online registration for orchids at a cost of over £100,000. Online registration was launched last year and already accounts for over 40% of all orchid registrations. This is a timely development, not just for the user, but also for the Registrar, as over the past few years we have seen a 12% year-on-year increase in registrations.

The investment is continuing. Currently work is in progress on a new plant names database system, which is designed to hold all the RHS plant name records including the cultivar and orchid hybrid registers. This will be accompanied by a new web interface enabling enhanced user experience including improved access to the registration data.

As plant name registration is seen as part of the charitable purpose of the RHS, the Society has never sought to recuperate 100% of the costs involved. At present, the registration fee covers about 50% of the total cost of operating the service, not including the investment mentioned above. Today the RHS operates nine international plant name registers for *Clematis*, *Conifers*, *Dahlia*, *Delphinium*, *Dianthus*, *Lilium*, *Narcissus*, *Orchids*, and *Rhododendron*.

The last increase in registration fee for orchid hybrids was in May 2009 when the cost rose from £7.50 to £10.00 per accepted registration. To keep pace with inflation an increase of the fee to £12.00 per registration is to come into force February 1, 2020. There continues to be no fee attached to checking applications to see if a hybrid has been registered, or is registerable, or answering the hundreds of nomenclatural queries received annually. — John David and Julian Shaw.

PRESIDENT'S MESSAGE

DECEMBER IS THE time we think of spending quality time with family and friends to celebrate the holiday season. This is also the time that not-for-profit organizations send you emails or snail mail with a year-end appeal to donate to their causes. The American Orchid Society is not different in this respect, and this year our appeal is to help build up our endowment fund for conservation, one of the cornerstones of the AOS's mission. All donations — big and small — are greatly appreciated!

Thinking of family and friends, I think also of my friends who help make the American Orchid Society such a great organization because of their hard work.

Thank you to our membership; without you we would not be such a successful organization. Thank you for being a member in one of the greatest orchid organizations in the world, the American Orchid Society. When you renew your membership, it lets us know we are giving you what you need in orchid information. We will strive to keep giving you more great services so you will keep on being a member.

To our volunteers; thank you. Where would we be without our volunteers? Volunteers, including our officers and trustees, committee chairs and committee members, and members of local societies who host AOS events or sit at the tables of local shows handing out AOS literature, work very hard to keep the AOS moving forward. It was in the Membership and Marketing Committee meetings that tier membership was developed. OrchidPro came about from the IT Committee listening to people's comments about how to improve OrchidsPlus. Conservation Committee members and Research Committee members review applications for grants and present their recommendation(s) for approval to the AOS board, which helps fund people working on conservation and research projects in orchids. The Education Committee brings you two webinars a month, plus they are working on a "master orchidist program." All of our committees work very hard for the AOS and for that, I am thankful.

Thank you to all of our judges who give up time with their families or from work to judge AOS-sanctioned orchid shows and all the monthly judgments in our 26 centers. You may not know this, but judges do not get paid for their time or travel. Sometimes they may be provided a lunch or dinner at a society show, depending what time of the day judging

starts. Judges work hard to award plants — they do research, listen to their fellow judges on the team, know the species characteristics that get passed along to their progeny, and also stay current with the latest trends in orchid hybridizing. Thank you for all of your time and effort!

And last but not least a BIG thank you to our staff. You are the ones that keep our doors open every day. It has not been easy this year, with our servers being moved and not knowing how much work might be involved in getting everything back up. Thankfully, everything worked out. I know you were very busy for months with the influx of membership renewals when our tiered membership was announced and members could lock in the current membership dues for up to 2 years. You worked hard to ensure that our membership drive was a success, and making sure that members received the supplement with the October issue of *Orchids*. It was also a lot of work trying to get all of the memberships (new and renewed) updated and entered into our system. Also, let us not forget about the potential hurricane the staff had to prepare for. It luckily took a different course, but the staff had to deal with not being able to be in the office for several

days.

Thank you to all because without you, the AOS would not be thriving!

The spring 2020 AOS Members' Meeting and our annual election are being held in Sacramento, California April 15–19, 2020. The California Sierra-Nevada Judging Center, our host for this meeting, has been busy preparing a great time for all. We will have information on wineries and microbreweries in our gold country areas (foothills) and other fun activities in which to participate if you come out early or stay a few days after the meeting to relax. The event will be held at the Embassy Suites on the Capitol Mall in Sacramento. They have a free shuttle to and from the airport seven days a week, so car rental will not be necessary.

Until next time, happy growing!

— Susan Wedegaertner, AOS President
(email: susan@aos.org).



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2020
ORCHIDS IN FOCUS

December: The Leafless Month

By Thomas Miranda

TO THE CASUAL viewer, a plant without leaves is usually considered a goner! Leaves are, of course, the photosynthetic organs that autotrophs use to create food for themselves by converting the sun's energy. They are quite remarkably varied and often as spectacular, or even more so, than the flowers. When they wilt, shrivel or fall off a typical plant, it generally indicates an abnormal lack of water, often on a plant that has been ignored or abandoned by its owner. But a significant percentage of plants come from parts of the world that experience drought or extreme cold for part of the year and sacrifice their leaves during these periods. Orchids, having colonized much of our planet, are often among these deciduous plants, often bearing fleshy food storage organs, pseudobulbs or canes, where the leaves senesce and fall off during the inclement season. We should not panic when certain orchids go leafless! Indeed, it is not only normal but greatly beneficial to let certain orchids "rest" for part of the year.



Thomas Miranda

Good orchid culture dictates that we should water and feed less in the winter months (in the Northern Hemisphere anyway; invert this to July if you are growing in the Southern Hemisphere) when photoperiod (day length) is shorter, temperatures are lower and dormancy rules among many orchids. It is essential that we growers understand these yearly cycles, particularly with our species orchids, to avoid drowning and rotting them while their metabolisms are down.

GOLDEN SLUMBERS Plants sleep for different reasons and it can be difficult to generalize about dormancy. Orchids, being exceptionally diverse, are particularly complicated. Many terrestrial orchids from temperate environments such as cypripediums, platantheras, orchis, pleiones and bletillas retreat completely under their substrate, like a tulip or daffodil, when it is freezing in their habitat. Underground, under a blanket of cold, they are protected from really extreme temperatures. If you grow temperate terrestrials in your garden, a layer of protective mulch can be beneficial, particularly in areas such



Some orchids such as this *Microcoelia*, are entirely leafless or very nearly so for their entire lives. In these orchids, the roots are photosynthetic and replace the leaves in the manufacture of carbohydrates. Pictured here is *Microcoelia stolzii* 'Kathy Fenwick's Medusa' CCE/AOS. The plant was 10 inches (25 cm) in diameter and carried 2,140 tiny white flowers and buds. Photographed by Chaunie Langland.

as the Mid-Atlantic that often fluctuate between freezing and thawing through much of the winter. Many enthusiasts of temperate species keep them in pots and store them in a refrigerator, cooler or a garage that does not completely freeze in the winter. Temperatures around 40 F (4.4 C) are often ideal for indoor winter storage.

PARCHMENT A good portion of our cultivated species come from seasonably dry habitats where water is scarce this time of year. Some, such as habenarias and cynorkis also retreat underground, but should still be kept reasonably warm, dry and undisturbed until early spring when they advise us of their winter survival by poking small new growths above the surface of the substrate. Many epiphytic orchids from seasonally dry habitats inform us of their dormancy by sloughing off some or all of their leaves. Mexican lycastes and Asian dendrobiums such as the soft cane relatives of *Dendrobium nobile* and thunias are prime examples. Often coupled with cooler temperatures, such plants may also be developing buds this month after dropping their leaves. If watered too soon, results can be compromised. For example, dendrobiums are more likely to produce keikis (adventitious growths) rather than flowers. While these keikis are nice to give as gifts to beginning orchid growers, most of us would rather have their lovely

fragrant blooms. Most Catasetinae, including *Cynoches*, *Mormodes* and *Galeandra* also completely drop leaves and should be kept segregated from other orchids still needing water, such as phalalenopsis and vandas, to avoid them getting splashed by stray swipes from your hose.

SUCCULENCE Many orchids from hot and dry regions may not go deciduous but rather rely on internal water in their plump pseudobulbs and stiff leaves. Mexican laelias and brassavolas are among the more commonly cultivated plants that survive drought with this strategy. Some such as certain *Eulophia* species from Africa are so tough and leathery that their plants resemble aloes and bear sharp, serrated edges and even spines to prevent herbivory by thirsty animals. Myrmecophilas harbor stinging ant bodyguards within their hollow pseudobulbs for the same purpose. In some extreme cases, succulent orchids such as trichocentrus (rat-tailed oncidiums) even have incorporated poisonous or even hallucinogenic alkaloids within their tissues to avoid herbivory. Such plants are commonly killed by winter overwatering, so hang them high where they are less likely to be heavily irrigated in the dryer season. As a side note, many dry forest plants do receive a small amount of morning dew most days, so condensation of humidity

in your greenhouse may supply the small amount of water needed for dry season survival.

WINTER WONDERLAND In many cases, winter dormancy is also a period when many plants are in spike. Phalaenopsis and cymbidiums should have lengthy and vigorous inflorescences forming by now. Leaving them extremely dry while flowers are forming is a bad idea. Inflorescences can be stunted and buds can blast if kept too dry. Even so, winter watering should be reduced somewhat for these and many other pseudobulbous genera, such as cattleyas and oncidiums. Most cooler growing or cloud forest plants, such as draculas, masdevallias and odontoglossum-type oncidiums, however, might need even more water and food this time of year since the cooler temperatures often stimulate optimum and accelerated growth; hence the need for you to research and understand the needs of your varied collection!

— *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 (email: biophilak@gmail.com).*

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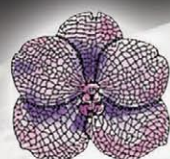
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Pass on Your Love of Orchids

By Barbara Schmidt

IN 2018, I was able to do the two things I am most passionate about: teach children and pass on my love of orchids. Teaching someone is like watching a ripple in a pond — you never know how many people you have actually reached and how far away that ripple went.

As part of the American Orchid Society's Education Committee, I proposed a pilot project to the Pennsylvania Horticulture Society (PHS). The AOS would partner with PHS at two schools as part of their Junior Flower Show Program. This partnership was a huge success.



Barbara Schmidt

Since 1975, the PHS has been hosting junior flower shows for students from preschool through high school in the Philadelphia area. One of the goals of this program is to foster awareness of the environment and ecology in the children. Schools can choose to participate in a craft project or raising a challenge plant, which are donated by local garden centers or garden clubs. One teacher in each school participates. This teacher is the gateway to working with the class and has to be willing to take on the additional work. Junior flower shows are held at the school in late January through February of each year. Challenge plants or projects are then entered in the Philadelphia Flower Show in March of each year.

In May of 2018, I brought a proposal to a contact I knew in PHS and was referred to Johanna Schoeller, the PHS Coordinator for the Junior Flower Show Program. It was decided the Pilot Project would run in two schools (one elementary school and one high school), which were selected by Schoeller. Stacey Dello Buono's sixth grade class at Thomas Mifflin Elementary School was one of the choices. The other was Academy Park High School, under the direction of Colleen DiMaggio, Gifted Education teacher at Academy Park High School, Delcrott Elementary School, Darby Township Elementary School, Harris Elementary School and Sharon Hill Elementary School.

The AOS provided 50 *Phalaenopsis* Fuller's Gold orchids that were donated by Norman Fang of Norman's Orchids



BARBARA SCHMIDT



BARBARA SCHMIDT

in Montclair, California. These orchids were delivered after they had set bud inflorescences. Two printed science lessons about Orchidaceae and phalaenopsis orchid care were created along with activity pages for the children. These were mailed to the teachers in August 2018 to be used before the orchids arrived. Additionally, I was able to teach two orchid education classes at the schools. The first one occurred with the orchid delivery in October of 2018, and the second was in January of 2019 prior to the first Junior Flower Show. Finally, I went to the schools and the Pennsylvania Convention Center where the Philadelphia Flower Show was held to assist with cleaning the plants, preparing them and setting up for the Junior Flower Shows and Philadelphia Flower Show. American

- [1] Thomas Mifflin Sixth Grade Class. The 25 students in this class were each given an orchid to raise.
- [2] 2019 Philadelphia Flower Show Youth Orchid Class Display.
- [3] Thomas Mifflin Winners with Their Orchids (left to right): Brielle Canady, Neveah Jones, Essence Coleman-Bey, Jayda Wright and Zion Norris. Missing when this photo was taken were Daiyanah Gibson and Tamir Sidney.
- [4] Darby Township Elementary School students. Front, from the left: Autumn Sitvarin, Bryant Peacock and Francis Sanoë. Back, from the left: Logan Fritchey and Bianca Schrader.

— and Watch it Grow

Orchid Society judges Sally Gendler and Michael Bowell volunteered at the Junior Flower Shows.

The students at both Thomas Mifflin and Academy Park were energized, interested and excited about this orchid pilot project. They had excellent questions during the two classes, some took notes and many emailed questions afterwards. Each student was given an orchid, which they raised on their own from October of 2018 through the flower shows in early 2019. Of the 25 orchids distributed to Academy Park High School, 22 survived and all 22 were entered into the Philadelphia Flower Show. The Academy Park students were required to raise their orchids at the school. Of the 25 orchids distributed to Thomas Mifflin Elementary School, 16 survived and nine of these were entered into the Philadelphia Flower Show. The Thomas Mifflin students were allowed to take their orchids home.

Their plants were entered in the first-ever Youth Orchid Classes at the 2019 Philadelphia Flower Show. The entire class received a PHS Class Commendation ribbon. Because of the display at the Philadelphia Flower Show, the students were also asked to enter their orchids in the Southeast Pennsylvania Orchid Society (SEPOS) orchid show in early April 2019. The Academy Park High School class also chose to enter their orchids in this orchid show.

The ripple from this project continues to grow outward and touch more people. After our pilot program, DiMaggio procured a donation of 20 orchids from a local store, The Grocery Outlet, which she handed out to her other gifted education students in the elementary schools. Shaniya Robinson, an eighth-grade student at Darby Township School, received one of these donated orchids and was so interested in this program that she completed the online orchid course offered by Longwood Gardens.

Similar stories about the Academy Park High School students have also been shared with me. Kramoh Mansalay appeared on Fox29's *The Class H Room* television show. When asked about himself, Kramoh highlighted his accomplishment of taking first place in both the Junior Flower Show and the



BARBARA SCHMIDT



COLLEEN DIMAGGIO



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COLLEEN DIMAGGIO



COLLEEN DIMAGGIO



COLLEEN DIMAGGIO

- [5] Brianna Ha, Academy Park High School, with her orchid from the Junior Flower Show. Brianna sent the photo in May with a question about her orchid.
- [6] Deborah Abiola, a student at Academy Park High School.
- [7] Francis Sanoe, a third grade student

- at Darby Township School. He also received his plant from the second round of 20 and sent this picture in May to show me it had bloomed.
- [8] Gregory Newman sent an email of his orchid in May. He was concerned that the velamen had come off the root in the

- front.
- [9] Gregory Newman and Colette Chukwunonye, grades five and four, respectively, at Sharon Hill Elementary School. These students received their orchids from the second set of 20 donated to Colleen DiMaggio, who is babysitting Colette's orchid this summer while she visits family in Nigeria.
- [10] Shaniyah Robinson, a student at Darby Township Elementary School.
- [11] Adriana Drones, a student at Academy Park High School.
- [12] Beverly Bannor and Juliana Awe (left to right) are both in second grade at Delcroft School. They sent an email in late May to show me two new flowers on their orchid. They received their plant with the second round of 20.

Philadelphia Flower Show. Another student is taking her orchid with her to university because she wants to make sure it is cared for properly. Yet another was so excited about this project that he set reminders on his phone for watering. He also became actively involved in helping other students care for their orchids.

To say this pilot project was a success would be an understatement. What began as a program for 50 students in two schools has touched more people than ever could have been imagined. DiMaggio exclaimed, "Thanks for all of the inspiration! This project really took on a life of its own!" She has contacted me about repeating this program again this year with her students. She is already working on securing a donation of plants. The hope of AOS's Education Committee is that similar programs will be set up in other locations. Instructions for creating a Junior Orchid Show in your area can be found on the AOS website (www.aos.org), on my website (www.basorchidcare.com) under the "Junior Flower Show" tab or contact me at basorchidcare@gmail.com. Just think of how many children all around the world could begin their lifelong love of orchids!

— Barbara Schmidt published her first book, *Orchid Care: For the Beginner*,



COLLEEN DIMAGGIO

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in 2016 and is currently working on her second book, Orchid Care: For the Experienced Grower. She has a Bachelor of Science degree in biology and Chemistry and a teaching certificate in secondary science. She's been raising orchids for over 15 years and is a member of the Education Committee and she is a regular instructor at the Smithsonian Institute Associates Program, the U.S. Botanic Gardens and the New York Botanic Gardens. She maintains a website www.basorchidcare.com, which provides orchidcare information and hosts an orchid blog (email: jentomsch@hotmail.com or basorchidcare@gmail.com).

[13] Academy Park High School students at the SEPOS Orchid Show (left to right): Adriana Drones, Brianna Ha, Rasheed Jomandy, Cheyenne Phillips, Kramoh Mansalay, Shara Lighter, Jermere McLeish and Crystal Nance.

hotmail.com or basorchidcare@gmail.com.

Instructions for starting a Junior Orchid Show can be found at www.aos.org, www.basorchidcare.com, or contact me at basorchidcare@gmail.com.

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Sylvia Strigari

Phragmipedium × *talamancanum*

Text by Melissa Díaz-Morales and Franco Pupulin/Watercolor by Sylvia Strigari

Subfamily CYPRIPEIDIOIDEAE
Genus PHRAGMIPEDIUM Rolfe

Phragmipedium* × *talamancanum Pupulin and M. Díaz, *Phytotaxa* 382(2):177. 2018. Type: Costa Rica. Puntarenas, Coto Brus, vicinity of the Panamanian border, epiphytic on fallen tree, legit C.H. Lankester and J.M. Lankester Hawker, 1945, cultivated at the Lankester Botanical Garden, University of Costa Rica, accession no. JBL-17839 (holotype, JBL; isotypes, JBL, USJ).

An epiphytic, fan-shaped plant up to 45 cm tall. *Leaves* to 9, ensiform, acute, coriaceous, mid-green, 19.5–47.0 × 2.0–4.5 cm. *Inflorescence* erect to gently arched, shorter than the leaves, unbranched, successively flowered, 23–30 cm long; peduncle terete, dark green, up to 20 cm long, enclosed in the mid-portion by an ovate, conduplicate, loose, glumaceous-fibrose, green bract, 11.0–11.5 × 2.0–2.5 cm. *Floral bracts* conduplicate, ovate, acute, loose, glumaceous-fibrose, green, 3.5–5.3 × 1.0–1.5 cm. *Pedicel* and *ovary* 85–112 × 4.0–4.5 mm, green suffused dark red, arcuate to almost pendent, finely white pubescent. *Flowers* with green sepals becoming dark red on the distal half, purple petals with green on the base; lip pale green on the base, suffused with vivid reddish brown on the frontal part, spotted with dark red and green on the folds; the column pale yellow, with a reddish purple staminode. *Dorsal sepal* ovate, obtuse, 8.3–9.7 × 0.9–1.5 cm, 12-veined, the veins dark red, crenate, convex, bending frontward. *Synsepal* broadly ovate, obtuse, convex, longer than the lip, 7.8–9.5 × 2.5–3.7 cm, 21-veined, the veins green to pale red. *Petals* linear, obtuse, 28.0–30.5 × 1.2–1.6 cm at the base, ca. 0.2 cm wide at apex, covered with purple trichomes on the base of the adaxial surface, densely covered with minute trichomes on the apex of the adaxial surface. *Lip* trilobed, 5.0–5.7 × 2.0–2.5 cm, the lateral lobes infolded, flat, the midlobe calceolate, auriculate, the rim truncate. *Column* 10 mm long; the *staminode* deltoid, approx. 6.5 × 11.0 mm, densely covered with purple trichomes on the margins of the lateral lobes; *stigma* 7.5–8.0 mm long,

partially hidden by the staminode, covered by small papillae, the base pubescent. *Anthers* 2.5–3.0 mm long, bilocular. *Pollinia masses* granulose, 1.3–1.6 mm long.

John Dominy (1816–1891) was the author of the first known manmade orchid hybrid in 1856, a cross between two species of *Calanthe*. Dominy spent most of his life working for the Royal Exotic Nursery of Messrs. J. Veitch & Sons at Chelsea, England, where he was able to transmit his knowledge to John Seden (1840–1921), an orchid breeder who eventually also became a renowned hybridist. In 1875, Seden created the hybrid *Phragmipedium* Grande. It flowered for the first time at the Veitch Nursery six years later, in 1881.

