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ORCHIDS

THE BULLETIN OF THE AMERICAN ORCHID SOCIETY

VOL. 88 NO. 8 AUGUST 2019

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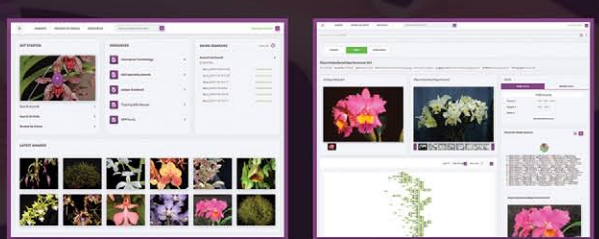

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ORCHIDS

The Bulletin of the American Orchid Society

RON MCHATTON
Chief Education and Science Officer
Editor, *Orchids* Magazine
rmchatton@aos.org

AWARDS REGISTRAR
Laura Newton
laura@aos.org

ADVERTISING
Jennifer Osborn
Advertising Sales Executive
Allen Press
810 East 10th Street
Lawrence, Kansas 66044
josborn@allenpress.com
785-865-9212

SUBSCRIPTIONS AND MISSING ISSUES
Membership Services Department
Tel 305-740-2010 Fax 305-747-7154
membership@aos.org

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CONTENTS

August 2019 Volume 88 Number 8


586


595


604


626

FEATURES

DEPARTMENTS

In This Issue

FRONT COVER

Fred Clarke continues his series on breeding lines in the Catasetinae with a discussion of clowesetums. Our cover subject, *Clowesetum* Afterglow 'B-C II' AM/AOS (*Clowesia* Rebecca Northen × *Catasetum spitzii*), expertly photographed by Chuck LeFaive, is a wonderful example of these beauties.

American Orchid Society

A 501(c)(3) Nonprofit Organization Founded in 1921

MISSION

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

VISION STATEMENT

The American Orchid Society provides leadership in orchids

Membership Information and Rates

Membership in the AOS includes a subscription to *Orchids* magazine that begins with the next available issue at the time of enrollment. For information on membership, please call 305-740-2010, email theaos@aos.org or join online at www.aos.org.
Payments must be made through a US bank in US funds or by International Money Order. MasterCard, American Express, Visa and Discover are accepted. Prices are subject to change without notice and memberships are nonrefundable or transferable. *Orchids* is distributed via periodicals-class mail. First-class delivery is available in the United States for an additional $30 per year.

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Valid proof of age required at time of application.
*** Affiliated Societies must appoint an AOS Representative who is also an AOS member.

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- *AOS Orchid Source Directory* (growers, affiliated societies, judging centers)
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- Discounts at select gardens and arboreta in the United States (see www.ahs.org)
- 10 percent discount on AOS publications
- First-time members receive a free copy of *Your First Orchid* and 15 percent off additional AOS-produced books (plus shipping)

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Education. Conservation. Research.

American Orchid Society
at Fairchild Tropical Botanic Garden
10901 Old Cutler Road, Coral Gables, Florida 33156
Mailing address: PO Box 565477, Miami, Florida 33256
Tel 305-740-2010
Email theaos@aos.org Website www.aos.org
Main Office Monday–Friday (by appointment only)

Services

Ron McHatton, PhD (rmchatton@aos.org)
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- Education
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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.

acicularis (a-sick-yew-LAIR-is)
Aeschynanthus (ess-kee-NAN-thus)
Aganisia (ag-an-EE-see-a)
alaorii (al-a-ORE-ee-eye)
amazonica (am-ah-ZON-ih-ka)
Amorphophallus (am-ore-foe-FAL-lus)
Angularia (ang-yew-LAIR-ee-a)
Anguloa (an-gyew-LOH-ah)
Anthurium (an-THUR-ee-um)
antioquianus (an-tee-ok-qwee-AY-nus)
arachnites (ah-RAK-nye-teez)
australis (aw-STRAY-liss)
azuayanus (az-way-AY-nus)
Batemannia (bate-MAN-ee-a)
Berlinerara (ber-lin-er-ARE-a)
bonplandiana (bon-pland-ee-AY-na)
Brasiliorchis (brass-il-ee-ORE-kis)
Bulbophyllum (bulb-oh-FILL-lum)
calcarata (kal-kar-AY-ta)
Camaridium (kam-are-ID-ee-um)
carnea (KAR-nee-a)
Catasetum (kat-a-SEE-tum)
Cattleya (KAT-lee-a)
Cattlianthe (kat-lee-AN-thee)
Christensonella (krist-chen-son-ELL-lah)
cirrhaeoides (seer-ay-OY-deez)
Clowesetum (klow-SEE-tum)
clowesia (KLOW-see-a)
coccinea (kok-SIN-ee-a)
costaricensis (koh-stah-ree-KEN-sis)
cristatum (krih-STAY-tum)
crystallinum (krih-stall-EE-num)
denticulatum (den-tik-yew-LAY-tum)
desvauxiana (day-voss-ee-AY-num)
Dichaea (dye-KEE-ah)
Dichaeopsis (dye-kee-OP-sis)
dodsoniana (dod-son-ee-AY-na)
echinocarpum (eh-kye-no-KAR-pum)
elegantula (el-eh-GAN-tew-lah)
Eltroplectris (el-troh-PLEK-triss)
Eltropterolexia (el-troh-tare-oh-LEKS-ee-a)
Eltrorrhynchos (el-troh-RINK-os)
Epidendrum (eh-pih-DEN-drum)
Epiphyllum (eh-pih-FILL-um)
erichmichelii (air-ik-mye-KEL-ee-eye)
expansum (eks-PAN-sum)
fimbriatum (fim-bree-AY-tum)
fletcheriana (flet-cher-ee-AY-na)
fractiflexa (frak-tih-FLEKS-a)
fucata (few-KAY-ta)
gesneriads (gez-NEER-ee-ads)
glaucoglossa (glaw-koh-GLOS-sa)
godefroyae (god-FROY-eye)
gracilis (GRASS-ill-iss)
Habenaria (hab-ih-NARE-ee-a)
hawksiana (hawks-ee-AY-na)
Heterotaxis (het-er-oh-TAKS-iss)
huebschii (HEWB-she-eye)
humboldtiana (hum-bolt-ee-AY-na)
imperiale (im-peer-ee-AL-ee)
Inti (IN-tee)
Jesupara (jeh-sup-ARE-a)
juergensii (jer-GEN-see-eye)
kleberianum (kleb-er-ee-AY-num)
lindleyana (lind-lee-AY-na)
luteoalba (loo-tee-oh-AL-ba)
luteograndiflora (loo-tee-oh-grand-ee-FLOR-a)
Lycaste (lye-KAS-tee)
macrocarpum (mak-roh-KAR-pum)
Mapinguari (map-ing-GWAR-ee)
Maxillacaste (maks-ill-la-KAS-tee)
Maxillaria (maks-ill-AIR-ee-a)
Maxillariella (maks-ill-air-ee-EL-la)
medusa (meh-DOO-sa)
minuta (mye-NEW-ta)
molitor (MOH-lee-tore)
montufariana (mon-too-far-ee-AY-na)
Mormolyca (more-moh-LYE-ka)
nigrescens (nye-GRESS-enz)
Nitidobulbon (nee-tee-doh-BUL-bon)
Notylieae (noh-TEE-lee-eye)
obovatus (oh-boh-VAY-tus)
ochroleuca (oh-kroh-LEW-ka)
olivacea (ol-iv-AY-see-ah)
Oncidiinae (on-sih-DEE-ih-nee)
Orchidaceae (ore-kid-ACE-ee-ee)
Ornithidium (ore-nith-ID-ee-um)
Otostylis (oh-toe-STY-liss)
Pabstia (PAB-stee-a)
Paphiopedilum (paff-ee-oh-PED-ih-lum)
Pectabenaria (pek-ta-ben-AIR-ee-a)
Pecteilis (pek-TYE-liss)
Pelexia (pell-EKS-ee-ah)
pendula (PEND-yew-la)
Pentulops (PENT-yew-lops)
picta (PIK-ta)
pileatum (pil-lee-AY-tum)
Platanthera (plat-AN-ther-a)
Platypetala (plat-ee-PET-a-la)
porphyrostele (pore-fer-oh-STEE-lee)
portillae (pore-TEE-eye)
Promenaea (proh-men-EE-ah)
Pteroglossa (tare-oh-GLOSS-a)
Pterolexia (tare-oh-LEK-see-a)
pulla (PULL-a)
pumila (PEW-mill-a)
ramosa (ram-OH-sa)
Rhetinantha (ret-in-AN-tha)
rhodocheila (roh-doh-KYE-la)
Rhyncattleanthe (rin-kat-lee-AN-thee)
Rhyncholaeliocattleya (rin-koh-lay-lee-oh-KAT-lee-a)
roebbelenii (row-bell-EN-ee-eye)
rosea (ROH-zee-ah)
roseoalba (roh-zee-oh-AL-ba)
russelliana (russ-ell-ee-AY-na)
sanderiana (san-der-ee-AY-na)
sanguinea (san-GWIN-ee-a)
Sauvetrea (soo-VEH-tree-ah)
Schlumbergera (schlum-BERG-er-a)
schunkeana (shun-kay-AY-na)
seidelii (sye-DELL-ee-eye)
Sophronitis (so-froh-NYE-tiss)
Spiranthinae (spy-RAN-thin-ee)
spitzii (spitz-ee-eye)
splendens (SPLEN-denz)
Stellilabium (stell-ih-LAY-bee-um)
Stenoplectris (sten-oh-PLEK-tris)
Stenorrhynchos (sten-oh-RIN-kos)
Streptocarpus (strep-toh-KAR-pus)
striata (stree-AY-ta)
susannae (soo-ZAN-ee)
Telipogon (tell-ih-POH-gon)
Telipogoninae (tell-ih-poh-GONE-ih-nee)
tenuifolia (ten-yew-ee-FOL-ee-a)
thylaciochila (thy-las-ee-oh-KYE-la)
tigrinum (tye-GRYE-num)
Trichoceros (trik-oh-SER-os)
Tsubotaara (soo-boh-ta-ARE-a)
uncata (un-KAY-ta)
variabilis (vair-ee-AY-bil-liss)
venusta (vee-NOOS-ta)
violacea (vye-oh-LAY-see-a)
virginalis (vir-gin-AY-lis)
warczewitzii (var-shuh-WITZ-ee-eye)
warocqueanum (war-ok-kwee-AY-num)
zanthocheila (zan-tho-KYE-la)
Zygocactus (zye-go-KAK-tus)
Zygopetalinae (zye-go-pet-a-LEE-nee)
Zygopetalum (zye-go-PET-a-lum)
Zygosepalum (zye-go-SEE-pa-lum)

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Call For Nominations

The AOS Board of Trustees seeks nominations for members of the Board of Trustees of the American Orchid Society, for all six officers (for 2020-2022) and four trustees (for 2020-2023). Members may nominate any member in good standing, including themselves, and shall provide a rationale as to why they should be considered. All nominations will be evaluated by the Nominating Committee and a slate will be mailed, in accordance with the by-laws, prior to the election at the Members Meeting in the spring of 2020. The following competencies have been determined by the Board and will be used in the evaluation.

All nominees shall:
- be members of the AOS, and embrace the mission and priorities of the AOS;
- exhibit integrity and ethical behavior;
- possess strong interpersonal and communications skills;
- have board experience (preferred but not required), preferably with a non-profit organization.

Expertise in some of the following is desirable and will weigh in the evaluation:
- finance, business and/or investment strategies,
- legal background,
- development/fund raising,
- strategic planning and implementation,
- marketing,
- conservation, research or education.

Responsibilities:
- attend conference-call type meetings when called (Two per month for officers, one for trustees);
- attend two face-to-face members' meetings annually (must pay own travel expenses, there is no compensation);
- actively participate and contribute in Board activities and work;
- financially support the organization in a manner commensurate with one's ability, while seeking additional financial support elsewhere;
- advocate on behalf of the organization and be ambassadors to the orchid community.