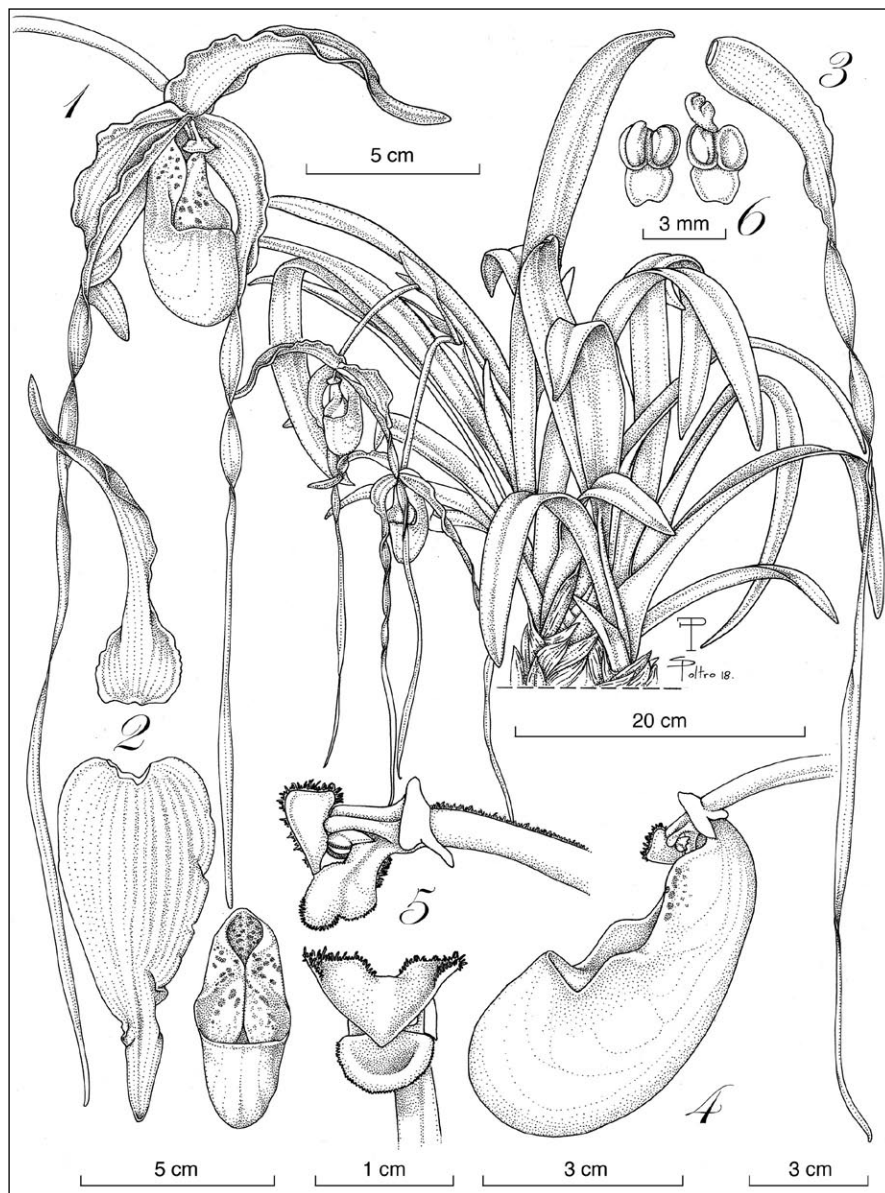
In April that same year, the botanist Heinrich Gustav Reichenbach (1823–1889) published in the *Gardeners' Chronicle* a note about the “grand thing” raised by Veitch, as a cross between *Cypripedium roezlii* and *Cypripedium caudatum*, baptizing the new hybrid as *Cypripedium grande*. In such note, Reichenbach explained that based on the vigorousness and the quick-growing plant, the new hybrid must be a descendent “[...] not from genuine [*Cypripedium*] *caudatum*, but from the so-called *caudatum roseum* [...]” (Reichenbach 1881). A year later, Reichenbach (1882) was able to observe a fresh inflorescence from the same plant, and in a note also in the *Gardeners' Chronicle*, he confirmed his thoughts about the parentage of *Cypripedium grande* being “[...] *caudatum roseum* = *warszewiczii*.” Nevertheless, in a third note in the *Garten-Zeitung*, Reichenbach (1884) did not mention the *roseum* form of *Cypripedium caudatum*, but instead straightly presents the hybrid as a cross made by Seden from a “*C. roezlii*” fertilized with “*C. caudatum*” and provided a description and an illustration of the plant.

The fact that Seden and Reichenbach (1884) stated that the artificial hybrid was a cross between *Cyp. roezlii* and *Cyp. caudatum*, but Reichenbach in the original description of the name (Reichenbach 1881), and in the subsequent note (Reichenbach 1882), consigned it as a cross between *Cyp. roezlii* and *Cyp. caudatum* var. *roseum*,

created a confusion that prevails even today. *Cypripedium roezlii* is considered a synonym of the broadly distributed and variable *Phragmipedium longifolium* (Cribb and Purver 2017). *Cypripedium caudatum* is a synonym of the long-petaled *Phragmipedium caudatum* distributed in Peru and Bolivia. The identity of *Cyp. caudatum* var. *roseum* has been amply discussed (Dressler and Pupulin 2011, Pupulin and Dressler 2011, 2012, Pupulin 2016), and all that is needed to say here is that the name is considered a synonym of *Phragmipedium humboldtii*, the Central American long-petaled *Phragmipedium*. Adding confusion to the matter, neither the botanical or horticultural communities had, at that time, a clear understanding of the differences among the South American *Phragmipedium caudatum*, its sister species distributed in Colombia and Ecuador, *Phragmipedium warszewiczianum*, and the Central American *Phrag. humboldtii*. Therefore, authors indifferently referred under the name *Cypripedium* × *grande* the artificial hybrid of *Phrag. longifolium* with any of the long-petaled species of sect. *Phragmipedium*.

In 1998 Franz Glanz registered the grex *Phragmipedium* Wössner Supergrande, as a cross of *Phrag. longifolium* with *Phrag. caudatum* var. *warszewiczianum* as interpreted by Garay (1979), which in fact is a synonym of *Phrag. humboldtii*, not of the true *Phrag. warszewiczianum*, a different species that has long been known as *Phragmipedium wallisii*. A natural hybrid with the same parentage was described as *Phragmipedium* × *grande* in an attempt to clarify the confusion around the name (Röth 2012). This description was based on the incorrect interpretation that the original description by Reichenbach (1881) only applied to the artificially produced cross and not for the nothospecies, but this is not the case.

The type selected by Röth was a wild-collected specimen from Ecuador, where *Phrag. humboldtii* does not occur. Gruss (2013) noted this inconsistency, and based on the same Ecuadorian specimen his description of the nothospecies,



Phragmipedium × *talamancanum*. The plant.

1. Flower.
2. Dissected sepals and lip.
3. Petal.
4. Column and lip, lateral view.
5. Column, lateral and frontal views.
6. Pollen masses and anthers.

All drawn from JBL-17839 by Sara Poltronieri.

Phragmipedium × *pfitzerianum*, establishing *Phrag. longifolium* and *Phrag. warszewiczianum* as the parents, based on the fact that there is no strong evidence of the presence of *Phrag. caudatum* in Ecuador. Considering that the southern geographic distribution of *Phrag. longifolium* is in central Ecuador (Cribb and Purver 2017), this species and *Phrag. caudatum* cannot hybridize naturally since their habitats do not overlap. We have yet to be able to detect morphological characters that allow us to easily distinguish among the plants obtained by crossing artificially *Phrag. longifolium* with *Phrag. caudatum* (*Phragmipedium* Leslie Garay grex), and crossing *Phrag. longifolium* with *Phrag. warszewiczianum* (*Phragmipedium* Paul Eugene Conroy grex). That makes hard to define the true parentage of the original *Phrag. x grande*, but certainly it was not

Phrag. humboldtii.

Given the lack of a botanical name for the natural hybrid occurring in Costa Rica and Panama between *Phrag. longifolium* and *Phrag. humboldtii*, the nothospecies was formally described as *Phragmipedium* × *talamancanum* (Pupulin and Díaz-Morales 2018) from a plant collected by Charles H. Lankester and his son in Costa Rica, close to the border with Panama, but that is another story.

Crossing *Phrag. humboldtii* with *Phrag. longifolium* results in flowers mainly distinguished by the lip more or less boldly suffused with vivid reddish brown on the frontal part, with dark red and green spots on the folds. The rim of the lip is round, with no thickening. The staminode is purplish and distinctly rhomboid in shape.

These features are easily observed not only in the cross that forms naturally in southern Costa Rica and western Panama (Dressler 2005), but also in the photographs of the several artificial crosses carried out with the same parents, collectively named after the original name of *Phrag. Wössner Supergrande*.

Vegetatively, the natural hybrid plants grown at the Lankester Garden are quite tall, reminiscent of some of the large *Phrag. longifolium* rather than the compact and stiff plants of *Phrag. humboldtii*. However, we have recently seen a specimen of *Phrag. x talamancanum*, allegedly collected in the wild, with rather short and narrow leaves, which reminded us of the compact “ecotype” of *Phrag. longifolium* that is quite common along roadside banks in the region of Fortuna in Chiriquí, Panamá.

Because the parents of *Phrag. x talamancanum* usually grow in habitats directly exposed to light with high humidity — even on running water in the case of *Phrag. longifolium* — it is recommended to emulate these conditions in cultivation. The plants can be grown in plastic pots with drainage holes around the base, adding to a mix of charcoal and bark a medium that allows for increased moisture retention such as perlite.

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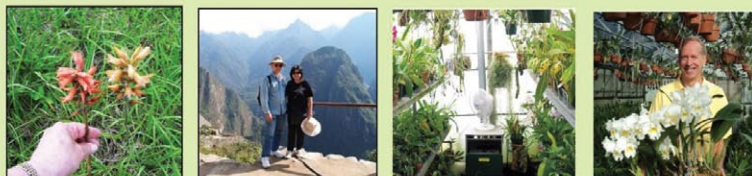
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Webinars-Coming Attractions!



When	December 10, 2019 8:30 EST Tuesday	January 09, 2020 8:30pm EST Thursday	January 16, 2020 8:30pm EST Thursday	February 11, 2020 8:30pm EST Tuesday
Topic	Conservation of <i>Sacoila lanceolata</i> in Florida, a success story	Orchid Travels in Peru	Greenhouse Chat (Orchid Q&A) <i>Send in your Questions!</i>	Large Flowered Cattleyas
Presenter	Jennifer Reinoso Accredited AOS Judge and Special Funding Chair	Ken Jacobsen Accredited AOS Judge	Ron McHatton Chief Education and Science Officer	Art Chadwick Founder Chadwick & Son Orchids Inc.

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

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Instagram and in the AOS Corner of your affiliated society's newsletter.*

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Selected Botanical Terms

abaxial - lower surface of a leaf
 acuminate - tapered to a point
 acute – pointed
 adaxial - upper surface of a leaf
 adnate - fused
 arcuate - shaped like a bow, curved
 articulate - jointed
 auriculate - having one or more structures resembling ears or earlobes
 bilocular - having two chambers
 calceolate - sort of grayish white
 carinate - having a keel-like ridge
 caudicle - the stalklike support of the pollinia
 ciliate - hairlike fringe
 clavate – club-shaped
 claw - narrowed basal portion
 cochleate - formed like a spiral shell
 column foot - extension of the basal part of the column
 concave – bowl-shaped
 conduplicate - folded lengthwise along the middle
 convex - curved outward like the surface of a sphere
 coriaceous – leathery
 cucullate – hooded
 deflexed - downturned
 deltoid - roughly triangular shape

ensiform - shaped like a sword
 epiphyte - growing on another plant for support and not as a parasite
 erose - irregularly notched
 fibrose - containing fibers or filaments
 flexuous - flexible; not rigid
 glabrous - smooth
 glumaceous - chaffy
 granulose - consisting of, or covered with, small granules or grains
 internode - sections of stem between nodes
 monophyly - sharing a single common ancestor
 obovate – egg-shaped with the wide end up
 obtuse – blunt or rounded
 ovate – egg-shaped with the narrow end up
 papillae - projections from a surface; often swollen or waxy
 papyraceous - papery
 pedicel – a stem carrying a single flower
 peduncle – the lower part of the inflorescence below the first bud
 perianth - sepals and petals together
 petiole - the stalk joining a leaf to a stem or pseudobulb

phylogenetic - relating to the evolutionary development of a group of organisms
 pubescent - covered in short, soft hair; downy
 raceme – flowers arranged along a central stem
 rachis - part of the inflorescence carrying the flowers
 reflexed - bent backward
 subtend - covered or nearly so
 subumbelliform - approximately umbrella-shaped
 synsepal - fused lateral sepals appearing as a single structure
 - especially in paphiopedilums and phragmipediums
 terete - cylindrical or pencil-shaped
 trichome - fine outgrowths or appendages on plants; often glandular hairs
 truncate - abruptly terminated as if cut off
 type - specimens on which a description is based
 viscidium – the sticky pad on the caudicle or stipe of the pollinarium that attaches the pollinarium to a pollinator



Laelia by Peggy Alrich and Wesley Higgins

A Central and South American Genus



Lindley in *The Genera and Species of Orchidaceous Plants*, 115 (1831).

Name ICN conserved, and type name also conserved; vs. *Laelia* Adanson (1763) Brassicaceæ; and not *Laelia* Persoon (1806) Brassicaceæ.

ETYMOLOGY Roman mythology. Dedicated to Laelia, one of the six Vestal Virgins who attended the sacred fire in the temple of Vesta (a goddess of the hearth, identified with the Greek goddess Hestia) and held written wills for citizens in ancient Rome.

Or, possibly a name borne by females of the ancient Roman family of Laelius.

GENERITYPE *Laelia speciosa* (Kunth) Schlechter (*Bletia speciosa* Kunth)

Twenty-five sympodial epiphytes, lithophytes or accidental terrestrial species are found in moist to seasonally dry,

mid to upper elevation, rocky crevices, montane oak-pine to deciduous forests from northern Mexico (with the largest diversity) to Bolivia, Cuba, Jamaica, Trinidad, Venezuela, the Guianas and eastern to southern Brazil (Mato Grosso to Bahia, then south to Rio Grande do Sul) often growing in full sunlight. They are sometimes subject to cold winters or can be found in hot, tropical forests to even canyon cliffs.

There are literally thousands of hybrids of these showy flowers. These semidwarf plants have ovoid, cone-shaped, roundish or cylindrical smooth to wrinkled pseudobulbs, subtended by papery bracts, each with a solitary, green, fleshy or leathery, often suffused purple leaf that has a petiolate-like base. There are even a few species that have 2–3 leaves. The inflorescences vary with several species attaining heights in excess of 6 feet (1.8

m), whereas others bear solitary, brightly colored flowers, with each species having a distinct fragrance. The flowers are usually vivid in shades of white, yellow, pink or purple, with several hues in between. The flowers resemble *Cattleya*, but laelias have narrower sepals and a far less showy lip. The flower size can range up to 4 inches (10 cm) across. The outside margin of the trilobed lip matches the color of the sepals and petals but has contrasting stripes in the throat. The lip has side lobes that enfold and surround the usually long, semi-club-shaped, curved, footless column or are separate from the lip. Pollinia eight, four in each cell of the anther, waxy, ovoid or laterally compressed, are attached to strap-like caudicles.

Taxonomists have placed the South American schomburgkias into the same genus with the Mexican laelias based on DNA evidence. The monophyly of



Lælia superbiens.

2



3



Lælia Anceps.

4

Summary of Morphological Characteristics of *Laelia* and *Schomburgkia* (Peraza-Flores et al. 2016).

Character	<i>Laelia</i> Lind.	<i>Schomburgkia</i> Lind.
Pseudobulb cross section	Round	Always somewhat compressed laterally
Arrangement of flowers on the rachis	Laxly arranged, individual pedicels shorter than the rachis	Crowded to subumbelliform, individual pedicels longer than the rachis
Floral bracts	Triangular to triangular-elliptic, inconspicuous, always much shorter than the rachis	Linear to linear-elliptic, always exceeding half the pedicel length, longer pedicels and internodes of rachis exceeding half the pedicel length, longer than the internodes of the rachis; inconspicuous and rarely subequal in the <i>Schomburgkia rubescens</i> complex
Bracts of the lower half of the inflorescence	Usually shorter than the internodes	Exceeding the internodes
Elevation range	Mostly high elevation, usually above 6,550 ft (2,000 m); most species withstand light frost	Mostly low elevation, usually below 4,900 ft (1,500 m); most species cannot withstand frost
Distribution	Restricted to the Mexican plateau west and north of the Tehuantepec Isthmus	South America, Central American Isthmus, and Megamexico east and south of the Tehuantepec Isthmus; <i>Schomburgkia anceps</i> also at intermediate elevations in Mexico along the Sierra Madre Oriental and the Sierra Madre Occidental
Flowering season	During the peak or toward the end of the rainy season (more rarely in May as in <i>Laelia speciosa</i>)	During the peak of the dry season (February–May in the Northern Hemisphere). <i>Schomburgkia anceps</i> in Autumn to Spring

this alliance has been corroborated by several molecular studies. Based on these results, many authorities prefer the expanded circumscription of *Laelia*, to include *Schomburgkia* to yield a workable monophyletic concept of the genus. However, disagreements on the limits of genera are common among taxonomists. Historically, many botanists have regarded *Schomburgkia* as separate from *Laelia*; these could be divided into two distinctly different groups, based on morphological traits. The phylogenetic evidence demonstrates that the genus is composed of two sister clades. Peraza-Flores and Carnevali (2016) argue that for a monophyletic classification with a morphologically coherent and easily diagnosable taxa, the clades should be treated as separate genera. With few nomenclatural changes, two distinct genera

could be maintained. The table above defines the morphological characteristics of these clades.

CULTURE Provide these species a pot with a well-drained mixture, but some plants can be mounted on wooden slabs. Provide high humidity during the active growing season, reduce water and provide cooler conditions during the dormant period.

— Peggy Alrich is a freelance graphic designer (sunflowerltd@earthlink.net).

— Wesley Higgins is an AOS accredited Judge (higgins@ufl.edu).

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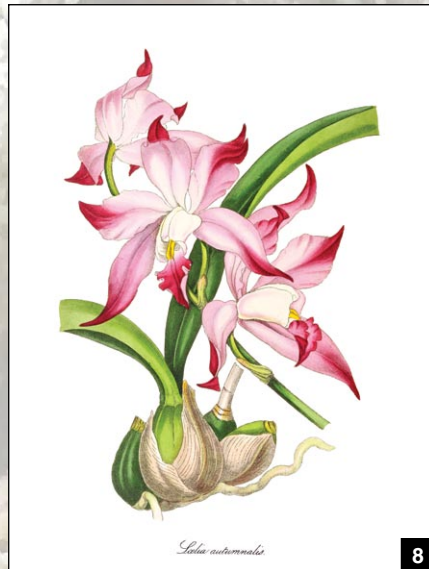
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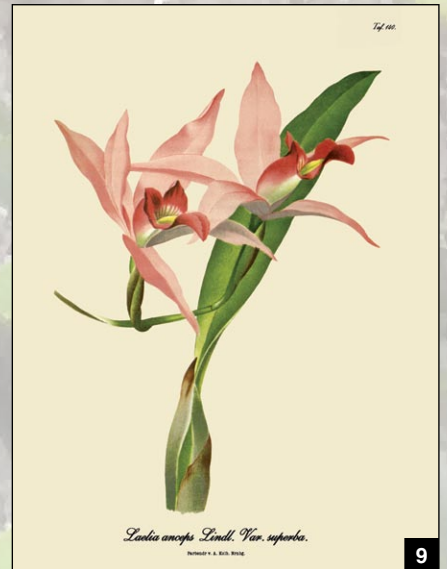




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Antique Plates — *Laelia*

- [1] *Laelia autumnalis* as *Laelia autumnalis* var. *atrorubens*, *The Garden* (London), 17:t.229 (1880).
- [2] *Laelia superbiens*, *Revue Horticole*, 58:324 (1886).
- [3] *Laelia albida*, *Botanical Register*, 26:t.54 (1839).
- [4] *Laelia anceps*, *Paxton's Magazine of Botany and Register of Flowering Plants*, 4:73 (1838).
- [5] *Laelia autumnalis* as *Laelia autumnalis* var. *fourieri*, *Revue Horticole*, 68:547 (1896).
- [6] *Laelia speciosa* as *Laelia majalis*, *Orchid Album*, 8:t.372 (1889).
- [7] *Laelia anceps* subsp. *dawsonii* as *Laelia anceps* var. *ballantineana*, *Lindenia*, 14:t.632 (1898).
- [8] *Laelia autumnalis*, *Paxton's Magazine of Botany and Register of Flowering Plants*, 6:t.66 (1839).
- [9] *Laelia anceps* subsp. *anceps* as *Laelia anceps* var. *superba*, *Gartenflora*, 4:t.140 (1855).
- [10] *Laelia anceps* subsp. *anceps* as *Laelia anceps* var. *barkeriana*, *Flore des Serres et des jardins de l'Europe*, 11:t.1100 (1856).
- [11] *Laelia rubescens* as *Laelia acuminata*, *Flore des Serres et des jardins de l'Europe*, 1:50 (1845).
- [12] *Laelia autumnalis* *Orchids, The Royal Family*, t.9 (1885).
- [13] *Laelia autumnalis* as *Laelia autumnalis* var. *atrorubens*, *Paxton's Flower Garden*, 2:t.45 (1883).



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The Strange Case of *Phragmipedium*

An International Story of Conservation and Taxonomy

BY MELISSA DÍAZ-MORALES AND FRANCO PUPULIN

THE IMPORTANCE OF cultivated plants in the discovery and the description of orchid diversity cannot be overestimated. During the 19th century and the beginning of the last century, the fundamental task of exploring the richest regions in orchid flora around the world was essentially carried out by the great horticultural firms, which provided the botanists with an uninterrupted flow of novelties to be described and revealed to science. Although to a lesser extent, private collections, as well as the trained eyes of their owners, still continue to play an important role in the discovery of family diversity. In more recent years, with the spread of a generalized culture attentive to the problems of the sustainable use of natural resources, the orchid collectors discovered a new vocation aimed at conservation. In many cases private collections have been an important tool for the conservation *ex situ* of the rarest and most threatened orchid species; these species are important even when they are not the primary source of germplasm for the reproduction and reintroduction of species in their natural habitats. Particularly rare, however, is the case of cultivated plants that have served at the same time to preserve rare taxa and to clarify old problems of nomenclature. The story we present here represents one of these rare cases, and is made more significant by the fact that it involves a large number of different protagonists in two distant countries.