Send nominations to:
nominating_committee@aos.org
Nominations will be accepted up to close of business September 25, 2019.

IT IS WITH sad news I start my President's Message this month. Long-time AOS member Lois Holmes passed away May 9, 2019. Not only was she very involved and supportive of the American Orchid Society, but also she was an active member of the Mid-America Orchid Congress and the Orchid Society of Minnesota. For decades, Lois served on the AOS Library and Archives Committee and in 2017 was recognized for her service with an AOS silver medal. At the recent AOS Members' Meeting in San Diego, California, Lois attended the Library/Archive Committee meeting, making sure the stored archives were going to be moved from Gainesville, Florida, to the archives room at headquarters soon. Her advice and guidance to the committee and to me will be missed.

If you did not know, our accounting year ends June 30 of each year. Victor Parera, responsible for our finances at headquarters, will be busy getting the books closed and working on the to-do list that our auditors want prepared before the actual audit starts; scheduled for the second week in August, when the auditors will be at headquarters for most of the week. Once the auditors have completed their work, they provide our Audit Committee a report of their findings. The Audit Committee is charged with the review of this report, resolving any potential issues, before the report is presented to the entire board for approval later in the fall.

In keeping with my prior reports, this month we hear from the chair of the Audit Committee, James Heilig, PhD.

"One integral component of maintaining a healthy organization is to have an audit committee review the accounting processes of an organization. For charitable organizations such as the AOS it is important that funds provided by members and donors be handled properly and legally. The AOS Audit Committee is tasked with reviewing the audit report generated by an independent auditor who has reviewed the practices of those with financial responsibility to look for any issues. This committee is composed of trustees of the AOS. Current committee members are Phyllis Prestia and Jeff Saal, along with Nancy Mountford, who serves as an advisor to the committee.

In the month following the end of each fiscal year, Robbins and Moroney, P.A., review the accounts of the AOS, our spending, and how funds are allocated with regard to the various accounts and endowments. Their findings are compiled in a report which the audit committee carefully reads and then investigates any issues reported. This process identifies any potential legal issues as well as verifies that generally accepted accounting practices are followed. Robins and Moroney also offers suggestions as to how to handle things better to make processes more efficient or more transparent. After reviewing the report with our auditors, the Audit Committee then reports back to the board, submitting a report to

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WES NEWTON

[1] Lois Holmes enjoying the AOS Banquet at the San Diego Members' Meeting this last March. To the left of Lois is Robert Fuchs, AOS Vice-President and Chair of the Centennial Celebration task force. To her right is AOS Trustee, Judith Bailey.
[2] Jennifer Vina, our new AOS librarian.
[3] James Heilig, PhD, the AOS Audit Committee Chair.

make the board aware of any significant findings, as well as make suggestions for changes. The 2017–2018 fiscal year audit was very positive and reported no significant findings, meaning the accounting practices were appropriate. The audit did present suggestions made to improve the process of releasing funds from restriction."

We look forward to a similarly positive audit this year as well.

I would like to introduce to you the new AOS librarian, Jennifer Vina. Jennifer is a former middle school teacher who obtained her master's degree in library science. She recently relocated to the Miami area from Naples, Florida. The AOS library is now open Tuesday through Saturday. If you are in the area, stop by and introduce yourself. She can be reached at jenniferv@aos.org

I am also pleased to share some important and exciting announcements in my message this month. For almost 100 years the American Orchid Society has been a leading provider of authoritative content for the orchid community. Today more 100,000 unique visitors come to aos.org each month. We hear all the time how members appreciate the benefit of searching back issues of ORCHIDS, AQ and Lindleyana. So much knowledge has been documented and catalogued over the last 100 years its truly amazing. At the same time our Facebook group continues to grow and we now have more than 31,000 group members. We have more than 11,000 followers on our Instagram page with dedicated staff and volunteers that work hard to keep our social media presence relevant and true to our mission of supporting education, research and conservation. Our webinars and online Greenhouse chats continue to be well attended with many members taking advantage of our replay capabilities.

INTRODUCING ORCHIDPRO

As more of our members consume content digitally, we make investments and create programs to satisfy the demand for orchid subject matter that is trustworthy and dependable. With these things in mind I am proud to announce the upcoming release of our newest member benefit, OrchidPro. Coming this fall, this new program will replace our legacy platform called OrchidsPlus (aka OP). With more than 1000 subscribers, OrchidsPlus has been used primarily by AOS judges, students and others. One of the primary use cases is to research contextual information about an individual orchid. Considering a plants' award history and parentage is an effective way to chart the relative improvements over time in breeding of a particular species or hybrid. The program also provides for a baseline of cultural excellence for judges to use when considering culture awards. With a new interface and improved usability, all AOS members will now have the opportunity to see how their orchids "measure up" in advance of a judging. You may be very surprised that you own a plant that is a contender for a prestigious award. We expect that like other benefits we've added, members will take advantage of this great new feature and avail themselves of what a wonderful asset the AOS has in its world-renowned judging program.

OrchidPro brings together numerous elements of content into a modern platform. It will include more than 85 years of AOS award data and more than 95,000 photos of award-winning orchids. Enhanced features will include family trees, a pronunciation guide and browse by photo. OrchidPro is designed to be an easy to use comprehensive resource that will grow even richer over time. The AOS has a unique and unprecedented capability to bring its members authoritative content and OrchidPro represents some of the very best in what the AOS has to offer, especially when one considers how much information is out there and how difficult it can be to verify its authenticity.

NEW SILVER AND GOLD MEMBERSHIPS

With this new member benefit the AOS is also making some changes in how it defines its memberships. We will be moving away from defining our memberships by how ORCHIDS magazine is consumed (annual digital, annual print, etc). Later this year memberships will be converted as follows: Annual Digital will become Silver. Annual Print will become Gold. The conversion will happen automatically. The main take away with the Silver and Gold memberships is that OrchidPro access will be automatically included as a member benefit. This represents a substantial savings opportunity for current subscribers of OrchidsPlus, and we are excited to bring this new feature to all members as part of their membership subscription.

No action is required on your part ahead of this change to silver and gold memberships. However, the AOS will be adjusting its membership pricing in early 2020. It has been more than 10 years since rates were last adjusted. Like everything else, the AOS's operating costs have risen during this time period, and while pricing adjustments are about as popular as tax increases, we are taking the opportunity to pre-announce the increase now and run an early renewal promotion for existing members in the month of August. The promotion is designed to lock in current pricing for a period of up to 2 years (even if you just renewed).

Finally, I extend a sincere thank you to our IT team for helping us modernize our digital assets and introduce OrchidPro as an included member benefit and thus eliminating the requirement for judges to purchase a separate software title. I also thank our wonderful AOS judges. We really appreciate the contributions our AOS judges make with the work they do and the knowledge they share. We are building on our success of 100 years and making the adjustments necessary to thrive for the next 100 years. For AOS judges, be on the lookout for information from your Judging Center chair and an FAQ on early access to OrchidPro. For the rest of you, check www.aos.org for specifics on the early renewal promotion. We will send a couple of reminder emails this month as well, and have included details on the inside front cover of this month's issue of Orchids.

FALL 2019 MEMBERS' MEETING

Registration is open now for the fall American Orchid Society Members' Meeting, October 16–20, 2019, in Homestead, Florida, in conjunction with the East Everglades Orchid Society show. For those whose time is not consumed by various committee and board meetings, there are day trips for you to enjoy! It should be a wonderful time in South Florida. Hope to see you there.

Until next time, happy growing!

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

August: The Month of Companions

Text and photograph by Thomas Mirenda

AS MUCH AS I enjoy going to orchid events and drooling over all the outstanding plants being grown around the world, there is another aspect to orchid growing that is particularly fulfilling. Orchid people are among the kindest, most nurturing and most interesting people I have known; often highly accomplished professionals: doctors, lawyers, professors, nuclear physicists, even PARENTS. Orchidists come from all walks of life and yet still manage to make enough time for their orchid obsessions. Even though many orchidists are retirees, most tell me that they have never been busier, and that their orchids are keeping them active, engaged and fulfilled. A good majority of my personal friends are involved in the orchid world and I cherish seeing them at multiple events throughout the years. These are our companions on our collective orchid odyssey.

Most of us care for mixed collections of orchids, and I believe that is because many of us crave the diversity that the orchid family offers us. Here in Hawaii I am able to collect and successfully cultivate orchids hailing from six continents. Of course, here we can grow them year round outside and include them in our gardens. Being mostly epiphytes and in many ways intimately connected to their environment, orchids seem to enjoy the company of companion plants too. In the wild, they are usually pretty rare and often mimic other, more commonly encountered plants in order to deceive pollinators to visit their flowers. Many of these orchid companions are easily grown in the same conditions as your orchids and will add an extra dimension to your growing area, including making them feel more like they are growing in nature. They often come in handy to naturalize orchid displays you might be creating for that next big orchid event in your city.

Vireyas, also commonly called tropical rhododenrons, make beautiful orchid companion plants for those who can provide the conditions they need. The bright blue flower in the background is a blue ginger (*Dichorisandra thyrsiflora*), another orchid companion plant. For more on orchid companion plants see Tom Mirenda's article later in this issue.

COMRADES Those of us with large collections tend to group our plants based on phylogeny; i.e., all the cattleyas together, all the paphiopedilums together, etc. This is a fine practice for organizing your collection but ignores the cultural and ecological diversity that occurs within a genus, especially with all the taxonomic lumping in recent years. For example, you would not want to grow *Cattleya violacea* (from the torrid steamy lowland Amazonia) alongside *Cattleya coccinea* (from the cool and misty Brazilian highlands) — certainly one or both would perish. Similar situations occur in many plant genera. It is preferable to grow plants based on their cultural needs rather than their familial ones. Only you can do the research necessary to determine the cultural needs.

DEMOCRACY Although your political affiliation should not matter when it comes to your orchids, in the heat of August, all of them require a certain equality and inalienable rights. In varying degrees, they will all require water, fertilizer, light and air movement. On really hot days, many plants may shut down during the day and absorb water in the evenings once the danger of desiccation is lower. Feel the leaves of your plants, if they are hot to the touch, your plant's cells may be in danger of burning up if they are in the sun. Move such plants to a shadier spot outside or in the greenhouse (under a companion plant perhaps?) or to an air-conditioned space inside the house. Sometimes a light misting will alleviate these heat stresses; beware of drowning plants on hot days as it can lead to root rot and the opening of stomata at midday, exactly what you do not want.

FREEDOM IN THE AIR Another way to lessen heat stress is to increase air movement around your plants. This can be achieved in several ways. Fans are a good way to do this as long as the movement is not too strong or steadily flowing on the same plants all day. This can cause other stresses such as excessive transpiration, leading to desiccation. If your plants are outside there are often gradients between sunny and shady spots where air movement is more constant. Outside collections should be in dappled light and I find most orchids can still take a little extra brightness in the morning, as long as they are shaded when the heat of the day arrives.

AMERICA THE BEAUTIFUL August is actually a good time to see certain

native American orchids, particularly the incredibly beautiful platantheras. Often appearing in, or near, wetland situations, these lovely, often very colorful natives bear some of the most spectacular fringed flowers in existence. Check with the experts at the Native Orchid Conference and the Native American Orchid Conservation Center's Go Orchids website (https://goorchids.northamericanorchidcenter.org/) to get information on which species occur in your state. I'll bet many of you live close enough to a patch of these amazing flowers to make a visit this month. Bring your camera for the wonderful photo opportunity. And remember, never take an orchid from the wild, no matter how beautiful it may be. It cannot survive without its symbiotic companions: mycorrhizal fungi, endosomatic bacteria, pollinators and their interdependent companion plants.