THE ORIGINAL COLLECTION At the beginning of the 1940s, the great scientific association that had united for almost 20 years the greatest American orchidologist, Professor Oakes Ames (1874–1950) of the Harvard University, and his friend and great British naturalist rooted in Costa Rica, Charles Herbert Lankester (1879–1969), was now only a pale memory. Although Professor Ames was increasingly occupied by university administration rather than research (he was appointed research professor of botany emeritus in 1941), and “Carlos” Lankester was increasingly concerned



x *talamancanum*

about the affairs of a coffee plantation that did not always run smoothly, what always remained a great personal friendship gradually came to replace the ancient scientific fellowship. Nevertheless, the orchids had not left Lankester's life. There is a register of a plant shipment sent to Ames (probably the last one) in March 1942 (Ossenbach 2013), and just at the beginning of the 1940s, Lankester began his last major project: a book that should have been his tribute to the orchids of his adopted country. It would go on to be published, posthumously, only 2013 (Lankester et al. 2013).

In those same years, and probably because of the new possibilities for botanical exploration that the project opened up, Lankester was very interested in the construction of the southern stretch of the Pan-American Highway, which would have crossed a section of the Talamanca Cordillera and then pushed as far as Panama. The United States' interest in this trench of the Pan-American Highway was suddenly revitalized by the necessity to improve control over Central American coasts during World War II, when German submarines were interested in approaching the rich tropical coast for the supply of provisions for their crews. The presence of redoubtable nazi U-boats in the waters of the Caribbean, which American novelist Ernest Hemingway narrated in his posthumous *Islands in the Stream*, was not a legend, as it is well exemplified by the sinking of *San Pablo* by a German U-161 while the ship was being unloaded in Puerto Limón, on the Caribbean coast of Costa Rica, on July 3, 1942. On his side, Lankester's interest in the project was so lively that in 1943 he was appointed a member of a special commission of notables that would have to assess the aspects relating to the conservation of tree species along the path under construction (Ossenbach 2013). Around 1944–1945, Costa Rica was hit by the "tail of a hurricane" that brought torrential rains, especially in the southern part of the country. Charles Lankester and his son John (John Maurice Lankester

Hawker, 1914–2007) went down to the region after the hurricane to see what had happened in the area, and it was probably during this trip close to the Panamanian border when they collected a plant of *Phragmipedium* growing epiphytically on a fallen tree.

It is strange to imagine that, in a world devastated by a war that would leave a tragic legacy of 60 million deaths, in a small country in Central America that in 1941 had declared war on Japan, and later on Nazi Germany and fascist Italy, someone could find spiritual peace to continue his quest for new orchids. Our story could have ended here, in the collections that Charles Lankester kept until 1955, when he sold his finca and moved to live in the city, except that the plant gathered near Panamá remained cultivated in the "El Silvestre" (The Wild) garden, which was inherited by his daughter Dorothy (1912–1992). But, at that time, no one was apparently interested in having a second look at the *Phragmipedium caudatum* growing epiphytically in Costa Rica.

JOURNEY TO THE UNITED STATES At the end of the 1970s, a professional horticulturist, with advanced degrees in chemistry and horticulture, came to Costa Rica from the United States to work as a plant breeder for five years at Linda Vista S.A. in Paraíso de Cartago, Costa Rica, not far from the Lankester Botanical Garden. The renowned nursery is today still one of the more advanced enterprises in the country as to the production of ornamental plant seeds for export to Europe, the United States and other parts of the world. The North American expert, Leon Glicenstein, Ph.D., was not only fond of plant breeding, cytology, and cytogenetics, but also had a strong interest in orchids, having been for several years the assistant to Carl Withner, the curator of orchids at the Brooklyn Botanic Gardens. Costa Rica offered Leon endless opportunities to experience orchids in their natural habitats. Armed with his camera, often in the company of the great field connoisseur Mario Flores Loaiza, who was his guide on numerous trips



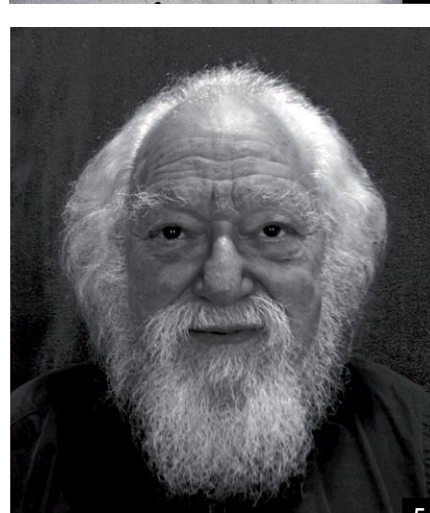
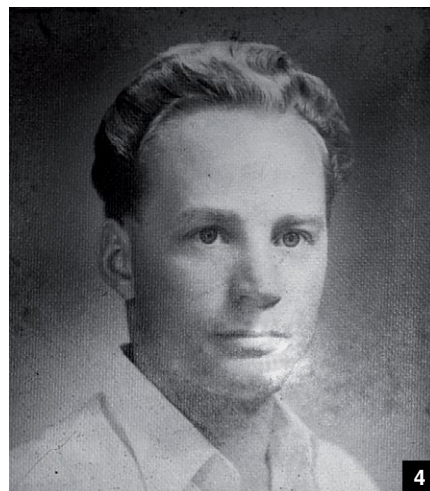
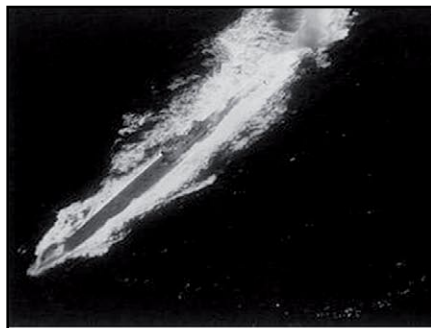
- [1] The flowers of *Phragmipedium* × *talamancanum* resemble those of *Phrag. humboldtii*, but they are borne on a distinctly larger plant, and always present small lateral projections, or horns, on the sides of the lip opening, derived from *Phrag. longifolium*.
- [2] Lankester's *Orchids of Costa Rica*, a book that was written during the 1940s, but not published until 2013. [3] Charles H. Lankester photographed in his garden "El Silvestre" (The Wild), ca. 1940.

throughout the country, Leon gathered an impressive photo library of orchids from Costa Rica, which included close to 80% of all the species known in the country at that time. He also found time to discover new orchid species, which were eventually named after him, such as *Telipogon glicensteinii*, *Macroclinium glicensteinii*, *Pterichis leo*, *Stenorhynchos glicensteinii*, and *Lepanthes glicensteinii*. A strong conservationist, Leon never revealed the exact localities of his findings, which surely helped in preserving those species from poaching, even though it sometimes also blurred a bit the picture to orchid botanists.

As he was a North American interested in orchids living in Costa Rica, it was perhaps natural for Glicenstein to become acquainted with other English-speaking orchid enthusiasts, and he established an enduring friendship with Dorothy Lankester, Charles Lankester's daughter, whose garden filled with orchids Leon visited frequently. And, it

was in Dorothy's last house where, in May 1978, Leon had a chance to again see the *P. caudatum* collected more than 30 years before by Dorothy's father and brother. In September of that same year, Rafael Lucas Rodríguez Caballero painted, from Dorothy's plant, a beautiful botanical watercolor of an inflorescence with two flowers and one bud (Rodríguez Caballero 2018). Interestingly, the locality data that Rodríguez Caballero annotated on the back of his watercolor as "*Prob. Catarata de Cachi*" (probably Cachi waterfall), is most surely wrong, because both parents of the hybrid are sympatric only in the southern end of the Talamanca Mountain chain, whereas Cachi lies in the northern end of the chain, some 125 miles (200 km) north of the northernmost locality where *Phragmipedium humboldtii* has been recorded.

When Glicenstein left Costa Rica to work for an internationally known plant breeding company in Ohio, before being eventually hired by Hoosier Orchid Company in Indianapolis to run their plant breeding program, Dorothy Lankester gave him a small division of the plant to take back with him to the United States. As Leon said to us, in retrospect this may not have been completely legal, but it is also true that the plant had been in cultivation since 1945. Now, although the plant owned by Dorothy was eventually lost after she died in 1992, the division brought back to the United States by Leon had a much better destiny. He gave the plant to Dr. Benjamin C. Berliner, in whose greenhouse in Connecticut it thrived luxuriantly and flowered nicely for several years. Ben Berliner gave a division to H. Phillips Jesup, an accredited judge for the American Orchid Society (AOS) who had been growing orchids for almost 40 years. In the expert hands of the Jesup, the division of this Costa Rican plant grew vigorously, and when it flowered with three inflorescences, Phil Jesup decided to take it to a judging of the American Orchid Society. We do not have, among our electronic correspondence files, a secure record of the date in which Dorothy Lankester's plant resurfaced — and it is even probable that the correspondence of the time was on paper rather than electronic. Because Franco was already residing in Costa Rica, it is likely that the events in question date from the last years of the last century, or the first few years of our millennium. We have searched far and wide in the archives of the AOS — in fact we have bothered a lot of friends and AOS judges to help us in the search



- [3] Rare images of Second World War in Costa Rica. The German submersible U-161 photographed in the mid-Atlantic route, and the San Pablo ship, sank by two torpedoes in the Costa Rican port of Limón.
- [4] John Lankester Hawker. The portrait was taken in the 1940s, at approximately the time when he collected the epiphytic *Phragmipedium* together with his father.
- [5] Leon Glicenstein, who devoted several years to explore Costa Rica for less-known orchids.
- [6] Dorothy Lankester in the 1940s.

— looking for an award granted by the AOS to a *Phragmipedium* plant owned by Ann and Phil Jesup, more or less in those years, but without success. Leon came again to our aid, to clarify the fact that the *Phragmipedium* was never awarded. Apparently, when the Jesups brought it to the judging session, someone (whose name has been lost, but who certainly had to be an expert in this group of

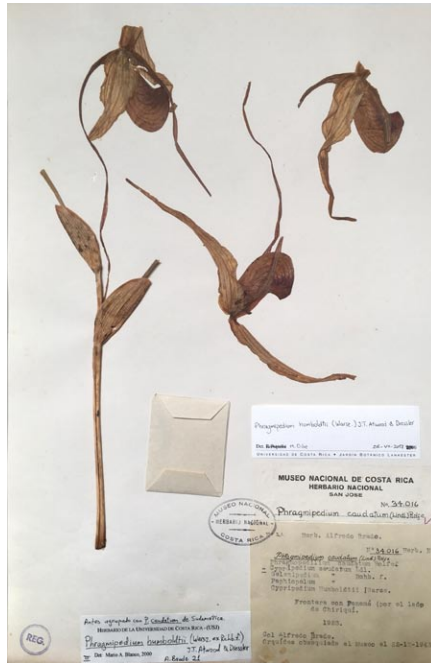
plants) warned them that it was not a specimen of *Phragmipedium caudatum* — which is most certainly true — but instead a hybrid that would have been called *Phragmipedium Grande* at the time — and this was not very hard to guess. The chronicle does not record if the plant was not presented for judging for this reason, or if it simply did not reach a score sufficient to qualify, but the certain fact is

that there is no prize that serves as a safe reference of its existence in time.

PHRAGMIPEDIUM HUMBOLDTII IN COSTA RICA It is at this point that Leon Glicenstein enters the scene again. As the plant in Jesup's greenhouse grew exceptionally well, Phil decided to share a division with Leon, who eventually had it back in his hands after 20 years. Intrigued by the identification of the plant as a hybrid, Leon contacted the Lankester Botanical Garden in search of information. We were able to confirm immediately that the plant depicted in the photographs that he sent was practically identical to the specimens in our collections that Dora Emilia Mora and Mario Blanco had identified as *Phragmipedium* × Grande. But of course, knowing the story, Leon's plant was tremendously interesting from the point of view of botany. Unlike the other specimens cultivated at Lankester, on whose origin — natural or artificial — we had no information, Leon's specimen had a botanical history, as it had originally been collected, under natural conditions, in Costa Rica!

The plant collected in Costa Rica by the Lankester father and son, close to the border with Panama, is of special relevance to the flora of Costa Rica, not only because it is an example of a rare nothospecies, but also because it is the strongest evidence that *Phrag. humboldtii* (for the correct application of this name, see Pupulin and Dressler 2011 and Pupulin 2016), one of its parents, must be also naturally found in the country. Cultivated plants of *Phrag. humboldtii* are not exceedingly rare in Costa Rica, and a couple of specimens can be observed in any of the major orchid collections in the country. However, virtually all these plants have been imported — more or less legally — from Panama, where natural populations of *Chinela* (the vernacular name of *Phrag. humboldtii* in Panama) are still relatively frequent (Dressler 2005). What is exceedingly rare, instead, is a plant that can be genuinely assessed as native to Costa Rica.

Costa Rican herbaria only host two specimens of *Phragmipedium humboldtii* putatively collected in the country, both kept in the collections of the National Museum of Costa Rica (CR). In neither case is the information on the collection locality, so to speak, sharp. The first specimen was collected by the German brothers Alfred Brade (1867–1955), who was head gardener of the municipality of the Costa Rican capital city, San José (Jiménez 1959, Jenny 2014), and the



more famous Alexander Curt Brade (1881–1971), who eventually reached immortal glory as a botanist in Brazil. The original herbarium label bears the number 21 of Herbarium “Alfredo Brade” and the date of 1923. The locality is stated as “Frontera con Panamá (por el lado de Chiriquí)” [border with Panama (on the side of Chiriquí)]. Because this locality description does not mention Costa Rica at any time, it could also mean “on the Panamanian side of Chiriquí.” The second specimen is from a plant cultivated at the Wilson Botanical Garden close to San Vito in southern Costa Rica, prepared in 2001, and said to “come from Sabalito,” a small village west of San Vito, lying less

- [7] *Phragmipedium* × *talamancanum*, at that time labeled as *Phragmipedium caudatum*, photographed by Leon Glicenstein in 1978 in Dorothy Lankester's collection.
- [8] A detail of the same flower, showing the characteristic auricles on the sides of the lip opening. Photo by L. Glicenstein.
- [9] The scanty evidence of the presence of *Phragmipedium humboldtii* in Costa Rica. Two herbarium sheets from the National Museum (CR).



Phragmipedium humboldtii '25 de mayo', splendidly grown by Carlos Ossenbach in his collection at Sabanilla de Montes de Oca, near San José. The plant was originally imported from Panama. Photograph by F. Pupulin and M. Díaz-Morales.



than 1.25 miles (2 km) from the Panamanian border, and where no suitable habitats can be found today for a new search of this elusive plant.

But now, Glicenstein's story relating the existence of a *Phragmipedium* hybrid growing naturally on a tree in Costa Rica, was the sure evidence that both parents had to be found "close at hand" in the vicinity, and this implies that at least one specimen of *Phrag. humboldtii* must surely have existed in Costa Rica. Needless to say, our interest in this *Phragmipedium* hybrid rekindled.

DISENTANGLING THE IDENTITY OF THE NATURAL HYBRID Leon was understanding enough, fairly science minded, and conservationist enough to consider tackling all the bureaucratic tribulations needed to "return" his *Phragmipedium* to its native land. Because, by this time, the Dresslers were incorporating themselves into the academic life of the Lankester Botanical Garden, Kerry Dressler willingly agreed to help with the titanic enterprise of convincing the authorities of the importance of having this hybrid orchid plant cross borders again, despite the inherent difficulties linked to its generic name, which is included in the infamous Appendix I of CITES. The plant safely arrived in Costa Rica and was added to the collections of Lankester Botanical Garden around 2005.

Now, with a witness to the existence of a *Phragmipedium* nothospecies growing naturally in Costa Rica, the name *Phragmipedium* Grande ceased, for us, to be just another name for an orchid hybrid among the thousands produced by man, but rather a natural element of our country's flora, to be treated botanically under our megaproject of *Flora Costaricensis*. The learning curve was slow, but we eventually discovered that this name, originally published by Reichenbach (1881) for an artificial hybrid that was produced by the horticultural firm of Veitch and first flowered in 1881, could not possibly apply to the hybrid between *Phragmipedium longifolium* and *Phrag. humboldtii* (our hybrid), and must be retained exclusively for the artificial hybrid of *longifolium* × *caudatum*, two species that do not overlap in natural distribution. Readers interested in the full taxonomic story can read it in a long, intricate and quite tedious botanical paper that we published last year (Pupulin and Díaz-Morales 2018). But then, if our natural hybrid was not *Phrag. Grande*, what was it?



The two parental species that cross naturally to produce the long-petaled *Phragmipedium* hybrid from Costa Rica and Panama, *Phrag. longifolium* and *Phrag. humboldtii*, have been used to produce the artificial hybrid *Phragmipedium* Wössner Supergrande, registered by Franz Glanz in 1998 (who unfortunately recorded the second species with the incorrect name *Phragmipedium warszewiczianum* sensu Garay 1979). In the photographs of this hybrid that we had a chance to study (several have been granted awards from the AOS), the flowers are generally very similar to those of the Costa Rican natural hybrid, with a rounded and mostly mahogany-reddish lip. Botanical nomenclature, however, makes a clear distinction between a hybrid grex and a nothospecies, which are not equivalent even when they share the same parentage. A nothospecies, in fact, would include the F1 generation and all the possible backcrosses, whereas a backcrossed grex is considered a different taxon requiring a different grex epithet. So, the epithet Wössner Supergrande could not be used for the natural hybrid of the floras of Costa Rica and Panama. In 2018, we formally described the nothospecies with the name *Phragmipedium* × *talamancanum*, referring to the Talamanca Mountain chain, which runs from Costa Rica to western Panama, where the nothospecies has been recorded so far (Pupulin and Díaz-Morales 2018). The nothospecies is typified by the plant that Leon Glicenstein brought to the United States from Costa Rica in 1978 and sent back from the United States in 2005, a plant that he received from Dorothy Lankester, which

[10] *Phragmipedium* × *talamancanum*, flowers from the plant that served as the holotype (JBL-JBL-07521). Photo by F. Pupulin.

[11] Flowers of *Phragmipedium* × *talamancanum*, from a division of the plant that Glicenstein sent back to Costa Rica.

was originally collected in southern Costa Rica by Charles and John Lankester in 1945 (Pupulin and Díaz-Morales 2018)

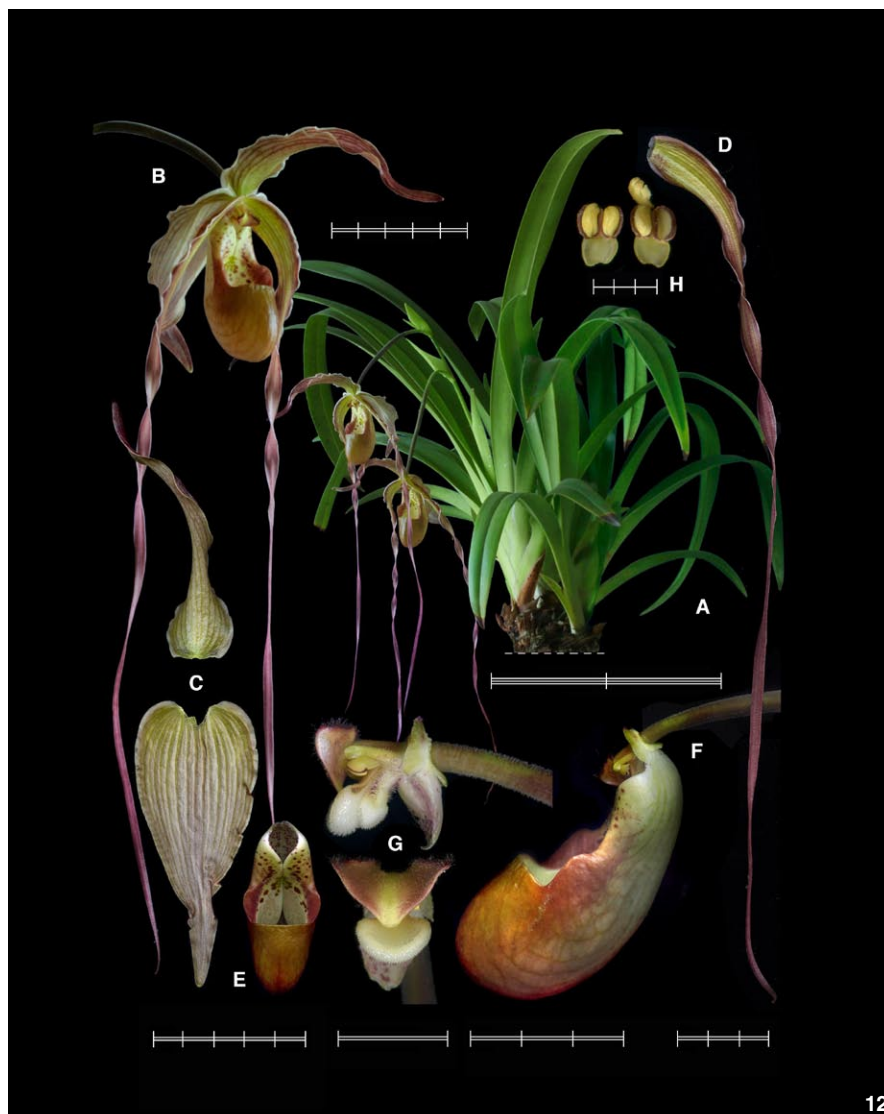
THE NATURAL HYBRIDIZATION OF THE SPECIES How can *Phragmipedium* × *talamancanum* be recognized from the similar, long-petaled, red-lipped *Phrag. humboldtii*? Although both the hybrid and its long-petaled parent share a similar morphology overall, it is easy to detect in *Phrag. × talamancanum* the influence of *Phrag. longifolium* in the hints of purple in the ovary, the lobulate projections on the lip, the green spots on the lateral folds of the lip, and the densely pubescent margins of the staminode. Furthermore, the lateral margins of the lip orifice are velutine (covered with dense and short hairs) in *Phrag. humboldtii*, whereas in *Phrag. × talamancanum* they are glabrous, as in *Phrag. longifolium*. Depending on the habitat where they grow, we recognize two ecotypes of *Phrag. longifolium* in Costa Rica (and likely in western Panama). Plants growing in stream beds or among rocks on the riverbanks, as well as those rooting in the driest roadside cuttings, tend to be more compact plants, with almost subulate, stiff and narrow leaves, whereas those growing on the forest floor or along humid cliffs are usually robust, with longer and broader leaves.