— Tom Mirenda has been working professionally with orchids for over three decades. He is an AOS accredited judge and is the chairman of the American Orchid Society's Conservation Committee. He recently coauthored The Book of Orchids: A Life-Size Guide to 600 Species From Around the World *(email: biophiliak@ gmail.com).*

Sylvia Strigari

Cattleya dowiana

By Franco Pupulin/Watercolor by Sylvia Strigari

Tribe Epidendreae
Subtribe Laeliinae
Genus Cattleya *Lindl*

Cattleya dowiana Bateman, *Curtis Bot. Mag*. 23(960) (ser.3 No. 265): sub t.5618. TYPE: Costa Rica. "It was rediscovered in 1864 by M. Arce […] throughout some of the richest portions of Costa Rica. The plants which Arce sent home were purchased by Messrs. Veitch and Son […]. To their liberality I am myself indebted for a specimen that subsequently flowered at Knypersley […] in the autumn of 1866," *E. Arce s.n.* (holotype, K)

Cattleya dowiana Bateman and Rchb. f., *Gard. Chron*. 1866: 922. 1866, *nom. inval*.

Cattleya dowiana a var. *moortebeekiensis* Linden, Lindenia 15: t.688. 1899. TYPE: Without locality data, "Elle a eté introduite en 1898 á l'établissement de Moortebeek, ou elle a fleuri pour la premiére fois l'année derniére" (It was introduced in 1898 at the establishment of Moortebeek, where it bloomed for the first time last year), flowered in cultivation 1898, *L. Linden s.n.* (holotype, probable not conserved; lectotype, selected here; the illustration in Lindenia 15, t.688.

A large, stout, caespitose epiphytic *herb* to about 45 cm tall. *Rhizome* stout, short, covered with dry, papyraceous, adpressed bracts. *Roots* rather coarse, flexuous, with green apices, ca. 3 mm in diameter. *Pseudobulbs* fusiform-clavate, distinctly swollen in the upper portion, to 25 cm long, 2.5–4.5 cm wide, furrowed, monophyllous, partially concealed when young with basal, glumaceous sheaths, becoming papery and eventually shredding with age. *Leaf* broadly oblong, obtuse, thick-coriaceous, light green, 20–25 x 5–8 cm. *Inflorescence* a few-flowered (2–6) raceme, 10–13 cm long, produced from a large spathaceous bract to 11 × 3 cm, green until maturity, becoming dry-papyraceous, brown, when old. *Floral bracts* small, triangular, obtuse to subacute, green, ca. 1 × 1 cm. Pedicellate *ovary* terete, slender, ca. 8 cm long including the pedicel. *Flowers* large and showy, with yellow sepals and petals, the sepals rarely reticulated and veined with pale purple, the petals sometimes flushed with purple toward the apices, the lip dark purple-wine finely striped with golden yellow, rarely almost solid yellow with dark purple margins, the column white. *Dorsal sepal* lanceolate-elliptic, acute, gently bent backward at apex, the lateral margins reflexed, to 8 × 3 cm. *Lateral sepals* obliquely narrowly lanceolate-elliptic, slightly asymmetrical, acute, the margins reflexed, to 7.5 × 2.5 cm. *Petals* ovate-elliptic subrhombic, obtuse, to subrounded, mostly porrect in natural position, to 7.5 × 5.0 cm, almost straight along the midvein, strongly ruffled along the margins. *Lip* obscurely trilobed, oblong, emarginate, the basal lobes erect around the column, the midlobe strongly crisped along the apical margins, 8.0 × 5.5 cm. *Column* semiterete, slightly arching, ca 4 cm long, distinctly channeled ventrally, provided with a subapical tooth and a slight depression at the base continuous with the short infra-ovary nectary. *Anther cap* subrectangular, almost triangular in lateral view, deeply cucullate, four-celled. *Pollinia* four in two pairs, ovate, laterally flattened, on two bifid, granular caudiculae. *Fruit* an ellipsoid capsule, strongly ribbed, to 8 × 5 cm.

In presenting *Cattleya dowiana* in his webpage, A.A. Chadwick wrote that the species "should have been Warszewicz' crowning achievement." Probably no other species of the hundreds of new orchids that the great Polish explorer found around the world and sent to Europe was destined to have such a profound influence in horticulture as *Cattleya dowiana*, which has been used in cattleya hybridization more than any other large-flowered species of the genus. Warszewicz found it in Costa Rica around 1850 and, as Bateman (1867) recalls, "by him plants were forwarded to this country [England]: but arriving in bad condition they eventually died. The dried specimens moreover that accompanied the living plants seem to have been mislaid or destroyed, so that during the last years, doubts had come to be entertained as to the existence of a really distinct species of such unexampled beauty as that which the letters of the veteran traveller described." To find again the mythical *Cattleya* discovered by Warszewicz was not an easy task, as in Costa Rica this species only inhabits the lowland and middle elevation forests along the Caribbean drainage of the Talamanca Cordillera, a vast and almost inaccessible territory during most of the 19th century. It was not until near the end of George Ure Skinner's life when he began pursuing, in an almost obsessive way, the collection of this famous *Cattleya*. For this purpose, he hired the Guatemalan collector Enrique Arce and sent him, at the beginning of 1864, on board Captain Dow's ship to Costa Rica and Panama (Ossenbach 2009).

You may have noted that I am quoting the original description of *Cattleya dowiana* as published by Bateman in the *Curtis's Botanical Magazine* for January 1867, instead of the *Gardener's Chronicle* of October 1866. In the latter text, as Bateman textually wrote that "I could not, until I have seen other specimens from the same country, venture to regard it as a perfectly new species," the name was proposed in anticipation of the future acceptance of the taxon, and as such is not validly published under Art. 36.1 of the International Code of Nomenclature.

Even though the original intention of Warszewicz was to have this extraordinary species named "Lawrenceana," in honor of a generous patroness of horticulture, Mrs. Lawrence of Ealing (Veitch 1906), Bateman eventually named it in honor of Captain John Melmoth Dow (1798–1918), a shipmaster and shipping agent of the American Packet Service, "as some slight acknowledgment of the many kindnesses shown and the frequent assistance rendered to British naturalists and men of science" (Bateman 1867).

Locally known in Costa Rica as *Guaria de Turrialba*, for the town and district where it was originally collected for the local market and for trade, or *Guaria Reina* (queen of orchids), the species is deeply rooted in the culture of Costa Rican people, who with not without

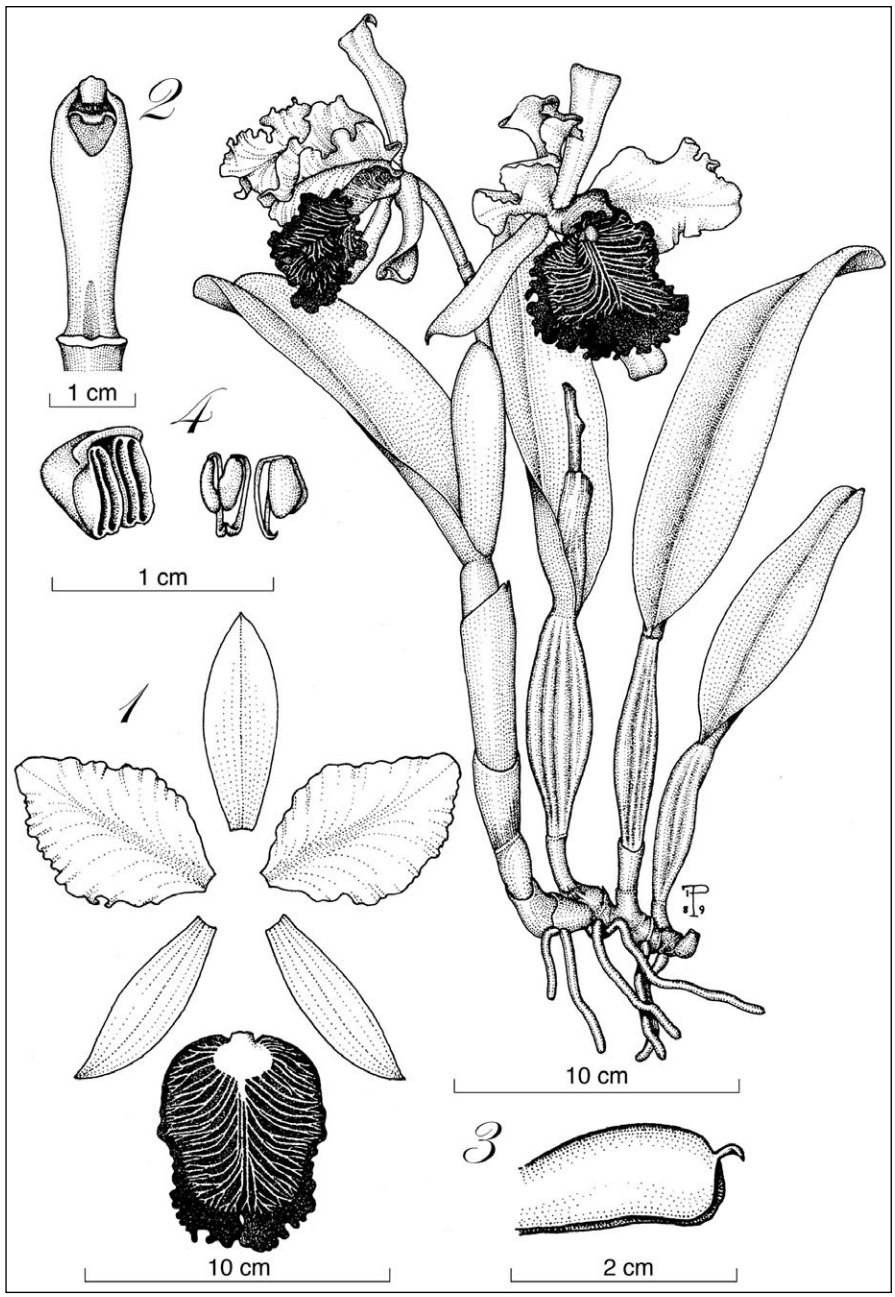
reasons regard it as the "world's most beautiful flower." The rich velvety purple lip, crossed with a net of fine golden veins, against the light and delicate yellow of the sepals and petals, make of *C. dowiana* an extraordinary example of the almost exclusively South American genus *Cattleya*, and it was considered "probably the most beautiful of the many gorgeous forms which the genus *Cattleya* has produced" (Warner and Williams 1865–1875: sub pl. 27).

The yellow coloration of the sepals and petals, regarded as *the* big potential of *C. dowiana* in hybridization, proved to be a recessive character that disappears when it is crossed with other lavender- or white-flowered species of *Cattleya,* to reappear occasionally only when selfing primary hybrids of *C. dowiana*. In exchange, the "blood" of *C. dowiana* has the virtue of darkening and enriching the lavender color of the cattleyas with which it is bred. Furthermore, the strong and pleasant fragrance of the flowers of *C. dowiana* is a dominant trait when the species is used in hybridization and transmitted to a large majority of its hybrids.

Populations of the typical form of *Cattleya dowiana* are found on the Caribbean slopes of the continental divide in Costa Rica and Panama, at elevations of 250 to 1,200 meters, but more frequently in the constantly humid premontane forests that still cover large portions of the Talamanca mountain chain, at elevations of 600–900 meters. Typical *Cattleya dowiana* populations are found south to the Bayano region in central Panama, where they have been discovered quite recently. Further south, in the forests of the northern Colombian Andes, other populations are found in the states of Risaralda, Antioquia and Chocó, where they inhabit wet evergreen forests at elevations of 300 to 1,000 meters. The Colombian "race" frequently has more yellow in the lip. Plants from Colombia were originally introduced into cultivation through Jean Linden's Belgian company L'Horticulture International, but notwithstanding Linden's requests, no botanist was willing to describe them as a species distinct from *C. dowiana*. Eventually, Jean Linden himself named it as a new species in the journal *L'Illustration Horticole* as *Cattleya aurea* (Linden 1883).