As Dressler (2015) observed in Panama, roadside cuttings occasionally host both populations of *Phrag. longifolium* and scattered individuals of *Phrag. humboldtii*, which use the layers of humus growing on the soil as a substitute for their epiphytic habitat.

OTHER SPECIMENS OF *PHRAGMIPEDIUM* × *TALAMANCANUM* AT THE LANKESTER GARDEN Apart from the plant that Leon Glicenstein took the trouble to “give back” from the United States, which represents a specimen of extraordinary importance because it is connected to a unique set of collecting data and a Costa Rican locality, over the years we have been able to document a series of other cultivated specimens of *Phrag. × talamancanum* at the Lankester Botanical Garden. We have no data on the origin of these plants, but it is certain that the oldest photographic record we have of one of them goes back to 1996, and it may well be that the plants have been grown in the botanical garden for a long time.

According to the label records of our collections, quite a number of hybrid plants of *Phrag. × talamancanum* were “cultivated” in June 1993. This most likely means that a single large plant was divided into at least 11 smaller specimens (accessed to the general collection with individual numbers), only two of which are still in existence. The original plant, the provenance of which we do not know, was apparently referred to as No. 11, and its oldest determination as *Phrag. × Grande* was made by Dora Emilia Mora around 1993. Then we had two other apparently unrelated specimens (accessions No. 583[?] and 6911), both determined as *Phrag. × Grande* by Mario A. Blanco in 1999–2000 and both still alive. The last three plants of *Phrag. × talamancanum* in our collection are the plant that Leon Glicenstein sent back to the Lankester Garden and two divisions of it.

In his paper on the *Chinela*, or the caudate *Phragmipedium* from Panama, Dressler (2005) indicates that the natural hybrid between *Phrag. humboldtii* (the *Chinela*, as Dressler referred to it) and *Phrag. longifolium* is quite common in the region of La Fortuna, in the highlands of Chiriquí, where the opening of new roads has favored that plants of *Phrag. humboldtii* (which are originally epiphytic) settle on the road slopes, one of the seminatural habitats of *Phrag. longifolium*, mixing together and creating the conditions for the natural cross between the two species. Because the



[12] Lankester digital composite plate of *Phragmipedium* × *talamancanum*. **A**, habit; **B**, flower; **C**, sepal; **D**, left petal; **E**, lip, frontal view; **F**, column and lip, lateral view; **G**, column, lateral and frontal view; **H**, anther caps with pollinia. Prepared from the holotype plant. Single bar=mm; double bar=cm; triple bar=dm.

[13] Comparison between the lips (in longitudinal section) of the parent species, *Phragmipedium humboldtii* (A) and *Phrag. longifolium* (C), and their natural hybrid, *Phrag. × talamancanum* (B). Photos by F. Pupulin and M. Díaz-Morales.

crossing of the border between Panama and Costa Rica is well documented in the case of wild specimens of *Phrag. humboldtii* (we have several plants at Lankester that came from an illegal exportation confiscated by the Ministry of Environment), it is possible that some of our hybrid plants have followed the same route and were originally introduced from Panamanian populations. What is certain is the fact that, at least in Costa Rica, the natural hybrid is rare both in nature and in cultivation, probably much less common than the 10 plants grown in our botanical garden. After we described the hybrid with the name of *Phrag. × talamancanum*, two more plants of this hybrid, probably both of natural origin (though without data) were brought to our attention from private collections. However, there is another possibility.

THE IMPORTANCE OF PRESERVING ORCHID COLLECTIONS When the AOS and the Stanley Smith Horticultural Foundation gathered the necessary funds to buy from Dorothy Lankester the garden that her father Charles had christened “*El Silvestre*,” and in which he cultivated most of his orchids, the property that would eventually become the Lankester Botanical Garden still included a large collection of plants belonging to “Don Carlos.” A young Calaway Dodson was hired by the AOS to provide an expert opinion on the botanical value of the legacy left by Charles Lankester, and his favorable response suggests that the collections left in the Silvestre were still relevant. A small semiunderground greenhouse, owned by Lankester and in which he cultivated several hundred of his most special orchids, was still in existence until about 20 years ago, when its deterioration finally rendered it unusable.

Although there will probably never be a way to prove it, it is possible that the *Phragmipedium* that Leon Glicenstein photographed at Dorothy’s home in 1978, before Mrs. Lankester gave him a division, and the plants we have documented at the Lankester Botanical Garden at least since 1993 under the (erroneous) name of *Phrag. × grande*, were actually all divisions from the original collection by Charles and John Lankester. Examining the photographs of several of these specimens “without data,” and comparing them with the images collected by Glicenstein in Dorothy Lankester’s collection and by us when this plant returned to Costa Rica show that the differences in floral morphology are, in our opinion, trivial at



- [14] Lankester digital composite plate of *Phragmipedium longifolium*, ecotype with small habit. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and dissected lip, lateral view; **E**, column, lateral and frontal view; **F**, anther caps with pollinia. Prepared from *Warner 22* (JBL). Single bar=mm, double bar=cm, triple bar=dm.
- [15] Lankester digital composite plate of *Phragmipedium longifolium*, ecotype with large habit. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and dissected lip, lateral view; **E**, column, lateral view; **F**, column, frontal view; **G**, anther caps. Prepared from *Warner 74* (JBL). Single bar=mm, double bar=cm, triple bar=dm.
- [16] Different specimens of *Phragmipedium × talamancanum*. **A**: JBL-05783. **B**: JBL-06911. **C**: JBL-05787. **D**: JBL-07521. **A–C**, without locality data. **D**, Costa Rica. Puntarenas: Coto Brus, vicinity of Panamanian border. Photographs by F. Pupulin.

best. These are even more insignificant differences if we consider that they should represent the supposed variability of a hybrid group, a progeny that should exhibit a continuum of variations between the shapes of the two parents.

It is a great success of horticulture and science that a collective effort involving at least three members of the Lankester family, an academic hybridizer, at least two renowned growers in the United States, the Dresslers, and eventually a group of researchers at the Lankester Botanical Garden, was not only able to maintain in good health a plant collected almost 75 years ago, but also to propagate it and to have it distributed in collections in two countries, and eventually to provide the material required to clarify a nomenclatural matter in a group of highly charismatic plants, and to serve as the type for a new orchid nothospecies.

Acknowledgments

We heartedly thank our dear friend Leon Glicenstein for telling us over and over the journey of the plant he obtained, until we could collect as much information as possible from it. We also thank Gayle Brodie, Carlos Fighetti, Richard Fulford, Jose Izquierdo, and Ana Cristina Rodríguez for helping us in the search of the plant supposedly “awarded” by the AOS, a search that enabled us to discover more interesting information about the hybrids of *Phrag. humboldtii*. Helen Lankester offered her kind help to obtain the photographs of the Lankester family. We are grateful to the Costa Rican Ministry of Environment and Energy (MINAE; its acronym in Spanish), for providing the permits for fieldwork in Costa Rica and for the management of the living collections that have been used for documenting the specimens cited in this study. This paper was written in partial fulfillment of the requisites of Project “*Flora Costaricensis*: Taxonomía y Filogenia de la Subfamilia Cypripedioideae (Orchidaceae) en Costa Rica,” sponsored by the Vice-Presidency of Research, University of Costa Rica.

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systems in orchids, with a main interest in slipper orchids and pleurothallids. Franco Pupulin is head of research at the Lankester Botanical Garden, a center that took worldwide leadership in orchid taxonomy and systematics, and the Editor-in-Chief of Lankesteriana, the only scientific journal exclusively devoted to scientific orchidology. Author of hundreds of scientific papers and several books on orchids, Franco is a research associate at the Harvard University Herbaria and the Marie Selby Botanical Gardens, and consults on matters of taxonomy for the AOS.

Identifying the long-petaled phragmipediums

HERE WE PRESENT a key to the species of *Phragmipedium* sect. *Phragmipedium sensu* Cribb and Purver (2017), which encompasses the species *caudatum*, *guianense*, *humboldtii*, *klotzschianum*, *lindenii*, and *warszewiczianum*. In addition to these six species, our key also includes the natural hybrid × *talamancanum*. Cribb and Purver (2017) distinguish sect. *Phragmipedium* from sect. *Lorifolia* on the basis of the inflorescence lacking sheaths, the flowers produced simultaneously, and the petals more or less pendent and elongating to maturity for several days after anthesis. In our studies of living plants belonging to several species from both sections, we have found that the diagnostic value of some of these characters is quite labile. For some of the taxa, our observations are however limited to the documentation available from photographic and written sources, with no further evidence obtained from direct study of living material, and for this reason we maintain here the subgeneric circumscription proposed in the most recent monograph of *Phragmipedium*.

Key to the species of *Phragmipedium* sect. *Phragmipedium**

- 1 Labellum similar in shape to the petals (not pouch-shaped).....*lindenii*
- 1a Labellum pouch-like.....2
- 2 Flowers small, ca. 15 cm tall; petals about 2 or 3 times longer than the labellum, lateral margins of the staminode villose (bearing long, soft, but disentangled hairs), the trichomes flexuous.....3
- 2a Flowers large, ca. 50 cm tall; petals at least 5 times longer than the labellum, usually more, lateral margins of the staminode sparsely ciliate, the trichomes stiff and straight.....4
- 3 Sepals reddish brown, the lip green to greenish bronze, synsepal shorter than the lip.....*klotzschianum*
- 3a Sepals pale-green, the lip chestnut red, synsepal longer than the lip, staminode.....*guianense*
- 4 Labellum margin rounded, incurved around mouth, without a forward rim; labellum reddish chocolate flushed.....5
- 4a Labellum margin thin, with a distinct rim exerted forward; labellum pink, yellow, or green, not chocolate flushed.....7
- 5 Plants large, the inflorescence shorter than the leaves; petals spreading at 45 degrees below the horizontal, becoming pendent around the midpoint of their length, <30 cm long at maturity..... × *talamancanum*
- 5a Plants relatively small, the inflorescence distinctly surpassing the leaves; petals truly pendent almost from the base, >40 cm long at maturity..... 6 [*humboldtii*]
- 6 Staminode present, broadly triangular-trilobed.....*humboldtii* subsp. *humboldtii*
- 6a Staminode absent or, if present, knob-like and mostly irregularly shaped.....*humboldtii* subsp. *extaminodium*
- 7 Lip pink, the margin flushed with yellow.....*warszewiczianum*
- 7a Lip yellow or green, flushed with darker green around margin.....*caudatum*

*Prepared by Melissa Díaz-Morales, Franco Pupulin and Ron McHatton

Photograph of the Week

A Selection of the Best

COMPILED BY THE AOS EDITORIAL BOARD



Masdevallia ignea photographed by Michael Bull.



ABOVE:

Dendrobium macrophyllum photographed by Michael Bull

This *Dendrobium* was on display at our local Orchid Society meeting (Central Orchid Society, UK). I was impressed by the detail in the flowers which I thought would be ideal for a photo stacking exercise.

The image was taken with a Nikon D850 and Sigma 105mm macro lens and photographed against a black velvet background; the stack was a total of 30 images processed in Zerene stacking software.

I am currently a member of AOS and have been for more than 20 years.

RIGHT:

Masdevallia pleurothalloides photographed Wiel Driessen

My plant is grown in my intermediate greenhouse although the species normally grows at an elevation of 2,600–3,300 feet (800–1,000 m). I grow it rather shady in summer and with full light in winter. Here it flowers just before Christmas. The flowers stay on the plant for two weeks. Rather distinct from any other *Masdevallia*, perhaps someone, someday will give it another name.



NINE YEARS AGO we began posting a “photo of the week” to the AOS website. Since then, more than 11,000 orchid photographs have been submitted to a group on the photo sharing website, Flickr. Each week, one is chosen for our website. It is the beauty and complexity of orchids that inspires us to grow them and travel to the far reaches of the globe to photograph them. Each year the quality of the images improves and this year is no exception. Some of the contributors have been with us since the beginning, some for a few years and a few have begun sharing images with us just recently. Thanks to all of them for sharing their vision. Through photographers’ regular submissions to The Orchid Photo of the Week pool we are able to publish this feature for AOS members.

If you have photographs that capture the beauty of orchids or know someone who does, follow the link on the AOS homepage for complete instructions for submitting photos. AOS membership is not required and Flickr accounts are free. — Greg Allikas, past Editorial Board Chair.

RIGHT:

Phalaenopsis mentawaiensis photographed by Motohiro Sunouchi

This new species, described by Olaf Gruss in 2014, is endemic to Kepulauan Mentawai, a chain of some 70 islands and islets about 100 miles (150 km) off the southwestern coast of the island of Sumatra, Indonesia.



ABOVE:

Lepanthes felis photographed by Sebastian Vieira

We found this beautiful form of the highly variable *Lepanthes felis* growing nearby its relative *Lepanthes carunculigera*, while exploring the Cerro El Inglés nature preserve near El Cairo, Valle del Cauca, in the western Colombian Andes. That place is overwhelming with a huge diversity of miniature orchid species, including a lot of *Lepanthes*.



ABOVE:

Bulbophyllum lilacinum photographed by Azhar Ismail

I was so delighted to capture this photo as it was a first-time bloomer after some years growing it from a small cutting. The picture was taken in my orchid house using a Nikon D7000, Tamron Sp90, external flash and DIY diffuser. The picture was post processed in Lightroom.



***Calypso bulbosa* photographed
by Emma Crippen**

I live in the Pacific Northwest and have an orchid collection, so as soon as I heard there were native orchids in this area I began looking for them on every hike. I have been seeing them for a few years now but this image is from a hike on May 4, 2019 in the Mt. Hood National Forest, off the Clackamas River trail. Look for their little purple tops amongst moist mossy ridges.



LEFT:
Epipactis Sabine (*gigantea* ×
palustris) photographed by Joost
Riksen

Epipactis Sabine is an intercontinental hybrid registered by Frosch in 1984. The parents are the North American *Epipactis gigantea* and the European *Epipactis palustris*. I grow this hybrid in my garden, in a woodland soil. It prefers a shady position and can stand severe frost. The plant flowers in June with multiple flowers on a stem that can become up to 39.4 inches (100 cm) tall.

RIGHT:
Cattleya purpurata 'Nancy' photo-
graphed by Julio C. Oyarzabal

I use the pixel shift function of my Pentax K1 that combines four pictures in one and on top of that I stack several pictures to extend the depth of field so the resulting images are huge. Many of my plants, including *Cattleya purpurata* 'Nancy' came from the collection of Michael Tchong. I bought many plants from Mike when he closed Mike's Orchids in Portland, Oregon.



RIGHT:
Cattleya perrinii photographed by
Emmi Mattes

The photos of my orchids are taken exclusively in my greenhouse. As a background, I normally use a black velveteen fabric. I am always striving to present the plants as authentically and natural as possible with regard to blossom and color.



RIGHT:
Lepanthes effusa photographed by
Sebastian Moreno

This picture was taken in Roncesvalles, Tolima in Colombia in a High Andean Ecosystem. It was an in situ photograph, and the species was growing next to *Ornithocephalus escobarianum*. The picture was taken with a Nikon D750 and an external flash with a homemade diffuser.



RIGHT:
Cattleya Triumphans (dowiana x rex)
photographed by Ken Lister

This plant is in my collection, purchased from John Stanton at the Orchid Trail in North Carolina. The plant was photographed similarly to the way I do AOS award photographs, with a black velvet background and in natural light for accurate color rendition. I have become lazy recently, using my Samsung G7 for many shots,



Orchids in Watercolor

Rhyncholaelia glauca

Marcia Whitmore

RHYNCHOLAELIA GLAUCA BLOOMS for me reliably at Christmastime and is definitely one of my favorite orchids. I painted this plant from my collection and have grown it, or a division of it, for 20 years. This sympodial epiphyte from Mexico to Belize, Guatemala and southeastern Honduras enjoys plenty of light and is fragrant at night.

The watercolor painting is 14 inch × 16 inch (35.6 cm × 40.6 cm) on Arches 300 lb. paper. I complete a drawing on white drawing paper and when the drawing meets my satisfaction, I place a sheet of fine tracing paper over the drawing, trace it, redraw on the back of the tracing paper and then align the tracing paper, centered on the watercolor paper and redraw. This provides a light tracing of the drawing on the watercolor paper and eliminates any corrections directly on the watercolor paper. All my work is developed in this way.

I paint flowers first with lighter pigments and gradually adding pigment, details and final touch up work until I am satisfied and then I work on the leaves. I do not add details to the background as I want the viewer to concentrate on the plant. Occasionally I will add moss or other substrate to the root system to indicate where or how the plant might grow. I use VanGogh, Grumbacher and Winsor and Newton pigments and always have a scrap of the watercolor paper I am working with sitting at my table so I can check color, intensity and correctness before any pigment is applied to the painting. All my work is done from plants in my collection or after drawings made in the field when I work with native orchids.

Marcia Whitmore began growing orchids in a basement room under fluorescent lights in 1972 and moved into a 14-ft × 18-ft (4.3 m × 5.5 m) greenhouse in 1984. Marcia is a retired teacher and fine arts coordinator and taught in public schools for 35 years. She has earned many AOS awards and is a member of the Illowa Orchid Society, Eastern Iowa Orchid Society, American Society of Botanical Artists and the Great River Chapter of Botanical Artists (whitbrits@gmail.com, <https://asba-art.rog/member-gallery/marcia-whitmore>, www.marciawhitmore.com).



Rhyncolaelia glauca

M. Whitmore '05

The Catasetinae — Part 4

Cycnoches warszewiczii and its Influences in Breeding

BY FRED CLARKE/PHOTOGRAPHS BY FRED CLARKE UNLESS OTHERWISE CREDITED

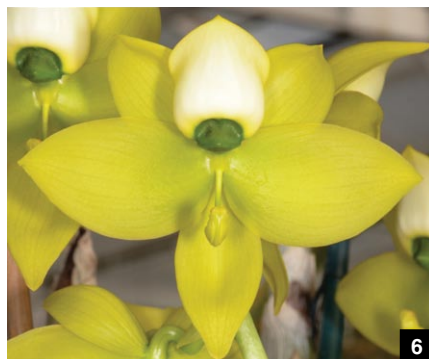
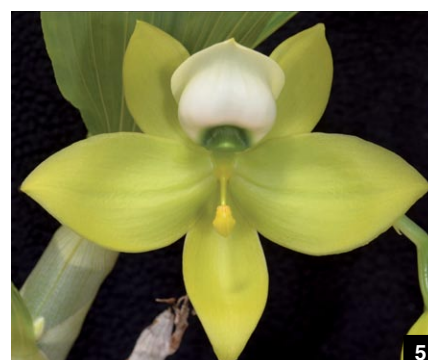
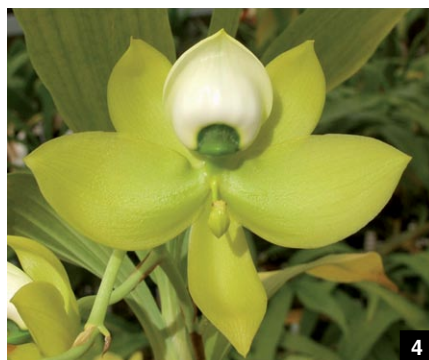


MANY YEARS AGO, the beautiful swan-shaped flowers of *Cycnoches warszewiczii* caught my attention and played an important role in sparking my interest in growing and breeding *Catasetinae*. The first plant I saw in flower was not for sale, so I began looking for plants to purchase. After searching far and wide I found one nursery, JEM Orchids in Florida that had them, so I bought three plants. Perhaps it was because of their scarcity that I liked *Cyc. warszewiczii* so much, or maybe it was the beautiful swan-shaped green flowers. Regardless, I decided to begin line breeding selected cultivars. As a result of this process we have seen a significant improvement in flower quality and plant vigor. The first picture shows where this breeding began in 2003, and over the next 16 years and three generations, you can see the progressive improvement in flower quality. The increasing width and fullness of the sepals and petals are especially noteworthy.

Cycnoches warszewiczii may have the largest flower in the genus. It is characterized by a showy white shield-shaped lip with a contrasting dark green callus. The green petals are wide and flat. Mature plants typically bloom with two inflorescences carrying 5–9 flowers each, and the best flowering plants bloom a second time about a month later. In breeding, the flower of *Cyc. warszewiczii* is generally dominant for size, shape and flat form. Flower count is recessive, as is color. These qualities make *Cyc. warszewiczii* an excellent parent to combine with plants possessing brightly-colored flowers and high flower count.

Cycnoches warszewiczii plants do not form large clumps like their *Catasetum* cousins. Plants with 3–4 mature growths are unusual, and one or two mature pseudobulbs are a more common condition. Quite often, the oldest pseudobulb shrivels when the new growth starts. This can be quite alarming to a grower but is the nature of these plants. They survive the loss and continue to grow as if nothing happened. This phenomenon may be some sort of environmental adaption; plants in their natural habitat also have been seen to do this. One of the criteria in our breeding program is selectively using plants that hold the older pseudobulbs longer. The newest crosses produced at Sunset Valley Orchids tend to grow more vigorously and hold older pseudobulbs longer than their predecessors. It is truly amazing what selective breeding can accomplish.

Cycnoches warszewiczii has produced



[1] *Cycnoches warszewiczii* 'Never Shown' flowered in 2018. Although never shown, this cultivar exemplifies the round flowers with broad petals and wide sepals expected in quality flowers of modern line bred *Cycnoches warszewiczii*. 'Sunset Valley Orchids' AM/AOS [8] received 86 points in 2003!

[2–7] What a difference 15 years and three generations of breeding can make. Over the years the form and size of the flower segments have improved as a result of line breeding *Cycnoches warszewiczii*; [2] 2003, [3] 2006, [4] 2010, [5] 2013, [6] 2016, and [7] 2018.

[8] Considered exceptional at the time, *Cycnoches warszewiczii* 'Sunset Valley Orchids' AM/AOS received 86 points in 2003!

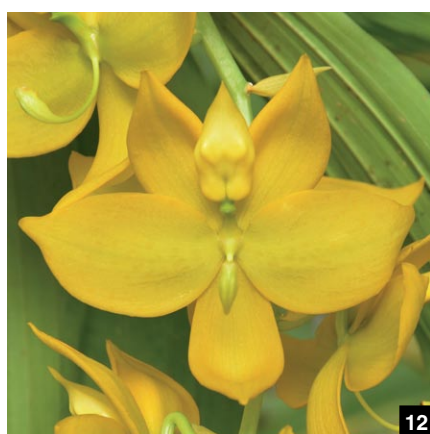
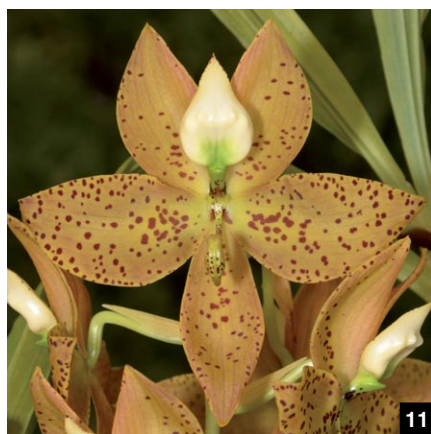
many exceptional hybrids, although it has taken careful planning and sometimes many years of patient waiting before these sexually dimorphic plants produce the male *and* female flowers necessary to make the desired cross. Our line breeding program has produced cultivars that grow into large plants with a tendency to produce female flowers. Consequently, *Cyc. warszewiczii* often has been used as a capsule parent.

In recent years, some outstanding *Cyc. warszewiczii* hybrids have been developed. Successful primary hybrids (crosses between two species) include *Cycnoches* Jumbo Cooper (*warszewiczii* × *cooperi*) and *Cycnoches* Kevin Clarke (*warszewiczii* × *herrenhusanum*). The former produces green flowers with excellent shape imparted from *warszewiczii* and high flower count from *cooperi* and the latter grex has produced some exceptional progeny. And one has received a First Class Certificate. The well-formed flowers are a bright yellow with some having attractive gold spots.

Cycnoches Maren Gleason (*warszewiczii* × Martha Clarke) produced vigorous plants that all flowered in 3-inch (7.5-cm) pots two years after being deflasked. Although not a primary hybrid, this grex only includes three species (*Cycnoches* Martha Clarke is *herrenhusanum* × *barthiorum*).

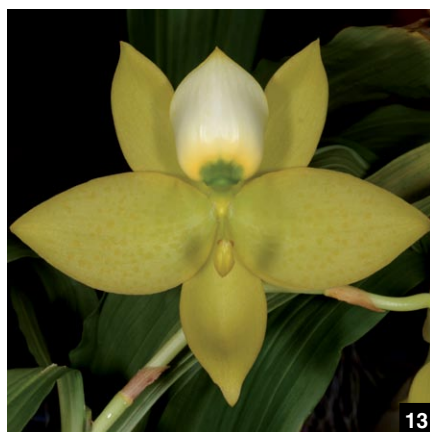
The more complex hybrids also have been establishing a new standard in flower quality. Crosses such as *Cycnoches* Pineapple Popcorn (Kevin Clarke × *warszewiczii*) bloom with nearly perfectly flat flowers and exceptionally wide segments in green with gold spotting offset by a white lip. The most significant complex cross has to be *Cycnoches* Richard Brandon (*warszewiczii* × Jean E. Monnier). Its flower color, shape and high flower count make it exceptional. It is also proving to be an outstanding parent. Noteworthy offspring include *Cycnoches* Cryminy (× Kevin Clarke), which has amazing flower colors in burnt orange with coalesced burgundy spots and a white lip — just awesome; *Cycnoches* Providence (× Martha Clarke) producing many golden yellow flowers, nicely spotted in burgundy; and *Cycnoches* Dark Swan (× Chloronge) that produces blooms with the best-formed, darkest-colored *Cycnoches* flowers ever seen!

Orchid breeders are always looking to identify good parents for making hybrids. The hybrid genus *Cycnodes* (*Cycnoches* × *Mormodes*) represents a nearly perfect combination. *Cycnoches* is dominant for



shape and size, but recessive for color. *Mormodes* is dominant for color and flower count, but recessive for shape. In *Cycnodes*, these characteristics mesh perfectly, because offspring combine the best traits from both parents (good shape and large size from *Cycnoches*, vivid color and high flower count from *Mormodes*) without displaying the worst traits (plain color from *Cycnoches*, poor shape from *Mormodes*). Unlike the sexually dimorphic flowers in *Cycnoches*, *Mormodes* produce perfect flowers with both male and female reproductive structures in each flower. Interestingly, *Cycnodes* produce perfect flowers; the sexually dimorphic *Cycnoches* trait is recessive.

The value of this breeding combination was first seen with an early hybrid, *Cycnodes* Wine Delight (*Cycnoches lehmannii* × *Mormodes sinuata*), registered in 1980. One particular cultivar, 'J.E.M.' FCC/AOS, was cloned and widely distributed, and it is still popular nearly 40 years after the grex was registered. This kind of breeding is made possible by understanding how traits are inherited when these two genera are combined. By knowing the dominant characteristics of the *Cycnoches* parent, you can predict with considerable certainty the flower shape of the offspring. With *Mormodes*





ARTHUR PINKERS

15



16



17



19



20



ARNOLD GUM

18



22



23



RICHARD CLARK

21

- [9] *Cynoches* Jumbo Cooper 'Sunset Valley Orchids' AM/AOS (*warszewiczii* × *cooperi*)
 [10] *Cynoches* Jumbo Cooper (*warszewiczii* × *cooperi*)
 [11] *Cynoches* Maren Gleason (*warszewiczii* × Martha Clarke)
 [12] *Cynoches* Kevin Clarke 'Gold Spots' (*warszewiczii* × *herrenhusanum*)
 [13] *Cynoches* Pineapple Popcorn (Kevin Clarke × *warszewiczii*)
 [14] *Cynoches* Opalina (*Cyc. warszewiczii* × *Morm. horichii*)
 [15] *Cynodes* Emerald Swans 'Sunset Valley Orchids' AM/AOS (*Cyc. warszewiczii* × *Morm. tezontle* [alba])
 [16] *Cynodes* John Naugle 'SVO II' AM/AOS (*Cyc. warszewiczii* × *Morm. andicola*)
 [17] *Cynoches* Dark Swan 'Black Swan' (Richard Brandon × Chloronge)
 [18] *Cynodes* Spotted Hornet 'SVO II' AM/AOS (*Cyc. warszewiczii* × *Morm. Exotic Treat*)
 [19] *Cynodes* John Naugle (*Morm. andicola* × *Cyc. warszewiczii*)
 [20] *Cynodes* Chiriqui 'Sunset Valley Orchids' FCC/AOS (*Cyc. warszewiczii* × *Morm. hookeri*)
 [21] *Cynodes* Midnight Magic 'Stripes' HCC/AOS (*Cyc. warszewiczii* × *Morm. Midnight*)
 [22] *Cynoches* Cryminy (Kevin Clarke × Richard Brandon)
 [23] *Cynodes* Troublemaker 'Best' (*Cynoches warszewiczii* × Spotted Hornet)

you can almost pick the color of the offspring as well, if you can breed with appropriately colored species. These combinations are clearly evident in recent *Cycnodes* hybrids, which are certainly some of the most spectacular hybrids in the *Catasetinae* today.

The future of breeding with *Cycnoches* and *Mormodes* is only limited by one's imagination. What lies on the horizon? I dream about solid dark-colored swan-shaped *Cycnoches* and *Cycnodes* flowers with bright orange and burgundy spots. Expect new and spectacular developments in the years to come. If you already grow these wonderful plants, then you understand. And if you are an orchid aficionado and have not yet tried one of these beautiful gems, what are you waiting for?

Acknowledgement

I am greatly honored and indebted to have Ron Kaufmann and Sue Bottom as my editors, their combined insights and wisdom are truly beneficial.



ARTHUR PINKERS

— Fred Clarke owns and operates *Sunset Valley Orchids*, located near San Diego, California. His interest in *Catasetinae* spans over 30 years, and he is recognized as the foremost breeder of plants in this group. His hybridization efforts and commitment to the world-wide education of hobbyists in the culture of *Catasetinae* has created renewed interest in this amazing group and helped to establish *Catasetinae* as ideal plants for growers of all types (website: www.sunsetvalleyorchids.com, email: fred.clarke@att.net).



- [24] *Cycnoches* Richard Brandon 'Very Select' (*warszewiczii* × Jean E. Monnier)
- [25] *Cycnoches* Richard Brandon 'Extra Wide Petals'
- [26] *Cycnoches* Richard Brandon 'Sunset Valley Orchids II' AM/AOS
- [27] *Cycnoches* Providence 'SVO' (Richard Brandon × Martha Clarke)
- [28] *Cycnodes* JEM's Pastel Rose (*Cyc. warszewiczii* × *Morm. andreettae*)

Orchids in Gilded Age New York

By Erica Hannickel

WHEN I BEGAN a search for evidence of the first large, public orchid show in America, I thought I would find the usual suspects of the 19th century plant world — which is to say grizzled, one-armed Amazonian explorers and overextended, anxiety-ridden plant sellers. I crossed my fingers for a few inventive floral designers, and I knew I would encounter some inquiring, bug-eyed scientists. I had high hopes for haughty high-class ladies to emerge from the archives; those overdressed Victorian floraphiles with money to burn. And I did find all these personalities and more. What surprised me instead was *where* the first orchid show took place: not a botanical garden, not a civic center, not a college campus, not a seller's greenhouse. It turns out that the first orchid show was staged in one of the most notorious neighborhoods in all of Gilded Age America — New York City's rough-and-ready Tenderloin District. Today the spot straddles Chelsea and the Flatiron District. The original site to host the United States' largest orchid show was the Eden Musée, a lofty name for a sketchy dime museum, a magpie's nest of frightening oddities.

Dime museums have a storied history in America. None other than master showman extraordinaire P.T. Barnum established the first, which he called the American Museum, in New York City in the 1840s. It, and hundreds to follow, housed menageries, panoramas, melodramas, freak shows, sideshows and convincing fakes and oddities. Most were permanent small-scale circus-carnivals with rotating attractions all housed under one roof, central to foot traffic in downtown areas. Breaking the mold of upper-class museums that dominated public culture in previous decades, dime museums promised to bring education and moral entertainment to the middle and lower classes and, for the first time, consciously catered to women and children. We stagger at the thought of gawking at human abnormalities on stage today, but dime museums of all stripes soon became a staple of large cities. For better and worse, they promoted particular ideas about race, class, national identity



and America's global reach. For diverse audiences, mass culture first took shape within America's dime museums.

The Eden Musée (pronounced "Moosey" or "Musey," because the hard-knock locals did not put on airs) opened in 1884, three years before it hosted its first orchid show. It originally showcased a live orchestra and promised historical education through its exhibits. But its location within the nation's largest city betrayed its real attraction. New York City's 1880s Tenderloin district was a straying husband's dream, appealing to slumming businessmen and doughboys through its array of brothels, dance halls and gambling joints. Owners of the Eden Musée promised that they were running a "strictly first-class resort, particularly for ladies and children" — and it was so by comparison to their neighbors and other dime museums at the time. Yet, in the same breath, promoters also detailed the contents of the Musée's "crypt" of waxworks, which held a "fascinating

[1] Robert L. Bracklow, photographer. Eden Musée circa 1890s. Courtesy New York Historical Society.

assortment of horrors." The irony at the heart of the facility did not stop there: one month after opening, the manager was arrested for opening on Sundays. And by the summer of 1886, the Eden Musée was again in court because the owners did not have a license for concerts and minstrelsy. For as much high culture as it promised, the Musée was run much in the spirit of establishments throughout the Tenderloin — crudely and willing to cut corners.

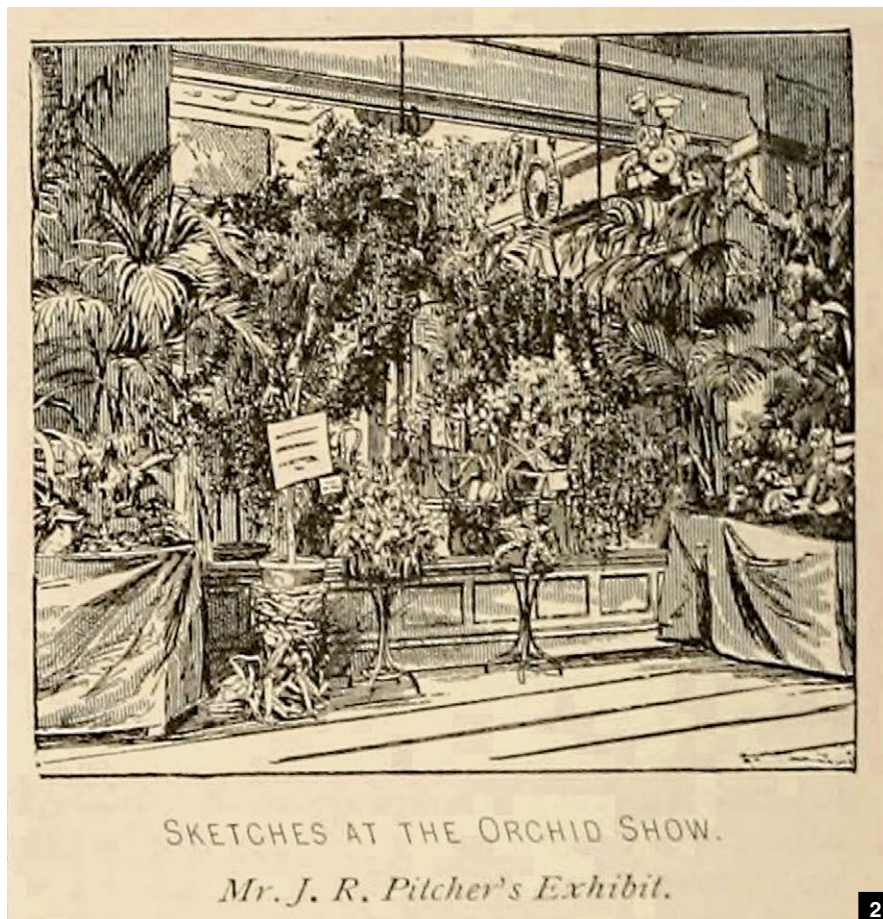
Located on West 23rd Street, the Eden Musée had as a neighbor an avenue of warehouses at 29th Street, high-end gambling halls at 28th and low-end gamblers closer still at 27th Street. Saloons raged through the night on every corner, and hot-sheet warehouses could be found on every block. By the 1890s, a

night court was established to deal with the Tenderloin's scores of sex trafficking cases. Luckily, and through the higher-end appeal of exotic orchids, the Eden Musée weathered the shifting winds of Tammany Hall's willingness to tolerate vice better than most.

Orchids might at first seem an odd choice for Eden Musée's promoters. Plant life was supposed to compete with its rotating waxworks, freak shows, serpentine dancers, fire-eaters, sword swallowers, exotic lady fencers, Japanese acrobats and tarot readings? But remember that orchids too were novelties for Americans at the time — and mesmerizing, delicate little monsters from far-away places they were! As patrons inspected the flowers, they described seeing solemn owls and gaudy insects peering back at them. They also thrilled at orchids that looked like "gaudy butterflies that flaunt themselves to the air like overdressed babies." Still others were shocked to find "waxlike human faces, recalling the dreams of elfland" in the orchids' floral segments. Perhaps it was not such a far jump from waxworks of one kind to another. Regardless, the Musée's first week-long orchid show — mounted in March of 1887 — was a colossal success.

Whatever the state of orchid interest in America before this first public show, *The New York Times* wrote that visitors left "confirmed monomaniacs on orchids in general." And why not? The Musée had turned its music hall into a space of "floral enchantment." The New York horticultural firm Siebrecht & Wadley were more than happy to organize the exhibition for the Musée and brought with them several other professional plantsmen toting their own florific spectacles. The show offered banks of slipper orchids that "gleamed like green polished moccasins," as well as "velvet cups of fluted cattleyas." Over the years, orchids were exhibited in various states: as cut stems in vases, mounted on trees and wooden plaques, in pots and in slotted wood baskets.

Late winter visitors stepped off downtown's grimy sidewalks and into the luxuriance of the tropics through a specially designed orchid cave. A 25-cent ticket to the orchid exhibition transported patrons from where they were — a section of the city unlovingly deemed "Satan's Circus" — and into an emerald universe of cultivated delights. In part as a reaction to the new city leadership's crackdown on vice and in part to draw a wider crowd, the Eden Musée hosted the orchid show annually for five years —



2

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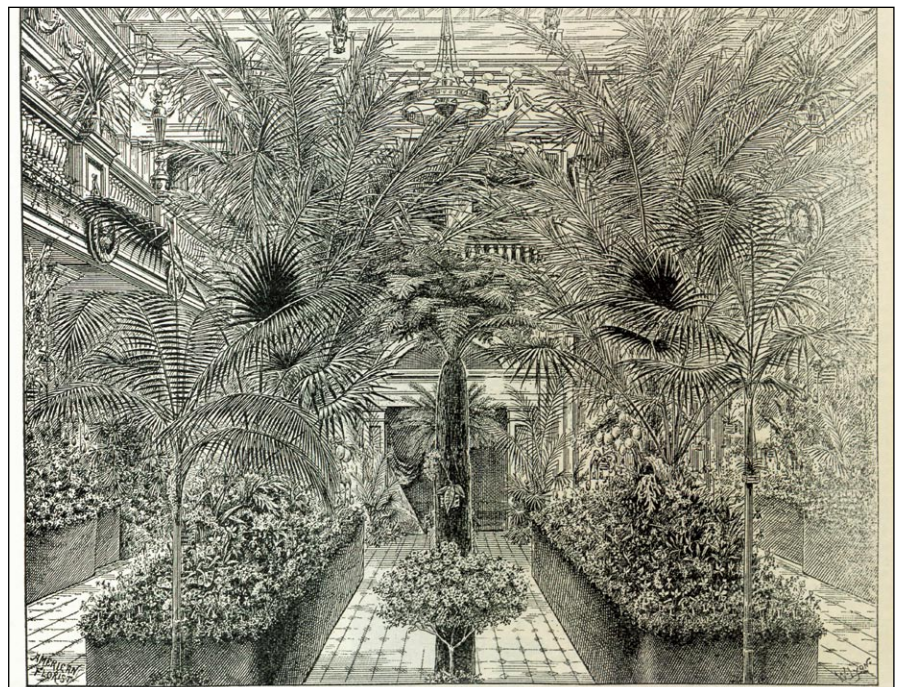
3

from 1887 to 1890 and again in 1892. The number of orchids displayed eventually grew to six times their original count, from 800 orchids to more than 5,000. The Musée enjoyed splashy media coverage for the annual event, and the nurserymen profited by displaying exotic plants their nurseries were keen to sell.

The orchid craze came to midtown Manhattan wrapped in all manner of exotic extras. Vines and coconut palms offered a tropical backdrop to the shows, and around them were staged all manner of “saucy-looking lavender-eyed blossoms.” The second orchid show boasted Japanese jugglers at the entrance and one floral designer’s pet monkey. The Musée showcased operatic “big red and bright colored orchids, appearing like Wagner’s dragons” — and visitors reported that they were afraid the little mythical creatures “would bellow forth ugly sounds” at any moment. In other corners, light and airy blossoms waved in the air creating a “bright and natural” scene.

The Musée also played up its international and mystical pretenses. When needing a break, men relaxed in the Turkish smoking room. The newly-christened Winter Garden (the museum’s concert hall) boasted skylights and French mirrors; extending a full city block, it held 1,000 people comfortably — when not packed with orchids. At the far end of the Winter Garden, the museum’s famed house band, its Hungarian Orchestra, played continuously — their “Orchid Show March” was arranged especially for the occasion. In the gallery above, dozens of stereopticons presented individual scenes of exotic places and recreations of famous artwork. All around them, visitors spied white moth orchids (*Phalaenopsis amabilis*) native to the East Indies, the pink Christmas orchid (*Cattleya trianae*) native to Columbia and were delighted by chocolate spots on the bearded *Laelia bella* (now *Laelia albida*) from Mexico. Green paphiopedilums from Sumatra sat with all manner of dendrobiums from larger Indonesia, and Central American odontoglossums and ocidiums were arrayed in viridescent banks of club moss. Lost in a sea of tropical green and listening to the “weird music” of the band, a visitor could “almost believe himself in fairyland.”

The museum made an effort to court high society as it displayed rarified orchids. Organizers devoted the first day of each show to exclusive tours for its wealthiest patrons. Regular visitors



THE ORCHID SHOW AT NEW YORK

4



AN ARRANGEMENT BY SIEBRECHT & WADLEY AT THEIR RECENT ORCHID SHOW

5

[2] *The American Florist* (April 1, 1887). Courtesy University of Wisconsin, Madison.

[3] *The American Florist* (March 15, 1887). Courtesy University of Wisconsin, Madison.

[4] *The American Florist* (March 1, 1888). Courtesy University of Minnesota, Twin Cities.

[5] *The American Florist* (March 15, 1888). Courtesy University of Minnesota, Twin Cities.