At which particular taxonomic rank the two "races" should be treated has been the subject of an ongoing debate in both the scientific and horticultural communities. As variation in flower color is quite broad in both races (resulting in proposed formal recognition of several forms in both groups), and as it is hard to find any real difference between the Costa Rican and Colombian forms in growth habit, flowering season, number of flowers, their shape and size, and even in their behavior in breeding, I favor treating them as a single species, *Cattleya dowiana* (Pupulin 2015), as the vast majority of botanical authorities do today. The International Authority for the Registration of Orchid Hybrids shares this view, as it does not register hybrids using *Cattleya aurea* as a parent and does not recognize it as a species.

On the other hand, the apparent geographic isolation of the two contingents provides a solid argument for treating the northern populations from Costa Rica and Panama, and the southern Colombian populations, at the subspecific rank as *C. dowiana* subsp. *dowiana* and *C. dowiana* subsp. *aurea*,



Cattleya dowiana. The plant.
1. Dissected perianth.
2. Column, ventral view.
3. Column apex, lateral view.
4. Anther cap and pollinaria.

Drawn from *Pupulin s.n.* (JBL) by Franco Pupulin.

respectively (Pupulin 2015).

As I noted previously, several color forms of *C. dowiana* that could prove interesting for breeding programs have been described, among them *C. dowiana* formae *carmoniana*, *chrysotoxa*, and *rosita* among the subsp. *dowiana*, and formae *marmorata* and *statteriana*, as well as informal varieties *aurantiaca*, *chotekiana*, *grandis*, *magnifica*, *musaica*, and *splendens* among the subsp. *aurea* (Linden 1897–1898).

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Selected Botanical Terms

adpressed – lying closely against an adjacent part
acute – pointed
articulate – hinged
bifid – divided into two parts by a deep cleft
biauriculate – having two earlike lobes
ca – abbreviation for circa = about or approximately
caespitose – clustered or tufted
concave – curved inward like the inside of a sphere
caudicle – slender, elastic structure to which the pollen masses are attached (plural = caudicles or caudiculae)
clavate – club-shaped
clinandrium – cavity on the column in which the anther is located
concave – bowl-shaped
conduplicate – folded lengthwise
congested – closely spaced
connate – fused to form a single part
cordate – heart-shaped
coriaceous – leathery
cucullate – hooded
elliptic – oval
emarginate – having a notched margin or tip
epiphyte – a plant that grows on another plant for support
flexuous – flexible, full of bends and curves
fusiform – spindle-shaped
glumaceous – chaffy
hirsute – hairy
lanceolate – a narrow oval tapering to a point at both ends
ligulate – strap-shaped
lithophyte – a plant that grows on rocks
monophyllous – having one leaf
obovate – egg-shaped with the wide end up
obtuse – blunt or rounded
ovate – egg-shaped with the narrow end up
papyraceous – papery
pedicel – a stem carrying a single flower
peduncle – the lower part of the inflorescence below the first bud
petiole - the stalk joining a leaf to a stem or pseudobulb
pollinarium – in orchids, a set of pollinia with their viscidia and connecting parts
pollinium – the aggregated pollen masses of orchids
porrect – held forward
rachis – portion of the inflorescence on which the flowers are carried
raceme – flowers arranged along a central stem
reflex – to bend or fold backward
reticulate –divided or marked to resemble a network
rhizome – horizontal stem
sinuate – wavy, S-shaped
spathaceous – resembling a spathe
staminode – infertile anther of some orchids especially Paphiopedilum
stipe – stalk or stem
subacute – moderately pointed
subrectangular – more than triangular but less than perfectly rectangular
subround – more or less round
subrhombic – more or less four-sided
subterete – almost pencillike
terete – pencillike
viscidium – the sticky pad on the caudicle or stipe of the pollinarium that attaches the pollinarium to a pollinator

They Did Not Send

…Or Why Cultural Conditions Matter

TEXT AND PHOTOGRAPHS BY RON MIDGETT

"THIS FLOWER IS not the same color as the sample I saw!" "It does not look like the picture in the catalog!" Judge: "The color and markings are not the same as the previous award. Must be a different flower." These are all comments I have heard. What many of us fail to realize is how much culture can affect color, form and other characteristics of a flowering orchid.

Those of us who grow *Cattleya* (*Sophronitis*) *coccinea* hybrids are quite aware of the effects of temperature and light on the color of these flowers. In cool weather, flowers will be red while in warm weather the color may be orange or even pink!

These variations were made starkly evident when we moved from New Jersey to Santa Fe, New Mexico. For those of you who have never been to Santa Fe, a little background on our climate will be helpful. Santa Fe is high desert at 7,000 feet (2,134 m) above sea level. So what does that mean? First, we rarely have summer day temperatures above 95 F (35 C). Even then, they quickly cool down at night into the high 50s to low 60s F (14.5–17 C). Because I keep a minimum night temperature of 62 F (16.7 C), the plants experience a day-night temperature differential of 20 to 25 F (approximately 10–12 C).

The other important piece is the 340 days of full sun that we have…even in the winter there are few cloudy days! This is also coupled with 30 percent stronger sunlight because of our elevation — sunscreen, hats and sunglasses are standard survival equipment here.

Most pictures that accompany this article are of the same plant photographed either in New Jersey and New Mexico or a summer versus a winter flowering. Others show the difference between the blooming of plants purchased in bud from Hawaii and then flowered again later here.

The first example is *Cattleya* Allie's Spice 'Peppermint', a cross of *Cattleya* Pink Spice × *Cattleya alaorii*. The lighter-colored flower is the bloom in New Jersey. The bright, almost-fluorescent pink splash is what we see here in New Mexico. I might add that until I divided it, the plant was in nearly constant bloom for four years.


1


2


3


4

[1] *Cattleya* Allie's Spice 'Peppermint' (Pink Spice × *alaorii*) flowered in New Jersey.
[2] The same exact plant flowered in New Mexico.
[3] *Rhncholaeliocattleya* Apricot Sands 'Fire Brand' AM/AOS (*Cattleya* Seagulls Apricot × John Passander) flowered under cool winter conditions.
[4] The same exact plant flowered during the warmer summer months.

The next few pairs of photos show the typical summer versus winter blooms for cattleya hybrids. The first is *Rhyncholaeliocattleya* Apricot Sands 'Fire Brand' AM/AOS (*Cattleya* Seagulls Apricot × John Passander). The more yellow flower is typical of the color for a summer or early fall blooming. The picture of the red-orange flower is the color of the winter bloom and the color it was when awarded its Award of Merit (AM).

The next example is of *Rhyncholaeliocattleya* January's Child 'Luscious' HCC/AOS (*Cattleya* Seagulls Apricot × Memoria Jim Nickou). Again the apricot-colored flower is a summer bloom and the red-orange one is the winter bloom. It was awarded on a winter blooming.

Sometimes the effect is a bit more subtle as shown in *Rhyncholaeliocattleya* Jim's Gold 'Diane' (Goldenzelle × Memoria Jim Nickou). In this case, the difference is a richer yellow color with the throat of the lip showing a much-deeper orange.

The two flowers from my cross RM-1007 *Rhyncholaeliocattleya* Atalanta Venture (*Cattleya* Atalanta Lane × Verdant Venture) are on the same inflorescence. The flower with more green on the petals was opening when I received it from Hawaii. The more lavender-pink flower

Me The Right Plant

opened in my greenhouse about a week later. Both photos were taken on the same day. This illustrates the dramatic difference in how the conditions in Hawaii differ from mine in Santa Fe.

These color differences with conditions also affect orchids other than cattleyas. *Zygopetalum* Advance Australia 'HOF' AM/AOS (Titanic × Helen-Ku) is a good example. The flower with more green showing on the sepals and petals was in bud when received from Hawaii. This is also the color in *OrchidsPlus* for this cultivar. The darker-color flower is on the SAME plant but from a flowering one year later. Every one of these plants that has spent a year or more in my conditions will bloom with the almost solid, chocolate-brown sepals and petals and more-vivid, darker lip.

Besides these changes due to conditions, some flowers can show a dramatic change in color as they age. This is particularly true when chlorophyll present in the flowers slowly disappears as the flower matures. Green cattleyas bred from yellow-flowered plants will start out green or chartreuse and become yellow as they age. Most of us are familiar with the latter. However, you can find a similar change in other cattleyas as well.

A plant from my cross RM-1035 *Rhyncattleanthe* Daiana ADV (*Cattlianthe* Chocolate Drop × *Rhyncholaeliocattleya* Pastoral) shows age progression change from a red-lavender blush to mainly a golden color in the sepals and petals. The example that has the strong blush was taken seven days after opening, the next example was one week later and the last, showing mainly a golden color, two weeks after the first picture. To me, the colors are different enough that if I were to see them at different times and not know they were indeed the same plant, I might think them different cultivars. Just a note about this cross, it was also made at the same time I made the cross and registered by A.D. Vastik.

As you can see from the examples,

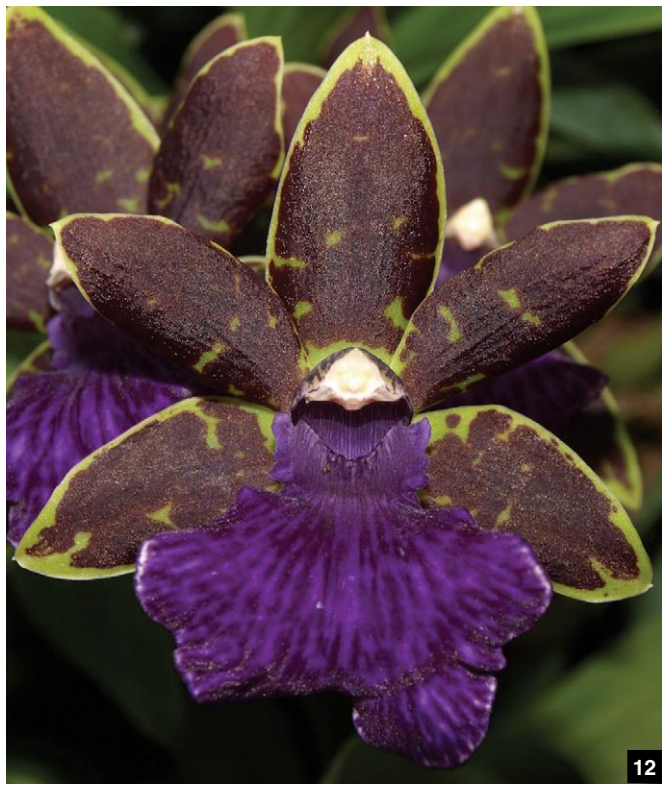
[5] *Rhyncholaeliocattleya* January's Child 'Luscious' HCC/AOS (*Cattleya* Seagulls Apricot × Memoria Jim Nickou) summer bloom.

[6] The same clone flowering under cooler winter conditions.

[7–8] Rhyncholaeliocattleya Jim's Gold 'Diane' (Goldenzelle × Memoria Jim Nickou)

[9] *Rhyncholaeliocattleya* Atalanta Venture (*Cattleya* Atalanta Lane × Verdant Venture) flowered under conditions in Hawaii

[10] A bud on the same inflorescence opened under the brighter conditions of New Mexico.



cultural conditions can play a large role in the color of our flowers. My move to Santa Fe has reinforced what I have observed in my 50 years of growing orchids, it should be emphasized that we should also be aware of how the maturing of a flower can have a big impact on color as well. In addition, particularly cattleyas with a significant part of their gene pool derived from *C. coccinea* can take two weeks or more to fully expand the flower segments and develop color. Other genera such as odontoglossum-type oncidiums and tolumnias are also known to be affected by temperature and light.

— Ron Midgett began growing orchids in 1969 in the orchid-rich environment of southern California. Since then, he has grown orchids in many different regions of the United States and in the Caribbean; mainly cattleyas, paphiopedilums, and the Oncidiinae. Several cultivars from his crosses have received AOS awards. In 2010, New Earth Orchids, his company, was relocated to Santa Fe, New Mexico. Midgett is an accredited AOS judge currently serving in the Rocky Mountain Region. He has authored articles published in Orchids *magazine and most recently in the* Orchid Digest *and is a recipient of the Digest's prestigious Ernest Hetherington Award. Ron feels a special honor in receiving this award because Ernest was one of his first mentors (ron@newearthorchids.com).*

[11] Zygopetalum Advance Australia 'HOF' AM/AOS (Titanic × Helen-Ku) fresh from Hawaii.