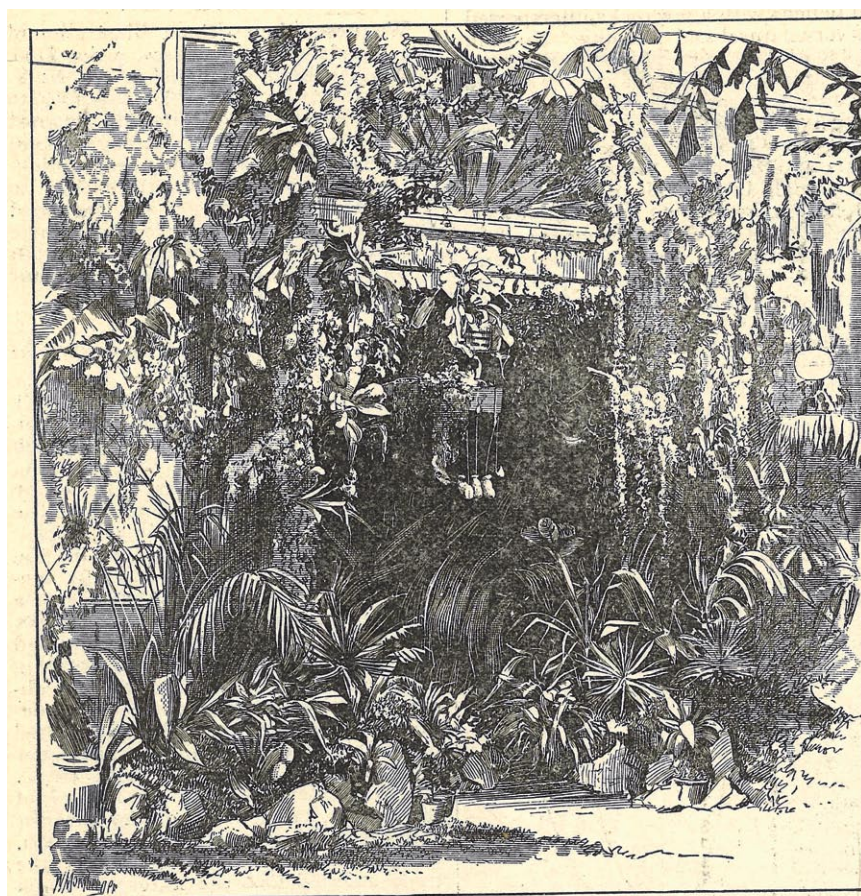
might also hope to later encounter “the most ardent admirers of this paragon of flowers,” the fabulously wealthy benefactors of several orchid shows at the Musée, none other than Harriet Tiffany

(wife of C.L. Tiffany, jeweler and founder of Tiffany & Company), Ava Astor (wife of John Jacob Astor IV, author and real estate mogul), Alice Vanderbilt (wife of Cornelius Vanderbilt II, railroad magnate),

Maria Jesup (wife of Morris Jesup, banker and philanthropist), Adeline Townsend (wife of R.H.L. Townsend, silk merchant and real estate mogul) and several wives of the extended Van Rensselaer family (historic traders, land owners, politicians and military men). Many of these men's likenesses were added to the Musée's waxworks in later years as a testament to their national importance (and perhaps no less in thanks for their wives' sponsorship of the Musée in its early years).

As the carriages rolled up and society ladies stepped out, the media took notice. Regular visits by American aristocracy soon drew a much wider fashionable crowd to the Eden Musée, as well as anyone who could muster up the price of admission (25 cents would be about \$7 today). Much like the diamond trade of some of the most famous patrons of the Musée, all guests were urged to appreciate orchids' intricately jeweled beauty while also receiving a lesson in Gilded Age socioeconomics. Museum customers were assured by *The New York Times* that "orchids are like diamonds, in that they have a cash-convertible value at all times, always equal at least to the first cost. The difference between orchids and diamonds, however, is important. People will part with their diamonds, but with their orchids, never." (And assumedly, if one could not afford to own such opulence, they could experience it each winter at the Musée.) *The American Florist* went so far as to make a joke of the inherent class differences on display. After the first show, they ran a column titled "Orchids of the Future," which included line drawings of made-up orchids "*Odontotouch-em pulcherrimum* (Expensive)" and "*Dudoglossom ignobilis* (True Parasite)."

The Eden Musée's later shows presented orchids laid out in classified beds, so that visitors would have a sense of genera within the orchid family and the largely colonized global regions each hailed from. In addition to the lesson in political geography, the dime museum's guests — ultimately cutting a wide swath across social class — also received scientific and artistic education at the Musée. Many visitors noticed that other displays were designed to pull visitors into a magical world, offering orchid instruction at the same time as impressive floral statements and cozy green enclosures. Visitors were taught to inspect *Cypripedium insigne* (now *Paphiopedilum insigne*, from Assam and China), "with its quaint little sac and curious mouth," as well as *Odontoglossum*



SKETCHES AT THE ORCHID SHOW.—THE CAVE.

6



CENTRAL ARRANGEMENT AT THE RECENT ORCHID SHOW AT NEW YORK.

7

[6] *The American Florist* (April 1, 1887). Courtesy University of Wisconsin, Madison.

[7] *The American Florist* (April 1, 1889). Courtesy University of Minnesota, Twin Cities.

cirrhosum (now *Oncidium cirrhosum*, from Columbia and Ecuador) “with blossoms that resemble the starfish,” “the queerly shaped *Miltonia candida* that resembles the human larynx” (from Brazil) as well as “the delicate *Cattleya mossiae*” (from Venezuela), each in its own designed space.

The later shows grew in size and scope, filling the Musée’s Winter Garden, main theater and all galleries with blooms. Rooms upstairs were packed with additional “rare and curious tropical plants” such as nepenthes and cephalotus. Orchids present were *Calanthe turneri* (now *Calanthe vestita*, from Assam); the white star orchid (assumedly *Angraecum sesquipedale*; Darwin’s orchid from Madagascar); white cattleyas, *Cymbidium eburneum* (from India); *Epidendrum bicornutum* (now *Caularthron bicornutum*, from South America); *Coryanthes marrutha* (from Trinidad and tropical South America, now known as *Coryanthes macrantha*, and even then called the monkey throat orchid); *Odontoglossum crispum* (from Columbia, now called *Oncidium alexandrae*) and *Epidendrum stamfordianum* (from Mexico). Truly, the world was on display, and as one reporter attested, “monotony is an unknown quantity in an orchid show.”

Of course, the Eden Musée was quick to assure audiences that orchids were not only for the rich. Promoters made efforts to detail the joys of collecting and displaying orchids, emphasizing their beauty in a Victorian home as table decorations, and explaining that true and sentimental orchid enthusiasts nurtured their orchids “with as much care as a sick pet, and its day of re-blossoming is watched for with anxiety.” Year after year, the Musée’s halls were crowded with floraphiles — a love of orchids had easily transcended class and gender barriers.

The Eden Musée hosted its last orchid show in 1892. Adding to the establishment’s rap sheet, just three months prior to the show, the manager (not the same arrested for opening on Sundays) embezzled as much as \$15,000 (close to \$500,000 today) from the Musée and was found on the lam in Europe. For the next five years, the dime museum shifted its programming into moving pictures, eventually remaking itself as a full-time movie house. It closed in 1915, unable to compete with middle-class entertainments and department stores that had moved uptown. With that, orchids rubbing elbows with ruffians and the super-rich in the most notorious



district in Gilded Age New York came to a close. The blooms did not go far — Madison Square Garden, the next stop for the largest public orchid show in the United States — was only 10 blocks north. But for several years, orchid shows at the Eden Musée ignited the American orchid craze in a nest of exotic dancers, horrifying waxworks and notorious rowdies. (My orchids grow in similar conditions today — do yours?)

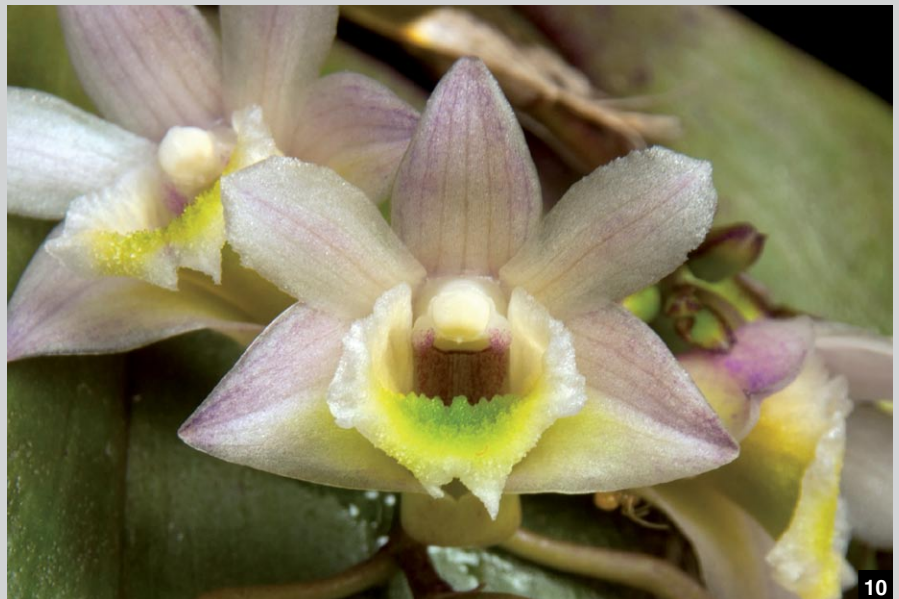
Further Reading

- The American Florist*. 2(39) March 15, 1887.
- The American Florist*. 2(40) April 1, 1887.
- The American Florist*. 2(41) April 15, 1887.
- The American Florist*. 3(62) March 1, 1888.
- The American Florist* 3(63) March 15, 1888.
- “Wonders of the Orchids.” *The New York Times*. March 2, 1887.
- “Orchids in Full Bloom.” *The New York Times*. February 17, 1888.
- “Beauty in Flowers.” *The New York Times*. February 28, 1889.
- “Among Rare Orchids.” *The New York Times*. February 20, 1890.
- “The Fifth Orchid Show.” *The New York Times*. February 21, 1891.
- “The Orchid Show.” *The New York Times*. March 3, 1892.
- Dennett, A.S. 1997. *Weird & Wonderful: The Dime Museum in America*. NYU Press, New York.
- Sante, L. 1991. *Low Life: Lures and Snares of Old New York*. Farrar, Straus, and Giroux, New York.

— *Erica Hannickel, PhD, is an associate professor of environmental history at Northland College in Ashland, Wisconsin. Author of Empire of Vines: Wine Culture in America (University of Pennsylvania Press, 2013), her next book is about — you guessed it — orchids! She last wrote for Orchids in the May 2018 issue. Find her at www.orchidmuse.com, Facebook and Instagram @orchidmuse1, or email ehannickel@northland.edu.*



- [8] “Odontotoouch-em pulcherrimum” drawing from *The American Florist* (April 15, 1887). Courtesy University of Wisconsin, Madison.
- [9] “Dudoglossum ignobilis” drawing from *The American Florist* (April 15, 1887). Courtesy University of Wisconsin, Madison.
- [10] Siebrecht & Wadley catalog advertisement in *The American Florist* (April 1, 1890). Courtesy University of Wisconsin, Madison.





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- [1] *Cyrtocidium* Conni Ferrusi 'Carrot Top' HCC/AOS (Garnet Star x *Oncidium noezianum*) 78 pts. Exhibitor: John Dunkelberger; photographer: Bryan Ramsay. National Capital Judging Center
- [2] *Habenaria rhodocheila* subsp. *rhodocheila* 'Memoria Theresa Wik' AM/AOS 81 pts. Exhibitor: James Heilig; photographer: Ken Jacobsen. Pacific Central Judging Center
- [3] *Phalaenopsis* Yaphon Red Pearl 'Arnie' AM/AOS (Samera x Shingher Pure Love) 82 pts. Exhibitor: Arnold Gum; photographer: Arnold Gum. Pacific South Judging Center
- [4] *Phalaenopsis* Jennifer Palermo 'María Teresa' AM/AOS (*tetraspis* x *violacea*) 80 pts. Exhibitor: Carlos Fighetti; photographer: Irma Saldaña. Puerto Rico Judging Center
- [5] *Cycnoches* Jean E. Monnier 'Scorpio' AM/AOS (*barthiorum* x *cooperi*) 80 pts. Exhibitor: Sarah Hurdel; photographer: Bryan Ramsay. National Capital Judging Center
- [6] *Paphiopedilum* Frank Smith 'St. Leonard Creek' FCC/AOS (Norito Hasegawa x *rothschildianum*) 90 pts. Exhibitor: Nancy Mountford; photographer: Bryan Ramsay. National Capital Judging Center
- [7] *Paphiopedilum sugiyamanum* 'Penns Creek' CHM/AOS 81 pts. Exhibitor: Woodstream Orchids; photographer: Bryan Ramsay. National Capital Judging Center
- [8] *Bletia catenulata* 'Irene' CBR/AOS. Exhibitor: Al and Irene Messina; photographer: Maurice Garvey. Northeast Judging Center
- [9] *Rhynchostylis retusa* 'Charlie' AM/AOS 83 pts. Exhibitor: Alan Del Castillo; photographer: Arnold Gum. Pacific South Judging Center
- [10] *Dendrobium pseudolamellatum* 'Chasus' HCC/AOS 79 pts. Exhibitor: Charles and Susan Wilson; photographer: Ross Leach. Pacific Northwest Judging Center
- [11] *Catasetum* Lata Laxman 'Tyrone' AM/AOS (Frilly Doris x Jose Abalo) 84 pts. Exhibitor: Charles R. Fouquette; photographer: Arnold Gum. Pacific South Judging Center
- [12] *Paphiopedilum* Mojito Festival 'Bravo Orchids' FCC/AOS (Hilo Mojito x Hilo Key Lime) 90 pts. Exhibitor: William Tse; photographer: Arnold Gum. Pacific South Judging Center
- [13] *Paphiopedilum* Kolosand 'Bravo Orchids' AM/AOS (*kolopakingii* x *sanderianum*) 83 pts. Exhibitor: William Tse; photographer: Arnold Gum. Pacific South Judging Center
- [14] *Cattleya* Linda Curle 'Sunset Valley Orchids' HCC/AOS (Allen Condo x Issy) 75 pts. Exhibitor: Fred Clarke; photographer: Arthur Pinkers. Pacific South Judging Center
- [15] *Catasetum* Lata Laxman 'Sunset Valley Orchids' AM/AOS (Frilly Doris x Jose Abalo) 80 pts. Exhibitor: Fred Clarke; photographer: Arthur Pinkers. Pacific South Judging Center
- [16] *Catasetum* Hat Trick 'Top Hat' HCC/AOS (Jose Abalo x *fimbriatum*) 78 pts. Exhibitor: Fred Clarke; photographer: Arthur Pinkers. Pacific South Judging Center





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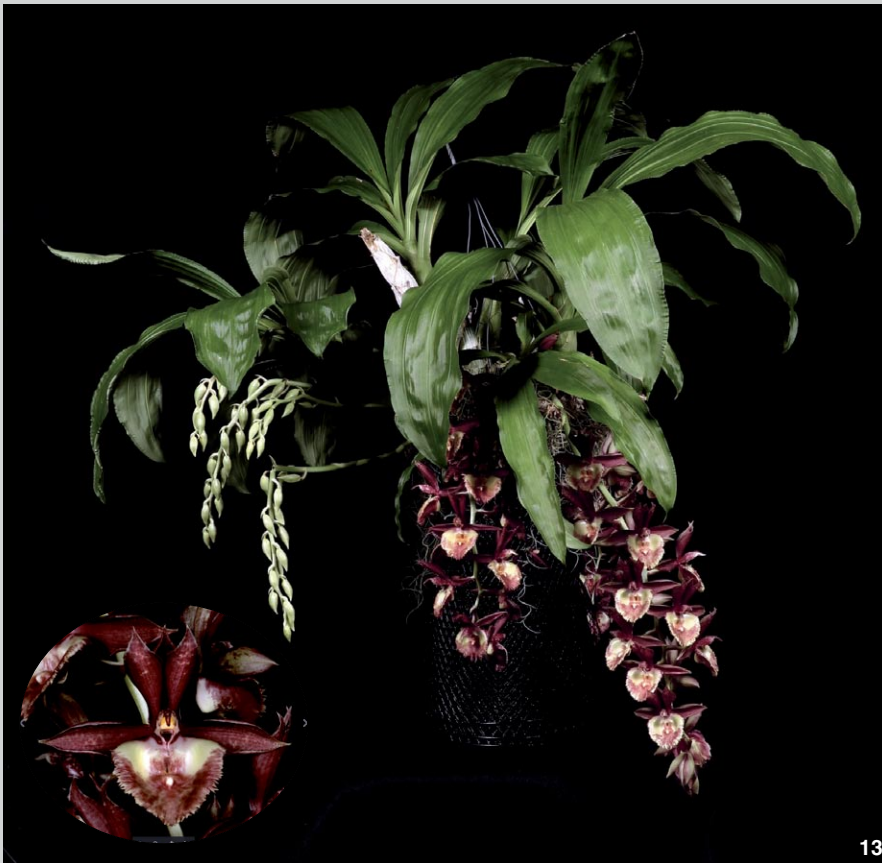
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- [1] *Vanda* Muang Thong 'Barbara' AM/AOS (Tubtim Velvet x Nakornsawan Belle) 81 pts. Exhibitor: Plantio la Orquidea; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [2] *Rhynchosopsis* Leong Pak-Lin 'Florida SunCoast' AM/AOS (*Phalaenopsis pulcherrima* x *Rhynchostylis retusa*) 81 pts. Exhibitor: Jim Roberts Florida SunCoast Orchids; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [3] *Brassocattleya* SunCoast Stargazer 'Verna Bethany' AM/AOS (*Cattleya* Corinne's Spotted SunCoast x *Brassavola subulifolia*) 82 pts. Exhibitor: Jim Roberts Florida SunCoast Orchids; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [4] *Aeridovanda* Christine Patton 'Crownfox' AM/AOS (*Aerides* Korat Koki x *Vanda* Meda Arnold) 84 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [5] *Papilionanda* Ben Fragrance 'Crownfox Gold' AM/AOS (*Vanda* Memoria Thianchai x Mimi Palmer) 82 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [6] *Vanda* Dariel Gonzalez 'Crownfox' AM/AOS (Judy Cook x *tessellata*) 82 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [7] *Vandachostylis* Melana's Halloween Party 'Lady Stella' HCC/AOS (*Vanda* Khun Nok x Pine Rivers) 77 pts. Exhibitor: Yife Tien; Photographer: Alberto Rodriguez. West Palm Beach Judging Center
- [8] *Brassocattleya* Marg Putman 'Doris' AM/AOS (*Cattleya intermedia* x Morning Glory) 81 pts. Exhibitor: Krull-Smith; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [9] *Phalaenopsis* Fuller's 3545 'King and Queen' AM/AOS (Fuller's Purple Queen x OX King) 85 pts. Exhibitor: Krull-Smith; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [10] *Cattlianthe* Varut Startrack 'C S' HCC/AOS (Netrasiri Doll x *Cattleya* Landate) 79 pts. Exhibitor: José R. López; photographer: Esteban Rodríguez. Puerto Rico Judging Center
- [11] *Pleurothallis* *diabolica* 'Red Goat Rodeo' CHM/AOS 84 pts. Exhibitor: David Janvrin; Photographer: Jason R. Mills. Atlanta Judging Center
- [12] *Rhyncholaeliocattleya* Jac Golden Peacock 'Julio David' AM/AOS (Chunyeah x Phu Luang) 80 pts. Exhibitor: Dr. Julio David Rios; photographer: Irma Saldaña. Puerto Rico Judging Center
- [13] *Paphiopedilum* *tonsum* f. *alboviride* 'CADmium Green' AM/AOS 81 pts. Exhibitor: David Bryan; photographer: Robin McLaughlin. Toronto Judging Center
- [14] *Chiloschista* *usneoides* 'TG's Hot One' CCM/AOS 84 pts. Exhibitor: Calvin Wong and Tropical Gardens Orchids; photographer: Judith Higham. Western Canada Judging Center
- [15] *Vanda* *falcata* (hort. var. *Ryunotsume*) 'Flora Peculia' JC/AOS 0 pts. Exhibitor: Taras Kowalczuk; photographer: Robin McLaughlin. Toronto Judging Center
- [16] *Aerides* *lawrenceae* 'Thor' CCM/AOS 84 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center





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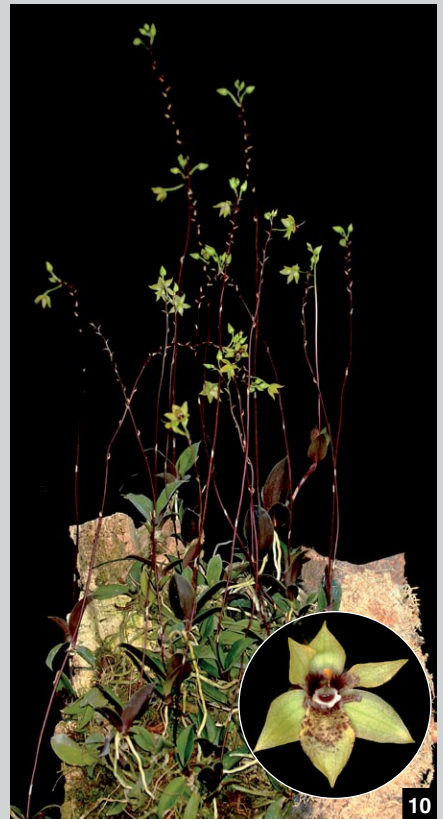
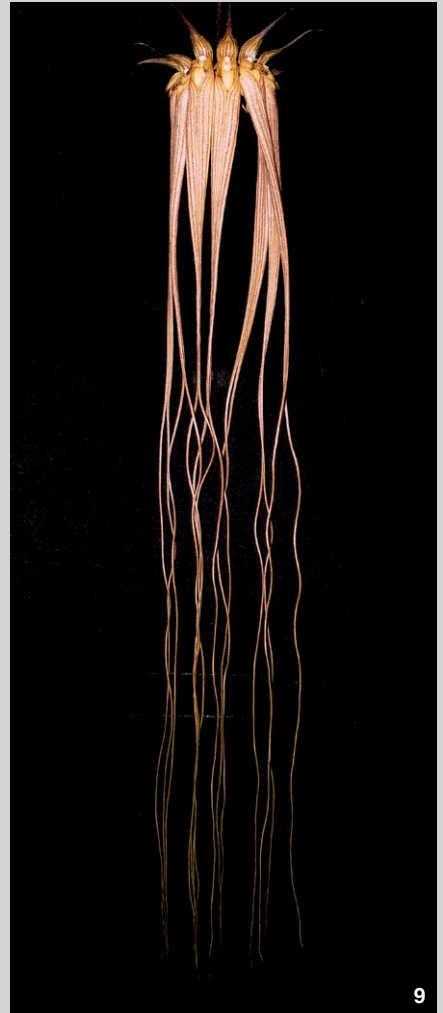
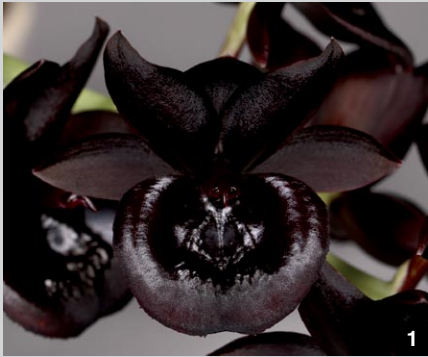