[12] Same plant one year later.

[13–15] Flower color can change dramatically as flowers mature and age. These photographs of *Rhyncattleanthe* Daiana ADV (*Cattlianthe* Chocolate Drop × *Rhyncholaeliocattleya* Pastoral), taken at weekly intervals, illlustrate this process.

Orchid Friends

Text and photographs, unless otherwise credited, by Thomas Mirenda

Companions for Lonely Orchids

I HAVE OFTEN written that orchids are among the most interconnected of organisms. Their natural ecology involves relationships with myriad other living things that enhance their survival and supply the nutrients they need to thrive. Symbiotic relationships abound among orchids. There are thousands of known examples and probably thousands more yet to be discovered. *Coryanthes* seeds germinate in acidic ant colonies, myrmecophilas even provide shelter and possibly a food source within their pseudobulbs to attract and retain stinging ant "bodyguards" that protect the succulent plants from predation and parasites. They enlist a mind-boggling array of insects as pollinators, often species-specific ones, including bees, butterflies, moths, crickets, fruit flies and fungus gnats. Birds, bats, mice and even small marsupials are also manipulated by orchids for pollination and seed dispersal. As epiphytes, they need the support of a woody tree or shrub as substrate. When we consider their interdependence with fungi, things become increasingly complex and often bizarre. My point is that orchids exist in a wonderfully intricate and interdependent world.

Now, of course, I would never suggest that we include all of these creatures in our growing areas. Imagine having colonies of euglossine bees, stinging ants and small marsupials in your light room, in your greenhouse or, God forbid, on your windowsills? However, there is one reasonably simple way to allow your orchids some friendships and relationships beyond the other 17 phalaenopsis they share their bench with: companion plants. There are lots of wonderful nonorchidaceous plants that coexist well with orchids. Their presence often increases humidity and provides some shade for smaller orchids. Including a few companion plants will also soften the look of your greenhouse, especially if you are growing a lot of the same types of plants. Here are a few interesting things to try for the adventurous orchidist.

ANTHURIUMS A wonderful genus of aroids with often-showy, long-lasting inflorescences suitable for cut flowers. Many of these are epiphytic and have similar fleshy root systems that cling to tree branches and rocks. Tough and leathery, they are easy to grow, and adapt to shady or mildly sunny conditions you may have. And, they come in all sizes from tiny miniatures to gargantuan ones and bold colors from white to pink to red, orange and purple. But perhaps the best ones for the orchidist are the larger-leaved shade-loving ones like *Anthurium crystallinum* and *Anthurium warocqueanum*. These plants have magnificent leaves with gorgeous patterns and crystalline texture. In recent years, many of the South American orchid growers have been bringing some spectacular newly discovered anthurium species to orchid events around the world to add to our collections.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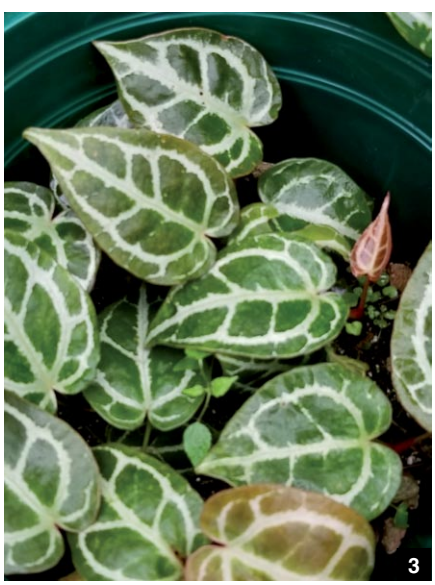
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[1–4] Anthuriums, grown both for their flowers as well as their wonderful foliage, make excellent companion plants.

OTHER AROIDS This incredible plant family boasts a fantastic array of orchid companions as well. Although all of us have grown a philodendron, monstera or pothos at some point in our lives, there are literally thousands of incredible species and forms that can be cultivated. Most will thrive in a shady spot in your greenhouse where orchids may not have enough light to bloom. Spathiphyllums (peace lilies) and zantedeschias (calla lilies)

make wonderful greenhouse subjects, too. But for the truly adventurous, why not try some *Amorphophallus*? The moniker "corpse flower" may put you off at first, but for those with adequate space, they make an exceptionally beautiful greenhouse subject. Of course, they smell pretty awful (they are fly-pollinated like many bulbophyllums) when the magnificent inflorescences unfurl. But it is only for a short time. Blooming one is an unforgettably exciting experience.

EPIPHYLLUMS Also known as orchid cactus, these tropical epiphytes have some of the most stunning flowers in the plant world and are rather easy to cultivate and propagate — possibly too easy. Despite their stunning beauty, they do have some drawbacks. The plants can get rather large and unruly (most are best grown in hanging baskets) and so it is best to trim them and root them for friends or the raffle table. I have always wished the stupendous flowers lasted a little longer, but like most cacti, the blooms fade in only three or four days. Somewhat seasonal in their blooming cycle, most will put out blooms in late winter to early summer, increasing vegetatively in the summer and fall seasons. Many of the white-flowered species open at dusk, are bat-pollinated and intensely fragrant, often blooming predictably with the phases of the moon. If epiphyllums are too large and obstreperous for your space, other tropical cacti are rewarding, too, including *Zygocactus* and *Schlumbergera* (aka Easter and Christmas cactus, respectively) and the less showy but nonetheless incredibly interesting, diverse and easy-to-grow rhipsalis.

GESNERIADS Who has not had an African violet as a house plant at some point in their life? These wonderful plants adapt well to cultivation and have been bred to display incredible colors, lovely forms and extreme floriferousness. However the Gesneriaceae has so many other fantastic plants that will coexist in an orchid greenhouse really well. Most require shade and many of the epiphytic ones work well as stunning hanging baskets. Columnias tend to creep around or hang pendulously as epiphytes or lithophytes. Their stunning, tubular flowers attract hummingbirds in the wild. Aeschynanthus (lipstick plant) grows similarly. Although they tend to come from cooler montane forest environments, most will adapt to tropical greenhouse conditions. Episcias (flame violets) also make a fine hanging basket, but prefer rather deep shade. Grown


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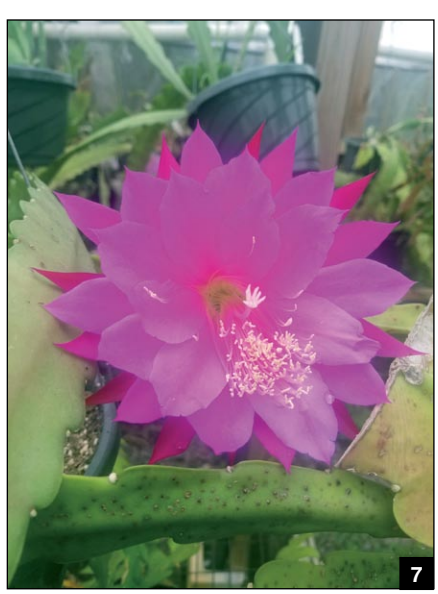
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mostly for their iridescent and variegated leaves, they will periodically grace us with brilliant flowers in mostly red and orange shades. Perhaps the most spectacular of the gesneriads are the *Streptocarpus* (Cape primroses) from southern Africa. A well-bloomed streptocarpus is a marvel to behold, but unfortunately, they suffer in high heat situations. Do not try these in South Florida.

VIREYAS One of the best kept secrets in the horticultural world, these magnificent Southeast Asian tropical rhododendrons are barely known outside their natural habitats and a few places where they are embraced by gardeners. Here on the Big Island these splendid plants thrive and bloom copiously with often-huge and brilliantly hued trusses of outrageous flowers. Semiepiphytic, they should be kept in a well-drained or rocky mixture and protected from direct sun and intense heat. These are not winter hardy like those rhodies used in temperate gardens. They are mostly from montane environments and bloom best when they get a good 10–15 F (5.6–8.3 C) temperature differential, just like your orchids. Many vireyas are bird-pollinated, mostly by sunbirds and honeycreepers, Old World counterparts to New World hummingbirds, and it is thought that many dendrobiums mimic vireya flowers to co-opt and deceive vireya pollinators.

Although these five groups of companion plants might give you some ideas for extending some new friends and relationships into your orchid collection, frankly, I have barely scratched the surface at this point. Many of you will wonder why I have not talked about tillandsias and other bromeliads, ferns, begonias, small palms, tropical bulbs, etc., etc., etc. Perhaps another article is on order?

— *Tom Mirenda has been working professionally with orchids for over three decades. He is an AOS accredited judge and is the chairman of the American Orchid Society's Conservation Committee. He recently coauthored* The Book of Orchids: A Life-Size Guide to 600 Species From Around the World *(email: biophiliak@ gmail.com).*

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[5] Amorphophallus range from tiny plants that mature only a couple of inches tall to massive specimens. *Amorphophallus paeoniifolius*, picture here, is a medium-size species that, grown in a pot, will produce leaves 3–6 feet (0.9–1.8 m) tall. Photographs by Ron McHatton.

[6–7] Although the individual flowers of epiphyllums don't last long, like many orchids with ephemeral flowers, they flower off and on throughout the year.

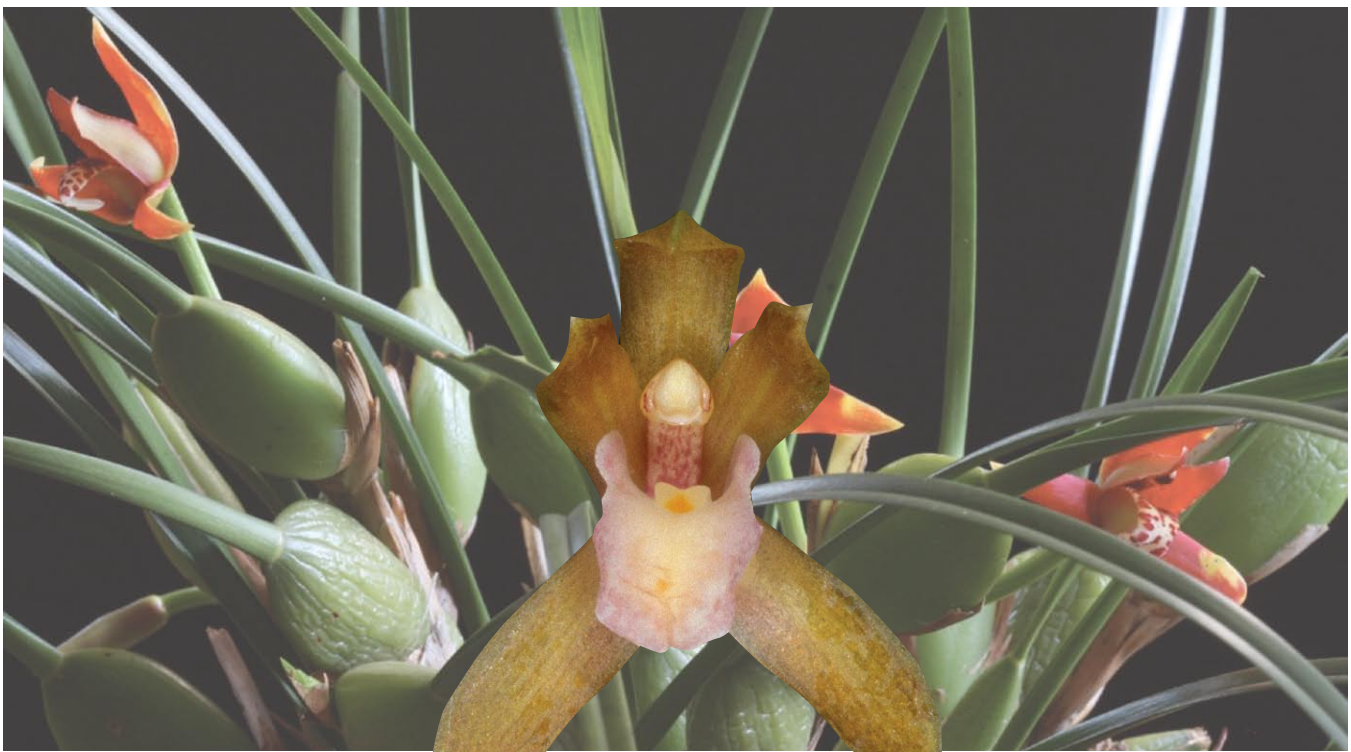
[8] Vireyas, tropical rhododendrons, make great companions for those with the conditions they require.