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- [1] *Phragmipedium pearcei* 'Jimbo' HCC/AOS 78 pts. Exhibitor: David Mellard; Photographer: Barney Garrison. Atlanta Judging Center
- [2] *Guaritionia* Why Not 'Crownfox Gold' HCC-JC/AOS (*Guaritionia aurantiaca* x *Broughtonia sanguinea*) 78 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [3] *Rhyncholaeliocattleya* Spanish Eyes 'Water' HCC/AOS (Apricot Flare x Memoria Wang Tzu-Chang) 79 pts. Exhibitor: Jim Roberts Florida SunCoast Orchids; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [4] *Vanda* Heidi Nute 'Crownfox' AM/AOS (Daryl Venables x Carol Holdren) 81 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [5] *Rhyncholaeliocattleya* Theresa Hill 'Crystelle' AM/AOS (Goldenzelle x Carolina Splendor) 81 pts. Exhibitor: Krull-Smith; Photographer: Tom Kuligowski. West Palm Beach Judging Center
- [6] *Phalaenopsis* Lamb's Passion 'Liz Hamilton' AM/AOS (Zheng Min Etching x Hannover Passion) 85 pts. Exhibitor: Bredren Orchids and Phillip Hamilton; Photographer: Tom Kuligowski. West Palm Beach Judging Center
- [7] *Vanda* Robert Sorenson 'Sunshine' AM/AOS (Fuchs Sunbeam x Fuchs Sunrise) 85 pts. Exhibitor: Judy Mezey; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [8] *Stanhopea jenischiana* 'Memoria AnnaLee Boyett' AM/AOS 81 pts. Exhibitor: David Mellard; photographer: Jason R. Mills. Atlanta Judging Center
- [9] *Aerides lawrenceae* 'Crownfox Magic' FCC/AOS 92 pts. Exhibitor: R. F. Orchids.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [10] *Perreiraara* LeBeau Blue 'Margaret Ann' AM/AOS (*Aerides lawrenceae* x *Vandachostylis Sasicha*) 80 pts. Exhibitor: Wayne Green; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [11] *Phalaenopsis tetraspis* (Alba) 'Caladrius' HCC/AOS 78 pts. Exhibitor: Ramon de los Santos; photographer: Ramon de los Santos. California Sierra Nevada Judging Center
- [12] *Aerides lawrenceae* ('Crownfox Delight' AM/AOS x 'Crownfox Fuchsia' AM/AOS) AQ/AOS. Exhibitor: R.F. Orchids.; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [13] *Catasetum* Sheriff Frank Drew 'Fred's Gift' CCM-AM/AOS (Susan Fuchs x Frilly Doris) 87-87 pts. Exhibitor: Judy Bailey; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [14] *Vandachostylis* Yen HKN Ng 'Mary Sue' AM/AOS (*Vanda lamellata* x Vinita) 82 pts. Exhibitor: Wayne Green; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [15] *Paphiopedilum* Petula's Sensation 'Laura' HCC/AOS (Macabre Contrasts x Petula's Flame) 78 pts. Exhibitor: Stones River Orchids; Photographer: Barney Garrison. Atlanta Judging Center
- [16] *Phalaenopsis* Norman's Jade 'CAD Orchids' HCC/AOS (Prospector's Dream x Norman's Mist) 79 pts. Exhibitor: David Bryan; photographer: Robin McLaughlin. Toronto Judging Center

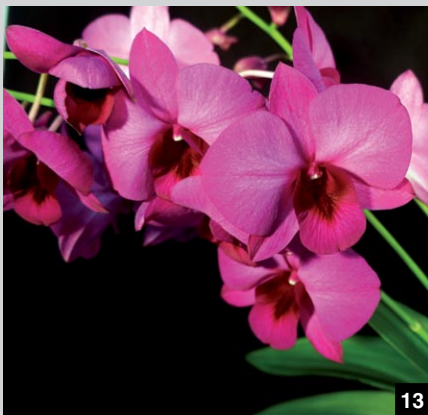




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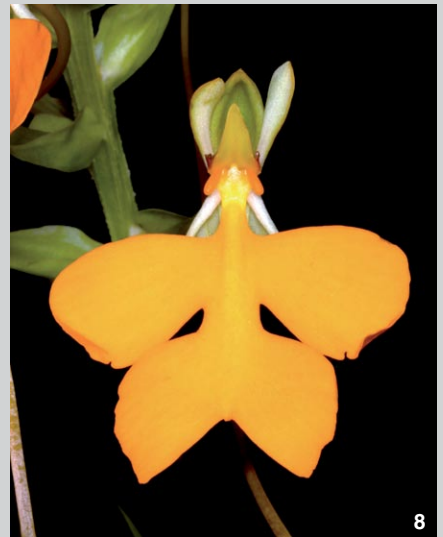


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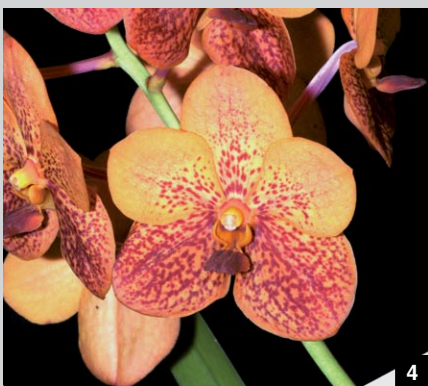
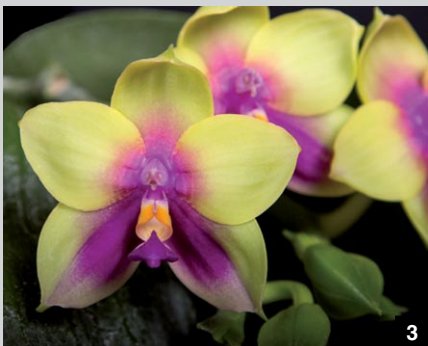
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- [1] *Catamodes* Dragons Glade 'Black Singularity' AM/AOS (Dragons Tail x *Catasetum* Orchidglade) 86 pts. Exhibitor: Luiz Hamilton Lima; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [2] *Lycaste macrobulbon* 'Becca' CCM/AOS 83 pts. Exhibitor: Barry Lubin; photographer: Nile Dusdieker. Chicago Judging Center
- [3] *Phalaenopsis cornu-cervi* f. *borneensis* 'Iowa' AM/AOS 87 pts. Exhibitor: Robert Bannister; photographer: Lois Cinert. Chicago Judging Center
- [4] *Phalaenopsis cornu-cervi* f. *borneensis* 'Bonheur' HCC/AOS 77 pts. Exhibitor: Lynne Murrell; photographer: Ramon de los Santos. California-Sierra Nevada Judging Center
- [5] *Brassocattleya* Green Bird 'Rho's Flight' AM/AOS (Binosa x *Brassavola* Little Stars) 81 pts. Exhibitor: Rho De Borja; photographer: Tom Kuligowski. West Palm Beach Judging Center
- [6] *Cymbidium kanran* 'Seneca Spirit' AM/AOS 82 pts. Exhibitor: David Mellard; photographer: Barney Garrison. Atlanta Judging Center
- [7] *Oncostelopsis* My Dog Spot 'Bonheur' HCC/AOS (*Miltoniopsis santanaei* x *Oncostele* Black Beauty) 79 pts. Exhibitor: Lynne Murrell; photographer: Ramon de los Santos. California-Sierra Nevada Judging Center
- [8] *Vanda* Fuchs Fortune 'Cheryl's Joy' HCC/AOS (Fuchs Delight x Gordon Dillon) 76 pts. Exhibitor: Cheryl Erins; photographer: Cheryl Erins. Chicago Judging Center
- [9] *Bulbophyllum longissimum* 'Ottawa Spirit' HCC/AOS 79 pts. Exhibitor: David Mellard; photographer: Jason R. Mills. Atlanta Judging Center
- [10] *Trichoceros antennifer* 'Zayah' CCE/AOS 90 pts. Exhibitor: University of MN College of Biological Sciences Conservatory; photographer: Katie Payeur. Chicago Judging Center
- [11] *Bulbophyllum* Lovely Elizabeth 'Marble Branch' CCM/AOS (Elizabeth Ann x *rothschildianum*) 85 pts. Exhibitor: Marc Burchette; photographer: James Harris. Carolinas Judging Center
- [12] *Phalaenopsis* Fuller's 3545 'Iowa FL 89195' AM/AOS (Fuller's Purple Queen x OX King) 83 pts. Exhibitor: Robert Bannister; photographer: Nile Dusdieker. Chicago Judging Center
- [13] *Dendrobium* Mount Kelly Beauty 'Adrian's Surprise' AM/AOS (Madame Udomsri x Thailand) 82 pts. Exhibitor: Dorothy Adrian; photographer: Cecil Bullard. California-Sierra Nevada Judging Center
- [14] *Liparis rhombea* 'Dusty's Cutie' CBR/AOS. Exhibitor: Nile S. Dusdieker; photographer: Katie Payeur. Chicago Judging Center
- [15] *Paphiopedilum* Fair Island 'Don's Surprise' HCC/AOS (Hsinying Web Eyes x *fairrieanum*) 76 pts. Exhibitor: Don and Phyllis White; photographer: Nile Dusdieker. Chicago Judging Center
- [16] *Psychopsis* Mendenhall 'Hildos' CCM/AOS (Butterfly x *papilio*) 84 pts. Exhibitor: Keith Nelson, Karen McKim; photographer: Nile Dusdieker, Chicago Judging Center





- [1] *Dendrobium taylorii* 'Lindinha's Paw' CCM/AOS 85 pts. Exhibitor: Patricia Kono Steve Gonzalez; photographer: Lois Cinert. Chicago Judging Center
- [2] *Vanda Xena* 'Lady Stella' HCC/AOS (Memoria Thianchai x *tessellata*) 77 pts. Exhibitor: Yife Tien; photographer: Brian Monk. Florida-Caribbean Judging Center
- [3] *Cycnoches* Brown's Choice 'Cheryl's Joy' HCC/AOS (Swan Cascade x Richard Brandon) 78 pts. Exhibitor: Cheryl Erins; photographer: Nile Dusdieker. Chicago Judging Center
- [4] *Rhyncatlaelia* Memoria Ed Foss 'Mary Anne Foss' AM/AOS (*Laeliocattleya* Ann Akagi x *Rhyncholaeliocattleya* Mystere) 81 pts. Exhibitor: Stephen Helbling; photographer: Richard Noel. Cincinnati Judging Center
- [5] *Vanda* Memoria Betty Richey 'Leesburg, FL' AM/AOS (Taveesuksa x Tubtim Velvet) 80 pts. Exhibitor: John and Cheryl Jaworski; photographer: Ann DePrez. Cincinnati Judging Center
- [6] *Cattleya* Peckhaviensis 'Joan's Surprise' AM/AOS (*aclandiae* x *schilleriana*) 81 pts. Exhibitor: Joan Goodman; photographer: Nile Dusdieker. Chicago Judging Center
- [7] *Dendrobium* Green Mist 'Josephine' CCM-AM/AOS (*convolutum* x *johnsoniae*) 82-82 pts. Exhibitor: Nancy Thomas; photographer: Nile Dusdieker. Chicago Judging Center
- [8] *Habenaria rhodocheila* 'Shilo' AM/AOS 83 pts. Exhibitor: Joel Edwards; photographer: Katie Payeur. Chicago Judging Center
- [9] *Cattleya* A Miracle Everyday 'Pink Lemonade' HCC/AOS (*briegeri* x Circle of Life) 76 pts. Exhibitor: Chris Miller; photographer: Katie Payeur. Chicago Judging Center
- [10] *Dendrobium* Hibiki 'Heavenstone' CCM I AOS (*bracteosum* x *laevifolium*) 85 pts. Exhibitor: Katrina Heap; photographer: Ann DePrez. Cincinnati Judging Center
- [11] *Cycnoches* Brown's Choice 'Alexa' HCC/AOS (Swan Cascade x Richard Brandon) 78 pts. Exhibitor: Alexa and Rick Noel; photographer: Richard Noel. Cincinnati Judging Center
- [12] *Habenaria medusa* 'Thanks Nora' HCC/AOS 76 pts. Exhibitor: Barry Jones; photographer: Ann DePrez. Cincinnati Judging Center
- [13] *Pecteilis susannae* 'Malcolm' AM/AOS 82 pts. Exhibitor: Jordan Hawley; photographer: Ann DePrez. Cincinnati Judging Center
- [14] *Dendrobium rantii* 'Silas' CCM-CBR/AOS 81 pts. Exhibitor: Walter Crawford; photographer: Katie Payeur. Chicago Judging Center
- [15] *Masdevallia* Angel Glow 'Heavenly' CCM/AOS (Angel Frost x Marguerite) 80 pts. Exhibitor: Barry Lubin; photographer: Nile Dusdieker. Chicago Judging Center





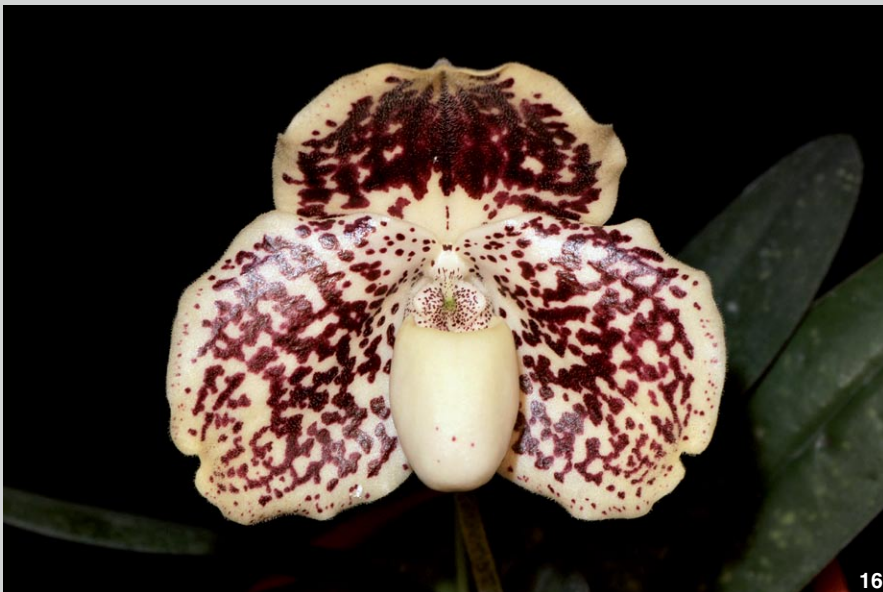
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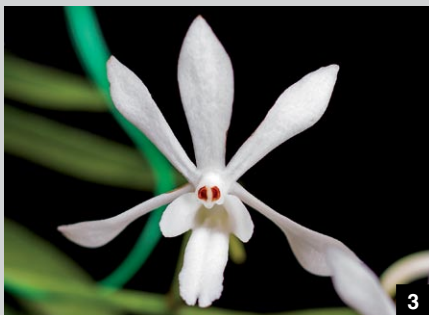


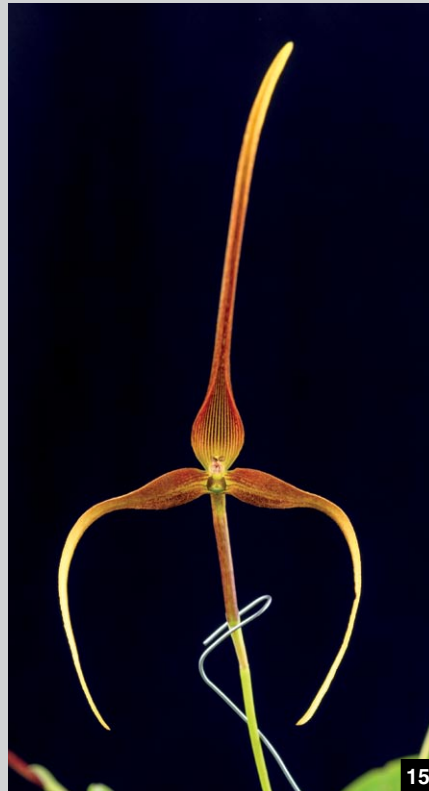
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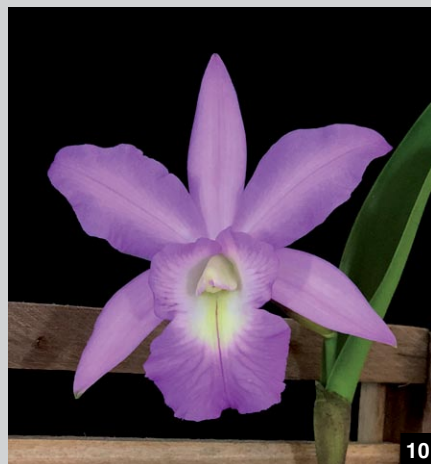
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- [1] *Vandaenopsis* Pilialoa 'Dave McDaniels' AM/AOS (*Phalaenopsis pulcherrima* x *Vanda falcata*) 80 pts. Exhibitor: Motes Orchids, Inc.; photographer: Brian Monk. Florida-Caribbean Judging Center
- [2] *Vanda tessellata* 'Esther Motes' AM/AOS 85 pts. Exhibitor: Motes Orchids, Inc.; photographer: Brian Monk. Florida-Caribbean Judging Center
- [3] *Phalaenopsis* LD's Bear Queen 'Cheng's Yellow Round' HCC/AOS (*bellina* x *Dragon Tree Eagle*) 77 pts. Exhibitor: Steve Mattana; photographer: Kay Clark. Florida North-Central Judging Center
- [4] *Vanda* Miami Mandarin 'Garrett's Tangerine' HCC/AOS (Motes Mandarin x Motes Goldpiece) 78 pts. Exhibitor: Sharon Garrett; photographer: Beth Lamb. Florida North-Central Judging Center
- [5] *Catasetum* Consuelo 'Gracias Alexis' HCC/AOS (*sanguineum* x *maculatum*) 77 pts. Exhibitor: Armando Betancourt; photographer: Brian Monk. Florida-Caribbean Judging Center
- [6] *Brassocattleya* Theresa Ricci 'Bielecki's Green Leopard' AM/AOS (*Hippodamia* x *Cattleya aelandiae*) 84 pts. Exhibitor: Thad Bielecki; photographer: Brian Monk. Florida-Caribbean Judging Center
- [7] *Paphiopedilum* Oriental Aura 'Winter Haven's Social Butterfly' AM/AOS (*Oriental Jewel* x *Fred's Aura*) 86 pts. Exhibitor: Keith and Dina Emig - Winter Haven Orchid Nursery; photographer: Beth Lamb. Florida North-Central Judging Center
- [8] *Catasetum* Judy Wagner 'Nicolas Boukhers Bisous Bisous' HCC/AOS (*Orchidglade* x *Fuchs Delight*) 78 pts. Exhibitor: Jamie and Jackie Lawson; photographer: Kay Clark. Florida North-Central Judging Center
- [9] *Clowesetum* Doctor Lynn Damitz 'Ava Margerri Goldberg' HCC/AOS (*Black Jade* x *Catasetum Frilly Doris*) 78 pts. Exhibitor: Mark Margolis; photographer: Brian Monk. Florida-Caribbean Judging Center
- [10] *Rhyncholaeliocattleya* Something Special 'Kayla Gross' AM/AOS (*Cattleya loddigesii* x *Rolling Thunder*) 86 pts. Exhibitor: Glenn Gross; photographer: Beth Lamb. Florida North-Central Judging Center
- [11] *Phalaenopsis* Samera 'WingDreams' AM/AOS (*bellina* x *violacea*) 80 pts. Exhibitor: Julio and Eileen Hector; photographer: Beth Lamb. Florida North-Central Judging Center
- [12] *Vanda* Arthorn 'Phelps Farm' AM/AOS (*Yip Sum Wah* x *miniata*) 81 pts. Exhibitor: Phelps Farm Orchids, Inc.; photographer: Wes Newton. Florida North-Central Judging Center
- [13] *Cattleya labiata* 'BarDavo' AM/AOS 80 pts. Exhibitor: Barbara & David Sumner; photographer: Beth Lamb. Florida North-Central Judging Center
- [14] *Phalaenopsis* Germaine Vincent 'Lady Stella' CCM-AM/AOS (*violacea* x *tetraspis f. speciosa*) 86-83 pts. Exhibitor: Yife Tien; Photographer: Brian Monk. Florida-Caribbean Judging Center
- [15] *Phalaenopsis* Pylo's Eagle 'Lady Stella' HCC/AOS (*Dragon Tree Eagle* x *Chienlung Red Eagle*) 77 pts. Exhibitor: Yife Tien; Photographer: Brian Monk. Florida-Caribbean Judging Center
- [16] *Paphiopedilum leucochilum* 'Fajen's Orchids Too' AM/AOS 80 pts. Exhibitor: Fajen's Orchids; photographer: Beth Lamb. Florida North-Central Judging Center