[9] For those with limited space, there are many small to medium-sized gesneriads such as streptocarpus and gloxinias that can be grown with orchids.

MAXILLARIA SANDERIANA.

Maxillaria by Peggy Alrich and Wesley Higgins

An New World Genus



MAXILLARIA

Ruiz and Pavón *Fl. Peruv. Prodr.*, 116, t.25 (1794).

ETYMOLOGY From the Latin for jawbone (*maxilla*). An allusion to the gaping flowers and the fancied resemblance of the column foot and lip to the jaw of an ass (donkey).

LECTOTYPE *Maxillaria ramosa* Ruiz and Pavón designated by Garay and H.R. Sweet, *J. Arnold. Arbor.*, 53(4):524 (1972), and Pupulin, *Anales del Jardín Botánico de Madrid*, 69(1):76 (2012).

An estimated 654 sympodial or sometimes monopodial epiphytes, lithophytes or terrestrial species have a wide distribution in low- to upper-elevation, hill scrub, steep slopes, along roadside embankments and montane forests from the southeastern United States (southern Florida), Cuba to Trinidad, the Guianas, Mexico to Bolivia, and northern Argentina with the greatest diversity found in the Andes and Brazil.

Varying greatly in structure, some species have clustered, laterally compressed pseudobulbs; some have long, erect or branching stems between the pseudobulbs. There are even some species growing just 3 or 4 feet (about a meter) high, and are with or without pseudobulbs, and other species are found in various combinations. Often produced in vast numbers, each inflorescence has a solitary, small to large flower with color varying widely from pure white to black-brown, with a range of fragrances from sweet to offensive.

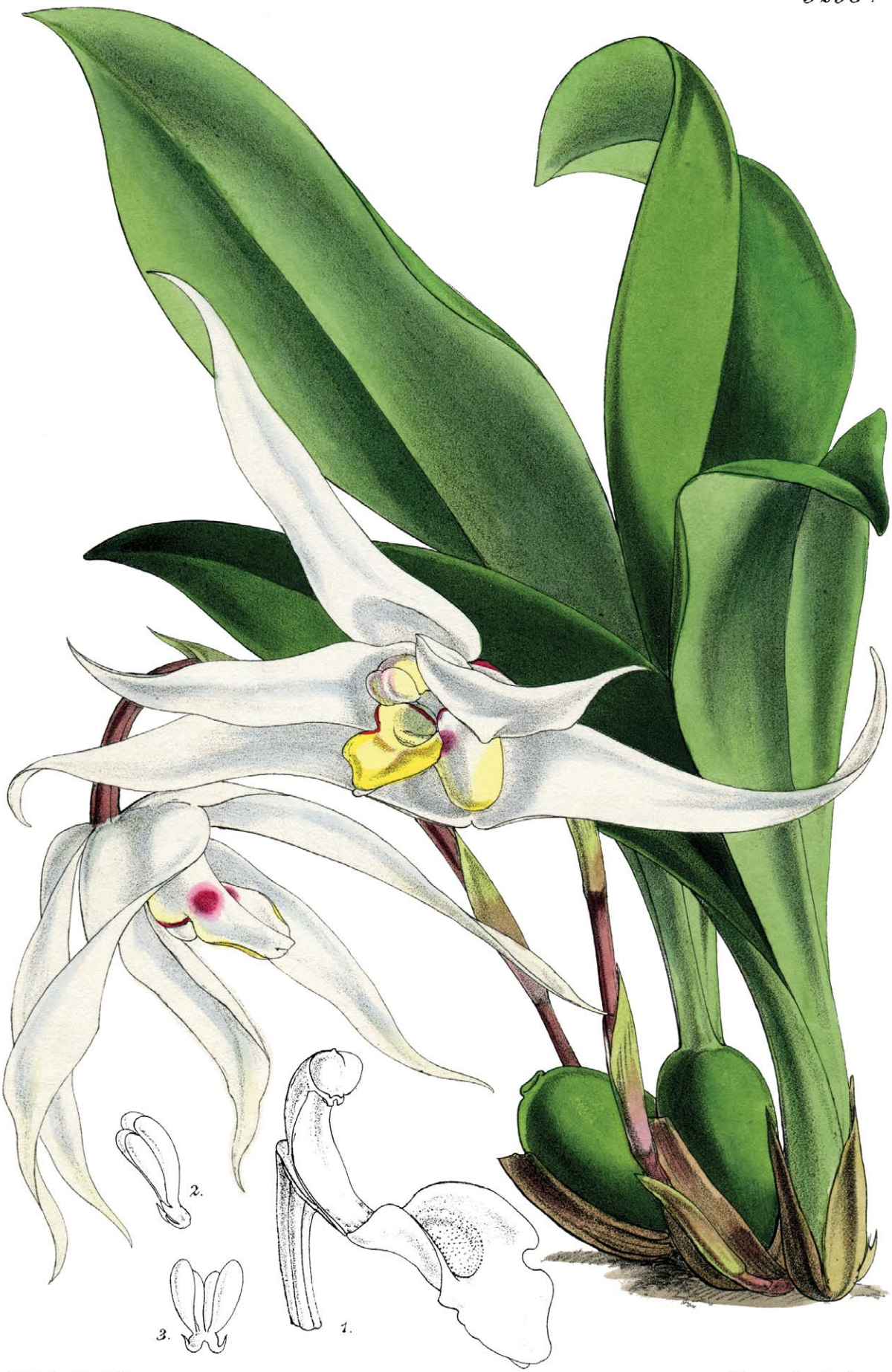
The lateral sepals are joined at the column foot, forming a chin-like protuberance with the petals usually smaller. The concave, trilobed or simple lip, hinged to the column foot, usually has a disk with a powdery or waxy, basal callus. The flowers have an erect or curved, slender or stout column that is semi-pencil–like, rarely winged, and usually with a conspicuous foot. Pollinia, four, are in two unequal pairs, superposed, waxy and laterally compressed.

The outward appearance of *Maxillaria* plants is very diverse and molecular studies have shown that many *Maxillaria* species are not closely related to each other. Many taxonomists favor splitting the genus into smaller genera such as: *Brasiliorchis*, *Camaridium*, *Christensonella*, *Heterotaxis*, *Inti*, *Mapinguari*, *Maxillariella*, *Mormolyca*, *Nitidobulbon*, *Ornithidium*, *Pentulops*, *Sauvetrea* and *Rhetinantha*.

CULTURE These plants do best in pots or baskets with a well-drained mixture that retains a little moisture. Provide intermediate conditions, high humidity, bright light and good to brisk air movement.

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

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



W. Fitch, del. et lith.

Vincent Brooks, Imp.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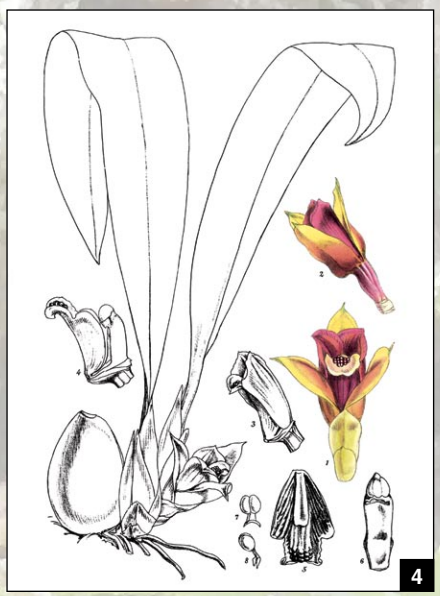
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Antique Plates: *Maxillaria*

[1] *Maxillaria sanderiana – The Garden*, 32: t.606 (1887).
[2] *Maxillaria venusta – Botanical Magazine*, 88: t.5296 (1862).
[3] *Maxillaria picta – Botanical Register*, 21: t.1836 (1802).
[4] *Maxillaria desvauxiana – Refugium Botanicum*, 2: t.134 (1882).
[5] *Maxillaria tenuifolia – The Botanist*, 3: t.140 (1838).
[6] *Maxillaria luteoalba – Orchid Album*, 3: t.196 (1884).
[7] *Maxillaria luteograndiflora – Floral Magazine* (London), 10: t.559 (1871).
[8] *Maxillaria porphyrostele – Botanical Magazine*, 106: t.6477 (1880).
[9] *Maxillaria grandiflora – l'Illustration Horticole*, 17: t14 (1870).
[10] *Maxillaria ochroleuca – La Belgique Horticole*, 30: t.18 (1880).


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The Catasetinae — Part 2

Clowesetums — Breeding Clowesias with Catasetums

TEXT AND PHOTOGRAPHS, UNLESS OTHERWISE CREDITED, BY FRED CLARKE

THE SEVEN *CLOWESIA* species can be separated into two groups: four summer-bloomers (*Clowesia dodsoniana*, *Clowesia glaucoglossa*, *Clowesia russelliana, Clowesia thylaciochila*) that flower in June and July and three winter-bloomers (*Clowesia amazonica*, *Clowesia rosea*, *Clowesia warczewitzii*) that flower in January. Like most orchids, clowesias have perfect flowers, with male and female reproductive elements present in each flower, unlike their close cousins, the catasetums, which have sexually dimorphic flowers with distinct male and female flower forms. As clowesias have perfect flowers, breeding is relatively easy, and there is no need to have flowers of two different sexes, as with catasetums. When crossing a *Catasetum* with a *Clowesia*, breeders often take pollen from the *Catasetum* and use the *Clowesia* as the capsule parent.

The four summer-blooming *Clowesia* species are large, robust, leafy plants that produce up to three cascading inflorescences from recently matured pseudobulbs. In most cases, plants produce numerous light green flowers with green stripes; these are nicely scented with a pine or menthol fragrance. There is one exception: the flowers of *Cl. glaucoglossa* have maroon spots and stripes adorning the green sepals and petals. As of now, there have been no primary hybrids between the summer-blooming *Clowesia* species.

The three winter-flowering *Clowesia* species are smaller growers and produce two to four cascading inflorescences carrying 10–12 flowers from leafless dormant pseudobulbs. Flowers produce a clean lemon fragrance. The flowers of *Cl. amazonica* and *Cl. warczewitzii* are light green with green stripes and have a green lip with purple veins deep in the throat. *Clowesia rosea*, as the name implies, is mostly light pink, and the pink lip has green stripes and a golden patch in the throat.

There have been two very successful hybrids between the winter-blooming clowesias: *Clowesia* Grace Dunn (*warczewitzii* × *rosea*) and the well-known *Clowesia* Rebecca Northen (Grace Dunn × *rosea*). These bloom from leafless pseudobulbs late in the season, generally December and January. It is awesome to see the bare pseudobulbs loaded with cascades of pink flowers emitting a delightful lemony fragrance. Given their charming attributes, it is not surprising that many successful crosses have been made with these two hybrids.


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CHUCK LEFAIVE

[1] *Clowesetum* Dragon's Treasure 'JEM' AM/AOS (*Clowesia warczewitzii* × Pink Lemonade)
[2] *Clowesia thylaciochila*
[3] *Clowesia warczewitzii* 'SVO'
[4] *Clowesia russelliana*
[5] *Clowesia* rosea 'Pink'

There are several notable hybrids with *Cl*. Rebecca Northen. *Clowesetum* Pierre Couret (*Cl*. Rebecca Northen × *Catasetum pileatum*) was made with *pileatum6* var. *imperiale* 'Pierre Couret', an unusual red color form of *Ctsm*. *pileatum*. Most of the progeny were pink or pink-spotted, but some red flowers were produced such as 'SVO Candy Apple' AM/AOS. The grex *Clowesetum* Maeve (*Cl*. Rebecca Northern × *Catasetum* Mark Dimmitt) produced many shapely pink-spotted flowers. These bloom twice a year — midsummer and again in the winter — due to influence from species with various bloom seasons in the ancestry of *Ctsm*. Mark Dimmitt. *Clowesetum* Alexandra Savva (*Cl*. Rebecca Northen × *Catasetum denticulatum*) was a nice surprise. Every plant bloomed with uniformly high-quality flowers in light pink densely peppered with dark pink spots. The most recent cross to be registered is *Clowesetum* Afterglow (*Cl*. Rebecca Northen × *Catasetum spitzii*), which produces yellow flowers due to the yellow color dominance imparted by *Ctsm. spitzii* 'SVO Gold' FCC/AOS.

The breeding potential of *Cl*. Grace Dunn has not been fully explored, but the first crosses to bloom have shown that it does have potential as an important parent. *Clowesetum* Abigail Parsons (*Cl*. Grace Dunn × *Catasetum* John C. Burchett) produces an array of flower colors from green to pink to dark rose, all with the desired improvement in lip size and shape. Two new crosses are also showing promise. *Clowesetum* Amazing Grace (*Cl*. Grace Dunn × *Catasetum* Orchidglade) has produced nearly white flowers with a yellow lip, and the cultivar 'Perfection' has nearly perfect shape. The recently registered cross, Clowesetum Grace Drisch (*Cl*. Grace Dunn × *Catasetum tigrinum*), has been quite charming. The small plants stand barely 5 inches (12.5 cm) tall and produce soft pink blooms, randomly spotted in dark pink, with contrasting white and yellow lips. Very charming!

The next-generation hybrids from *Cl*. Rebecca Northen and *Cl*. Grace Dunn will use parents such as *Clowesetum* Jumbo Lace, *Clowesetum* Pierre Couret, and *Clowesetum* Pink Lemonade. Next steps in these breeding lines should introduce a broader range of flower colors, flatten the lip, and develop plants that flower twice a year, without compromising flower longevity. This may sound ambitious, but the initial results suggest that all of these goals can be achieved.

Having a breeding goal is like having a destination in mind when traveling. Without a plan, you are likely to just wander around the countryside. Understanding the influence of a parent's dominant traits is like a road map, which helps direct decisions and choices of parents to breed with. Clowesias impart many dominant traits, some good and some not so good. The good qualities are flower longevity, late bloom season, high flower count, and production of multiple pendulous inflorescences. The not-so-good traits are limited color palette and cupping of the lip, which is more prominent in progeny of the summer-blooming clowesias.

Selecting a breeding objective is a creative process, and at times it is influenced by what plant material you have at your disposal. Other times, you may undertake a more patient approach, searching out desirable parental stock. In either case, identifying your goal is the


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TERRY BOTTOM


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only way for you to know when you have achieved your breeding objective. I follow this principle with every hybrid I make, and I try to convey this information when writing descriptions for the Sunset Valley Orchids website.

Two hybrids have been registered between the summer- and winter-blooming *Clowesia* species: *Clowesia* Joe Betts (*warczewitzii* × *russelliana*) and *Clowesia* Megan (*rosea* × *russelliana*). No hybrids with either of these crosses have been yet been registered, but their potential as parents is exciting, with the possibility that some plants will exhibit the better shape of the *Cl. rosea* or *Cl. warczewitzii* flowers and twice-a-year bloom, first in the summer and then again in the fall. If you were to cross the best of these with a colorful, large, well-formed, free-flowering catasetum, you might get something very nice. My description of the theoretical hybrid (*Cl.* Megan × *Catasetum* Susan Fuchs) might read something like this: "Multiple pendulous inflorescences, each carrying 20–25 fragrant flowers in light pink to yellow with large, full, spotted burgundy lips. Expect mature plants to bloom in the summer and again in the winter." Now that would be a promising hybrid.

In the Catasetinae, a cross between *Catasetum* and *Clowesia* is a naturally good pairing. There are several notable *Clowesetum* hybrids using the summer-blooming clowesias, including *Clowesetum* Black Jade (*Cl. russelliana* × *Catasetum expansum*), *Clowesetum* Raymond Lerner (*Cl. russelliana* × *Ctsm. pileatum*), *Clowesetum* JEM's Speckled Russ (*Cl. russelliana* × *Ctsm. denticulatum*), *Clowesetum* Marshal Margolis (*Cl. dodsoniana* × *Catasetum macrocarpum*), and *Clowesetum* Sandy Kasner (*Cl. dodsoniana* × *Catasetum* Alexis Pardo). While these were quite successful first-generation hybrids, there has been limited success in the second generation of breeding.

Clowesetums made with summer-blooming clowesias hold much promise for the next generation of breeding. The long cascading inflorescences with their impressively high flower counts will surely produce some impressive offspring. Only a few second-generation crosses have been made to date. *Clowesetum* Acute Aspect (JEM's Speckled Russ × *Catasetum* Karen Armstrong) is a very interesting example of mini-clowesetum breeding. Plants are just 5 inches (12.5 cm) tall, and flower colors have ranged from soft yellows with pink spots to cream with bold burgundy


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ARTHUR PINKERS


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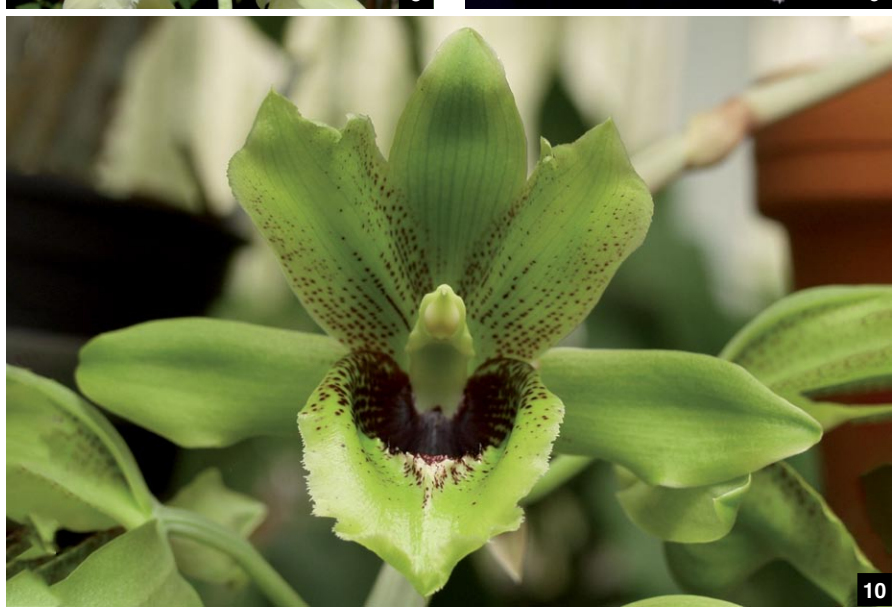
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GREG ALLIKAS

[6] *Clowesia* Grace Dunn 'Chadds Ford' AM/AOS (*warczewitzii* × *rosea*)

[7] *Clowesia* Rebecca Northen 'Grapefruit Pink' (Grace Dunn × *rosea*)

[8] *Clowesetum* Raymond Lerner 'Bradley's Beauty' AM/AOS (Clowesia *russelliana* × *Catasetum pileatum*)

[9] *Clowesetum* JEM's Speckled Russ 'Sunset Valley Orchids' AM/AOS (*Clowesia russelliana* × *Catasetum denticulatum)*

[10] *Clowestum* Black Jade 'JEM' HCC/AOS (*Clowesia russelliana* × *Catasetum expansum*)

[11] *Clowesetum* Marshall Margolis 'Caroline' HCC/AOS (*Clowesia dodsoniana* × *Catasetum macrocarpum*)

GREG ALLIKAS

ARTHUR PINKERS

TERRY BOTTOM

CHUCK LEFAIVE

ARTHUR PINKERS

[12] *Clowesetum* Sandy Kasner 'Gramma Susan Price' AM/AOS (*Clowesia dodsoniana* × *Catasetum* Alexis Pardo)

[13] *Clowestum* Sandy Kasner (*Clowesia dodsoniana* × *Catasetum* Alexis Pardo)

[14] *Clowestum* Acute Aspect (JEM's Speckled Russ × *Catasetum* Karen Armstrong)

[15] *Clowestum* Acute Aspect 'Summer Fun' (JEM's Speckled Russ × *Catasetum* Karen Armstrong)

[16] *Clowesetum* Donna Ballard 'B-C' AM/AOS (*Clowesia* Rebecca Northen × *Catasetum kleberianum*)

[17] *Clowesetum* Maeve (*Clowesia* Rebecca Northen × *Catasetum* Mark Dimmitt) 'SVO Freckles' AM/AOS

[18] *Clowestum* JEM's Dragon Tears 'Sunset Valley Orchids' AM/AOS (*Clowesia warczewitzii* × *Catasetum cirrhaeoides*)

ARTHUR PINKERS

ARTHUR PINKERS

ARTHUR PINKERS

[19] *Clowesetum* Alexandra Savva 'Dark Pink Freckles' AM/AOS (*Clowesia* Rebecca Northen × *Catasetum denticulatum*)

[20] *Clowesetum* Alexandra Savva (*Clowesia* Rebecca Northen × *Catasetum denticulatum*)

[21] *Clowesetum* Abigail Parsons (*Clowesia* Grace Dunn × *Catassetum* John C. Burchett)

[22] *Clowesetum* Abigail Parsons 'Sunset Valley Orchids' HCC/AOS (*Clowesia* Grace Dunn × *Catasetum* John C. Burchett)

[23] *Clowesetum* Abigail Parsons 'SVO Mauvelous' HCC/AOS (*Clowesia* Grace Dunn × *Catasetum* John C. Burchett)

[24] *Clowesetum* Jumbo Lace (*Clowesia* Rebecca Northen × *Catasetum fimbriatum*)

[25] *Clowesetum* Pierre Couret 'SVO Candy Apple' AM/AOS (*Clowesia* Rebecca Northen × *Catasetum pileatum*)

[26] *Clowesetum* Pierre Couret 'Flamingo Spots' (*Clowesia* Rebecca Northen × *Catasetum pileatum*)

[27] *Clowesetum* Pierre Couret 'Bloody Right' (*Clowesia* Rebecca Northen × *Catasetum pileatum*)

spots.

Clowesetums made with winter-blooming clowesias produce charming plants with the floriferous nature of a *Clowesia* and the larger flowers of a *Catasetum*. Green and pink are dominant flower colors in this group of clowesias, but carefully choosing a *Catasetum* parent with strong color dominance can give rise to new color opportunities. Winter-blooming *Clowesia* also flower once a year with multiple flower spikes, creating a magnificent show. This flowering habit is nice, but what would make it nicer? How about blooming twice a year? This is another benefit that an appropriate *Catasetum* can bring to a hybrid. Flower shape is also a consideration in breeding. The lips of *Clowesia* are small and cupped, and it makes sense to enlarge and flatten lip shape to create fuller and rounder flowers. So far, the most influential catasetums with broad, flat lips have been *Ctsm*. *pileatum*, *Ctsm*. *spitzii* and *Ctsm*. John C. Burchett.