- [1] *Brassocattleya* Flyboy Jimmy Lawson 'Evelyne Boukhers Bisous Bisous' HCC/AOS (*Cattleya* Hybrida (1859) x *Brassavola cucullata*) 78 pts. Exhibitor: Jamie and Jackie Lawson; photographer: Kay Clark. Florida North-Central Judging Center
- [2] *Vanda* Motes Purple Rain 'Janis' Pride' HCC/AOS (Blue Tahourdin x *tessellata*) 78 pts. Exhibitor: Charles Whetstone; photographer: Kay Clark. Florida North-Central Judging Center
- [3] *Vanda* Green Light 'Memoria Connie Kousbroek' AM/AOS (*vietnamica* x *falcata*) 80 pts. Exhibitor: Cheryl Crilly; photographer: Kay Clark. Florida North-Central Judging Center
- [4] *Dendrobium* Ruth's Accent 'It's All My Fault' AM/AOS (*shiraishii* x *macrophyllum*) 84 pts. Exhibitor: Accent Orchids; Photographer: Wes Newton. Florida North-Central Judging Center
- [5] *Dendrobium eriiflorum* 'Alan, Carolyn's Joy' CCM/AOS 83 pts. Exhibitor: Carolyn Robinson; photographer: H. A. Russell III. Florida North-Central Judging Center
- [6] *Habenaria* Raingreen's Sunrise 'Wing-Dreams' HCC/AOS (Tracey x Regnier) 76 pts. Exhibitor: Julio and Eileen Hector; photographer: Kay Clark. Florida North-Central Judging Center
- [7] *Rhynchovola* Kathy Cox 'Claire' AM/AOS (*Brassavola* George Tyler x *Brassavola digbyana*) 82 pts. Exhibitor: Kathy Cox; photographer: Wes Newton. Florida North-Central Judging Center
- [8] *Aerides lawrenceae* 'Adrian' AM/AOS 87 pts. Exhibitor: Jerry Steele; photographer: Wes Newton. Florida North-Central Judging Center
- [9] *Paphiopedilum* Fajen's Bold Helen 'Rock-bend' AM/AOS (*helenae* x Doll's Kobold) 80 pts. Exhibitor: Fajen's Orchids; photographer: Wes Newton. Florida North-Central Judging Center
- [10] *Paphiopedilum leucochilum* 'Fajen's Orchids Tres' AM/AOS 85 pts. Exhibitor: Fajen's Orchids; photographer: H. A. Russell III. Florida North-Central Judging Center
- [11] *Catasetum* Lata Laxman 'Cassidy Jane' AM/AOS (Frilly Doris x Jose Abalo) 85 pts. Exhibitor: Marilyn Caruthers; photographer: H. A. Russell III. Florida North-Central Judging Center
- [12] *Phalaenopsis* Samera 'Steve Mattana's Fascination' AM/AOS (*bellina* x *violacea*) 83 pts. Exhibitor: Steve Mattana; photographer: Kay Clark. Florida North-Central Judging Center
- [13] *Claudiasauledaara* Los Roques 'Graf's Belleza' AM/AOS (*Rhyncholaeliocattleya* Yorktown x *Myrmecolaelia* Veronica Romero) 85 pts. Exhibitor: Plantio la Orquidea; photographer: H. A. Russell III. Florida North-Central Judging Center
- [14] *Cymbidium* Chen's Ruby 'Bertha' AM/AOS (*iridioides* x Golden Elf) 81 pts. Exhibitor: Phelps Farm Orchids, Inc.; photographer: Wes Newton. Florida North-Central Judging Center
- [15] *Bulbophyllum kermesinum* 'A-doribil Too' HCC/AOS 79 pts. Exhibitor: Carolyn Robinson; photographer: H. A. Russell III. Florida North-Central Judging Center
- [16] *Vanda* Freda Hartfield 'Chad's Sunset' HCC/AOS (Fuchs Golden Shiner x Fuchs Gold) 76 pts. Exhibitor: Charles Whetstone; photographer: Kay Clark. Florida North-Central Judging Center





11



12



13



14



15



16

- [1] *Paphiopedilum villosum* var. *annamense* 'Rocking K Ranch' AM/AOS 80 pts. Exhibitor: Karen Wilson; photographer: Wes Newton. Florida North-Central Judging Center
- [2] *Dendrobium cymboglossum* 'Springwater' AM/AOS 81 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; photographer: Wes Newton. Florida North-Central Judging Center
- [3] *Vanda* Brighton's Moonbeam 'Chad's Red Spots' HCC/AOS (Jiraprapa x Tubtim Velvet) 77 pts. Exhibitor: Chad Whetstone; photographer: Wes Newton. Florida North-Central Judging Center
- [4] *Paphiopedilum godefroyae* var. *angthong* 'Springwater' AM/AOS 84 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; photographer: Wes Newton. Florida North-Central Judging Center
- [5] *Phragmipedium* Sunspot 'Wacousta' AM/AOS (Waunakee Sunset x *schlিমii*) 82 pts. Exhibitor: Dot Potter Barnett; photographer: Ed Cott. Great Lakes Judging Center
- [6] *Miltonia* Bluntii 'WingDreams' CCM/AOS (*spectabilis* x *clowesii*) 81 pts. Exhibitor: Julio and Eileen Hector; photographer: Wes Newton. Florida North-Central Judging Center
- [7] *Bulbophyllum* Jersey 'Whisper Dazzling Duo' AM/AOS (*lobbii* x *echinolabium*) 84 pts. Exhibitor: Laura Newton and Dolores Smith; photographer: Wes Newton. Florida North-Central Judging Center
- [8] *Catasetum* Double Down 'Calypso' AM/AOS (Chuck Taylor x *kleberianum*) 80 pts. Exhibitor: Larry Galdes; photographer: Katie Payeur. Great Lakes Judging Center
- [9] *Vanda* Island Sun 'Lavandula' HCC/AOS (Manuvadee x *tessellata*) 78 pts. Exhibitor: Naoki Kawamura; photographer: Wes Newton. Florida North-Central Judging Center
- [10] *Rhyncholaeliocattleya* Erotion 'MV Gliese' HCC/AOS (*Rhyncholaelia glauca* x *Cattleya walkeriana*) 78 pts. Exhibitor: Stuart Henderson; photographer: Wes Newton. Florida North-Central Judging Center
- [11] *Papilionanda* Tamiami Blues 'Krisy' CCE-AM/AOS (Erika Cizek Dann x *Vanda* Marge Howe) 95-87 pts. Exhibitor: Matthew Riesz; photographer: Wes Newton. Florida North-Central Judging Center
- [12] *Clowesetum* Melana's Daughter 'Lelia Burton' AM/AOS (*Catasetum* Melana Davison x *Clowesia* Rebecca Northen) 82 pts. Exhibitor: Sarah Santucci; photographer: Maurice Marietti. Mid-Atlantic Judging Center
- [13] *Brassocattleya* Green Bird 'Springwater' HCC/AOS (Binosa x *Brassavola* Little Stars) 78 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; photographer: Wes Newton. Florida North-Central Judging Center
- [14] *Rhynchodendrum* Cabalgata en Verde 'Springwater' AM/AOS (*Epidendrum ciliare* x *Rhyncholaelia digbyana*) 81 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; photographer: Wes Newton. Florida North-Central Judging Center
- [15] *Brassocattleya* Glorious May 'Syzygy' HCC/AOS (*Cattleya* Gene May x Morning Glory) 78 pts. Exhibitor: Pete Ostlund; photographer: Ed Cott. Great Lakes Judging Center
- [16] *Bulbophyllum* *cupreum* 'Little Stinker' CCM/AOS 84 pts. Exhibitor: Dave Miller; photographer: Ed Cott. Great Lakes Judging Center

DECEMBER

7—*Mid-Lakes Orchid Society Auction, Rogers Park, 610 South 9th Street, Leesburg, FL; Contact: Ann Parrish, 407-443-1899; sofbal8888@aol.com

21—Northeast Judging Center Orchid Auction, Frelinghuysen Arboretum, 353 East Hanover Avenue, Morris Township, NJ; Contact: John Sullivan, 201-891-6657; johndsullivan@optonline.net

JANUARY

4-5—Sarasota Orchid Society Show “Orchids in Paradise,” Sarasota Municipal Auditorium, 801 N. Tamiami Trail, Sarasota, FL; Contact: Marta Hudson, 941-376-7630; martadiazhudson@gmail.com
 michaelshaberl@comcast.net

10-12—Fort Lauderdale Orchid Society Show “The 20/20 Orchid Vision,” The Greater Fort Lauderdale Broward County Convention Center, 1950 Eisenhower Boulevard, Fort Lauderdale, FL; Contact: Michael Schaberl, 954-683-9615; michaelshaberl@comcast.net

11-12—Florida West Coast Orchid Society Show, Seminole Recreation Center, 9100 113th Street, Seminole, FL; Contacts: Bill Nunez, 727-239-2700; biddison22@aol.com

17-19—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, 305-282-7520; martinmotes@gmail.com

17-19—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

24-26—Gulf Coast Orchid Society Show & Sale, Gautier Convention Center, 2012 Library Lane, Gautier, MS; Contact: Jo Ann Vaz, 601-530-8778; joannvaz@bellsouth.net

25—National Capital Orchid Society “40th 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

25-26—Cape and Islands Orchid Society Annual Show, The Resort and Conference Center, 35 Scudder Ave., Hyannis, MA; Contact: Tina Balog, 508-540-5006; tina@plaid.who.edu

25-26—Grand Valley Orchid Society Show, Frederick Meijer Gardens & Sculpture Park, 1000 East Beltline NE, Grand Rapids, MI;

Contact: Mei Ling Clemens, 231-557-2647; meilingclemens@gmail.com

25-26—Orchid Society of Minnesota “St. Paul Winter Carnival Orchid Show,” Marjorie McNeely Conservatory, 1225 Estabrook Drive, St. Paul, MN; Contact: Michael Dyda, 612-223-4059; michael1027us@yahoo.com

25-26—Peninsula Orchid Society Show & Sale, Community Activities Building, 1400 Roosevelt Ave., Redwood City, CA; Contact: Mike Drilling, 650-692-8998; mike.drilling@gmail.com

31-February 2—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

FEBRUARY

1-2—Madison Orchid Growers Guild “Orchid Quest,” Olbrich Botanical Gardens, 3330 Atwood Ave., Madison, WI; Contact: Terri Jozwiak, 608-592-7906; lodijoz@charter.net

1-2—Venice Area Orchid Society Annual Show & Sale, Venice Community Center, 326 S. Nokomis Ave., Venice, FL; Contact: Carol Wood, 941-497-4995; cwood12@msn.com

6-9—Deep Cut Orchid Society Show & Sale, Dearborn Market, 2170 Route 35 South, Holmdel, NJ; Contact: Brenda Pauwels, 732-687-7805; dcos.show.chair@gmail.com

8-9—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@hotmail.com

8-9—Southern Ontario Orchid Society Orchid Show & Sale, Toronto Botanical Garden, 777 Lawrence Avenue East, Toronto, Ontario, Canada; Contact: Cathy Dunn, 416-697-8747; show@soos.ca

13-16—Sociedad Dominicana de Orquideologia “Orquifiesta 2020,” National Botanical Garden of Santo Domingo, Av. Republica de Colombia, Av de Los Proceres, Santo Domingo, Rep. Dominicana; Contact: Maritza Camacho, 809-707-0644; maritzacamacho05@yahoo.com

14-16—Asociación Orquideologica de Escazú “Festival de Orquideas Escazú 2020,” Avenida Escazú, Escazú, San Jose, Costa Rica; Contact: Gabriel Antich Artavia, (506) 8874-5558; di.rbzam@gmail.com

14-16—Batavia Orchid Society Show,

DuPage County Fairgrounds, 2015 Manchester Rd., Wheaton, IL; Contact: Larry Sexton, 630-406-8460; orkiddoc@aol.com

15-16—Miami Valley Orchid Society Show, Cox Arboretum MetroPark, 6733 Springboro Pike, Dayton, OH; Contact: Kristen Mason, 513-502-5408; orchidbiochem@aol.com

15-16—Orchid Society of Highlands County “Orchids From the Heart,” Agri-Civic Center, 4509 George Boulevard, Sebring, FL; Contact: Susie Whitehead, Lori Coon, Marlen Martinez, 863-446-0189; cmghmartinez@gmail.com

15-16—Port Saint Lucie Orchid Show “Orchid Jungle Book,” Port Saint Lucie Botanical Gardens, 2410 SE Westmoreland Blvd., Port Saint Lucie, FL; Contact: Claudia Young, 757-879-2142; oma.young@ymail.com

20-23—San Francisco Orchid Society “Pacific Orchid Exposition,” Hall of Flowers at Golden Gate Park, 1199 9th Avenue, San Francisco, CA; Contact: James Carmichael, 415-307-1442; dexdah@yahoo.com

21-23—St. Croix Orchid Society Show “20/20 A Vision of Orchids,” St. George’s Botanical Gardens, 127 Estate St. George, Frederiksted, USVI; Contact: Michelle Thurland-Martinez, 340-690-1330; mmthurland@gmail.com

21-23—Virginia Orchid Society Show “PICTURE THIS,” Strange’s Florists, Greenhouses and Garden Center, 12111 West Broad Street, Richmond, VA; Contact: Gary Marshall, 412-521-2877; g.marshall@chatham.edu

22-23—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

22-23—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

22-23—Naples Orchid Society Show, Naples Botanical Garden, 4820 Bayshore Drive, Naples, FL; Contact: Richard Pippen, 239-775-5220; rpippen@comcast.net

28-March 8—Pennsylvania Horticultural Society “2020 Philadelphia Flower Show,” Pennsylvania Convention Center, 1101 Arch Street, Philadelphia, PA; Contact: Betty Greene, 215-988-8826; bgreene@pennhort.org

29-March 1—Orchid Society of the Royal Botanical Gardens “39th Annual Orchid Show,” Royal Botanical Gardens, 680

Plains Road West, Burlington, ON, Canada;
Contact: Ben Boers, 905-979-4886;
bmboers@hotmail.com

MARCH

6-8—Maryland Orchid Society Show & Sale, Maryland State Fairgrounds, 2200 York Road, Timonium, MD; Contact: Marc Kiriou, 443-509-0084; gothiclord01@yahoo.com

7-8—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

7-8—Northeastern Wisconsin Orchid Society Spring Show, DoubleTree by Hilton, 150 Nicolet Road, Appleton, WI; Contact: Dave Bluma/Lorraine Heydon, 920-869-2247; lorrainesgems@yahoo.com

7-8—Tampa Bay Orchid Society Show "Orchids 20/20 Perfect Vision," Tampa Scottish Rite Center, 5500 Memorial Highway, Tampa, FL; Contact: Eileen Hector, 813-368-7353; TampaBayOrchidSociety@verizon.net

7-8—The 2020 Greater Akron Orchid Society Spring Show, Rohr & Sons Nursery-Garden Center, 7211 Portage Street NW, Massillon, OH; Contact: Jane Bush, 440-429-5779; bushjj@juno.com

13-14—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

13-15—Orchid Society of Coral Gables Show, Fairchild Tropical Botanic Garden, Garden Room, 10901 Old Cutler Road, Coral Gables, FL; Contact: Melana Davison, 760-212-8919; orchidiva@att.net

14-15—Calcasieu Orchid Society "Easter Parade of Orchids," 1911 Historic City Hall Arts & Cultural Center, 1001 Ryan Street, Lake Charles, LA; Contact: Keith Joiner, 318-614-3516; kjoiner2000@yahoo.com

14-15—Orchid Society of Western Pennsylvania Annual Spring Show "An Orchid Journey," Crowne Plaza Hotel, 164 Fort Couch Road, Pittsburgh, PA; Contact: Sheila Nathenson, 412-576-1704; mnsan@gmail.com

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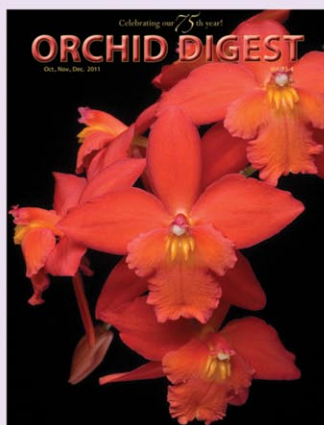
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ORCHIDS

Author Index Volume 88 2019

THE AUTHOR AND SUBJECT INDEXES FOR VOLUME 88 were prepared by Ron McHatton.

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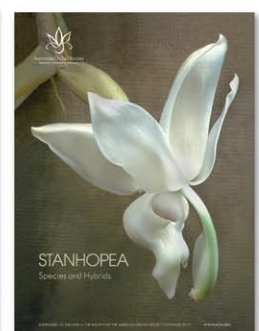
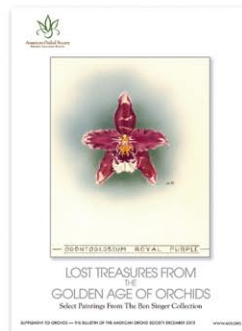
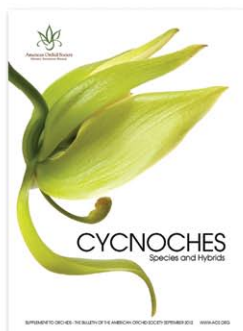
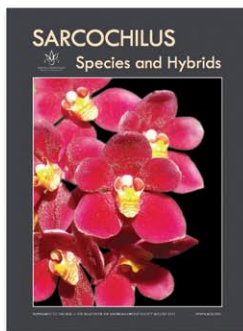
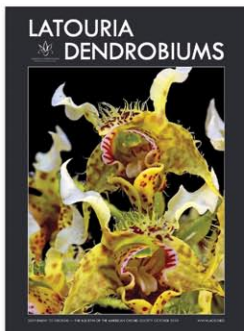
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The AOS welcomes the submission of manuscripts for publication in *Orchids* magazine from members and non-members alike. Articles should be about orchids or related topics and cultural articles are always especially welcome. These can run the gamut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

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

Growing Masdevallias in the Florida Heat

By Carolyn Robinson

I WAS BABYSITTING a friend's orchids while she went on a trip. Some of them were masdevallias. During that time, one of them, a *Masdevallia herradurae*, burst into full bloom. It looked like a ball of big red, angry ants. That plant set me off on a new challenge. I wanted to grow masdevallias.

Living in Florida is wonderful for growing most orchids, and I am blessed with a sunny greenhouse. But in the summer heat, the interior of the greenhouse can reach 94 F (34.4 C) most days. I love growing miniatures, but some of the most beautiful ones need to be in a cool environment. That becomes a challenge.

My friend and I ordered bare root plants at the Redland Orchid Festival and I was on my way. As you might expect, *Masd. herradurae* was in that shipment! I potted mine in sphagnum moss and put them in my greenhouse window for the summer. This window faces south, and I protect it from the sun with a layer of shade cloth over it. The plants did great, but when winter came and the sun shifted, that window got really bright and I added more shade cloth on the top and sides.

I began reading on the Internet about the culture of masdevallias. The articles tell you that they want pure water and up until then, I had been watering with well water, which contains lots of minerals and lime. So I switched to distilled water.

Masdevallias also thrive with high humidity. Because I was growing them in an air-conditioned and heated house, that posed a problem. I had heard about pebble trays, so I set out for the thrift stores and found many 3- and 4-inch- (7.6- and 10.2-cm-) deep glass bowls that proved perfect for my needs. I use a layer of small rocks about 1½-inch (3.8 cm) deep in each bowl. That way, the water level in the bowls will not touch the pots sitting on them.

I use clay pots, which helps keep the plants cooler. I switched from potting in pure sphagnum, which I felt allowed the plants to stay too wet, to a mixture of sphagnum, broken tree fern, seedling bark and some sponge rock. I use a little more sphagnum than the other ingredients. All my masdevallias are doing very well with



this mixture.

I fertilize the plants every other week with a weak solution, being careful to make sure that their mixture is not bone dry when I do so. I use a 20-20-20 formulation, mixed ½ teaspoon to a gallon of distilled water. This is then diluted again, mixing ½ cup (79 ml) of the fertilizer water with enough distilled water to make 2 cups (158 ml) total. Because air movement is also critical, I keep a small fan running in the growing area at all times.

My kitchen window has exploded with flowering plants, so I have now expanded my growing area to growing some under lights in a spare room as well. For this setup, I have a 2-foot (60 cm) fixture with a single, 24-watt T5 florescent bulb. The light is about 14 inches (35.6 cm) above the plants. I leave the lights on for 10 hours a day. These plants are thriving too.

Do your research to find out which masdevallia species and hybrids are intermediate- to warm-growing. Some good choices to start with include *Masdevallia floribunda*, *Masd. herradurae* and *Masdevallia mejiana*. Take the plunge and try these beautiful miniatures because it is a great day to grow masdies!

— Carolyn Robinson lives in Archer, Florida and belongs to the Gainesville Orchid Society. She has a 12-foot × 20-foot (3.7-m × 6.2-m) greenhouse and also grows 25 *phalaenopsis* and her



[1] The author's south-facing kitchen window.

[2] The author's *Masdevallia mejiana* happily growing and flowering. Note the clay pot which helps to keep the plant's roots cooler and, along with the gravel and glass container, help to provide the higher humidity these plants need to thrive.

masdevallias in the house. She has 14 AOS awards, six of them cultural awards. She is a grandmother, married 51 years to her husband, who built her greenhouse, and she loves to fish (email: archerorchid@gmail.com).

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