So what does the future hold for *Clowesetum* breeding? Here are a few ideas to get you thinking: *Clowestum* After Glow × *Clo*. Sandy Kasner — Can you imagine multiple inflorescences holding 30 flowers each in long cascades of yellow and green? *Clowesetum* Maeve × *Clowesia* Alexandra Savva — Plants from this grex could hold hundreds of flowers with thousands of pink spots! *Clowesetum* Raymond Lerner × *Clo*. Amazing Grace — Think about pure white flowers with excellent shape on long inflorescences…

As orchid hobbyists gain experience, develop their growing skills and become more knowledgeable and sophisticated, it is a natural progression to become inspired to make one's own hybrid. Why not consider breeding with a *Clowesia*? After transferring pollen from one flower to another and watching the capsules begin to swell, the learning begins again. You will need to get the seed germinated, deflask the plants and nurture and care for them until they bloom. But it is all worth it when you see the first of your hybrids bloom and know that you are the first person in the history of the world to see that flower! Now how cool is that?

Acknowledgment

I am greatly honored and indebted to have Ron Kaufmann and Sue Bottom as my editors; their combined insight and wisdom is truly beneficial.

— Fred Clarke owns and operates Sunset Valley Orchids, located near San Diego, California. His interest in Catasetinae *spans over 30 years, and he*

Clowesia and Clowesetum Culture

By Fred Clarke

AS WITH ALL Catasetinae, you must respect their winter dormancy. Force yourself not to water even if there is slight shriveling of the pseudobulbs. In dormancy, these plants prefer humidity levels from 40–80 percent relative humidity, which can be challenging to achieve in the winter, especially in northern climates. An effective technique involves grouping the dormant plants on a humidity tray filled with water, which can help to create higher humidity levels around the plants. If the pseudobulbs shrivel a bit too much, you can try bottom watering by dipping the pot in an inch (2.5 cm) of water for a few seconds; this will wet the roots but not the plant. The pseudobulbs should plump up quickly.

Summer-blooming clowesias and clowesetums grow very similarly to catasetums. Their seasonal growth habit and blooming period are the same, so follow the *Catasetum* guidelines for culture and repotting of clowesias and clowesetums.

Winter-blooming clowesias are a little different. These bloom from leafless pseudobulbs in the winter and are some of the last to start growing in the spring. They grow into beautiful specimen plants if you avoid the temptation to divide them. For a real winter show, let your plants fill 6-inch (15-cm) pots, and you will be rewarded with hundreds of fragrant blooms! Clowesetums made with winter-blooming clowesias will likewise grow well, with multiple blooms in a single pot. One added benefit is the potential to get both winter and summer blooms from these clowesetums, because the *Catasetum* parents naturally bloom in the summer and the *Clowesia* parents in winter.


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CHUCK LEFAIVE


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[28] *Clowesia* Aleana Lawson 'Lanie's Warm Fuzzies' AM/AOS (*Clowesia* Rebecca Northen × *Catasetum cristatum*)

[29] *Clowestum* Afterglow 'B-C II' AM/AOS (*Clowesia* Rebecca Northen × *Catasetum spitzii*)

[30] *Clowesia* Amazing Grace 'Perfection' (*Clowesia* Grace Dunn × *Catasetum* Orchidglade)

[31] *Clowesetum* Diane Drisch (*Clowesia* Grace Dunn 'Live Oak' HCC/AOS × *Catasetum tigrinum 'SVO')*

[32] *Clowesia* Rebecca Northen × *Catasetum tigrinum)*

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is recognized as the foremost breeder of plants in this group. His hybridizing efforts and commitment to the worldwide 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).


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JAMES COMSTOCK


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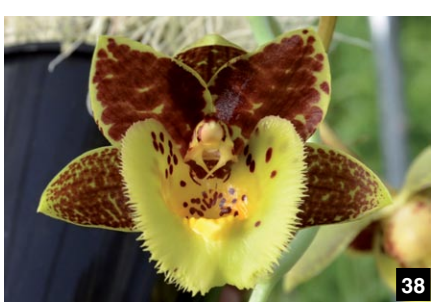
ARNOLD GUM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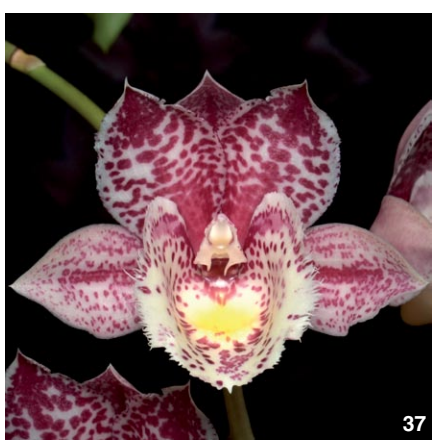
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[33] *Clowestum* Jumbo Glory 'Jumbo Orchids' BM/JOGA (*Clowesia* Rebecca Northen × *Catasetum* Bound for Glory)

[34] *Clowesia* Rebecca Northen × *Catasetum cirrhaeoides)*

[35] *Clowestum* Cosmic Sunlight 'Sunset Valley Orchids' AM/AOS (Aleana Lawson × *Catasetum* Bound for Glory)

[36] *Clowestum* Lou Lodyga (Jumbo Lace × *Catasetum* Susan Fuchs)

[37] *Clowestum* Miguela Nunez 'Pink Elephant' (Pierre Couret × *Catasetum* Orchidglade)

[38] *Clowestum* Upper Echelon (Jumbo Lace × *Catasetum* Orchidglade)

[39] *Clowestum* Miguela Nunez 'Big Red' (Pierre Couret × *Catasetum* Orchidglade)

Maxillaria — A Complex and Variable Genus

Part 2: Smaller-Flowered Species, Hybrids and Cultivation

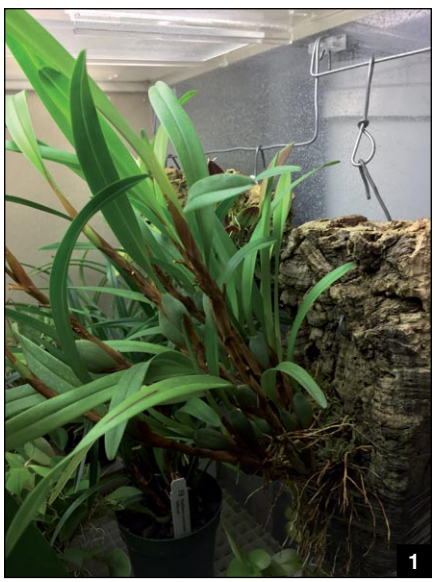
BY ESTEBAN (STEVE) GONZÁLEZ-COSTA

IN PART 1, the larger and often single- and larger-flowered species from the group were discussed. Part 2 looks at the more frequently cultivated smaller-flowered species, examines what hybridization has given us to date, and provides some tips on how to grow your maxillarias into robust, blooming specimen plants that can give you enjoyment for decades.

SMALLER-FLOWERED MAXILLARIAS The most popularly grown species include smaller-flowered *Maxillaria sophronitis*, *Maxillaria juergensii*, *Maxillaria coccinea, Maxillaria schunkeana*, and *Maxillaria variabilis*. Most of these have flowers that are around or much less than 1 inch (2.5 cm) in natural spread.

Maxillaria variabilis is one of the most commonly cultivated of the smaller-flowered species. This species holds its flowers around or slightly above the pseudobulbs at the base of its leaves as new growths emerge. When well established and growing, they will turn into specimen plants that will reward you by flowering multiple times a year with a flush of flowers. *Maxillaria variabilis* has a variable flower size range, with horizontal measurements ranging from ½–1 inch (1.3–2.5 cm). Flowers are mostly yellow with red-maroon in the lip. Other flowers are brown-burgundy, while recent awards have been given to extremely dark burgundy flowers. *Maxillaria variabilis* 'Carolyn' AM/AOS was awarded in 2017 with flowers that are extremely dark and ⅞ inch (2.2 cm) across. *Maxillaria variabilis* 'Black Eyed Susan' JC/AOS was described as black with a dark burgundy sheen, and was commended with a Judges' Commendation (JC/AOS) in 1992 and later received an Award of Merit (AM/AOS) in 2000.

There are numerous colors and suffusions found in *Max. variabilis* flowers outside of the typical bright yellow forms. *Maxillaria variabilis* 'Evets' JC/AOS is a great example of the more typical bright yellow flower that shows a beautiful, shiny burgundy throat or inner lip.



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JASON R. MILLS

A close relative of *Max. variabilis* from Panama and Costa Rica is *Maxillaria costaricensis*. According to Christenson (2013), the species has been treated as horticulturally interchangeable with *Maxillaria variabilis,* but differs by its narrower leaves and bicolored flowers. *Maxillaria costaricensis* tends to make a much smaller clumping plant with seemingly uniformly elongated

[1] *Maxillaria variabilis grown on a cork mount by the author.*

[2] *Maxillaria variabilis* 'Carolyn' AM/AOS

[3] Awarded as *Maxillaria variabilis* 'Evets' AM/AOS, this is likely var. *unipunctata.* The inset photograph, from the AOS award archives is 'Black Eyed Susan' JC/AOS.

pseudobulbs. Although many maxillarias are upward and outward growing, *Max. costaricensis* seems to grow more sideways and stay within a 6–10-inch (15–25-cm) height for me. In Minnesota my *Max. variabilis* can send out a flush of flowers multiple times, from late summer to midwinter, whereas *Max. costaricensis* seems to bloom only once between November and February.

Of the remaining popular, smaller-flowered species, *Maxillaria schunkeana* definitely holds the highest esteem and charm of hobbyists due to its growth habit, dark flower color and presentation. It has become more popular just in the last decade with many sightings at society table judgings and receiving AOS awards. Depending on the cultivar, strength of the plant and cultural conditions, flowers of *Max. schunkeana* can range in horizontal natural spread from ⅜–1⅛ inch (1.5–3 cm) in more-open flowers. It is also adaptable to home-growing conditions. The charm and presentation of this species is clearly evident from the photograph of *Max. schunkeana* 'Hanging Gardens' CCM/AOS, which shows the excellent presentation of all-around flowers clustered around the pseudobulbs of a neat plant with uniform, upright foliage. The clustered, but not tight, compact growth habit is part of the allure of growing, flowering and enjoying this miniature species. Flower color descriptions for *Max. schunkeana* include or vary from ebony, dark maroon, purple-black to black. Although the flowers arise at the base of the plant, they often provide a real show around the peripheral pseudobulbs.

Maxillaria sophronitis is a miniature with bright orange to dark orange flowers contrasting with a yellow lip. This species has been known to have either tightly clustered pseudobulbs or a long, rambling-rhizome (scandent) growth habit. Blogs also describe the species as either type, noting divisions of plants that bloom but are difficult to grow, possibly wanting a cooler environment, or those that are easier to grow and have a less rambling habit but seldom bloom. Natural spread for these flowers ranges from ⅜–⅞ inch (1.5–2.2 cm). Overall, flowers are bright and long-lasting.

Maxillaria juergensii belongs to a group of needle-leaved, smaller maxillarias. As specimen plants, they turn into giant clumps. During a visit to Brazil in 2015, we saw how large clumps of this species covered tree limbs in Rio Grande do Sul. Awarded plants grow into 12–16-inch (30–40-cm)–diameter balls of needles typically displaying more than 200 red-brown flowers. Flowers range from ½–⅞ inch (1.2–2.2 cm) in size. Color is described in a broadly encompassing way as red-purple-brown with a dark brown lip. There are many species that are similar in plant foliage habit to *Max. juergensii* from the ones described in the awards list including *Maxillaria acicularis*, *Maxillaria pumila*, *Maxillaria seidelii* and the larger, more semiterete foliage of *Maxillaria minuta* and *Maxillaria uncata*. Semiterete *Max. uncata* has a slightly larger flower and completely lacks a visible pseudobulb as it grows outward along its stem. When imported, *Max. juergensii* is a bit more challenging to establish and interestedly enough gave me a scare when my third attempt was developing new growths and I thought it had developed rot. The emerging leads were so dark red in color


4 JUDITH HIGHAM


5 ERIC HUNT


6 LOWELL MCCABE


7 KARL SIEGLER

that I thought they were goners! This plant is now on its way to becoming a specimen in my Orchidarium and enjoys showers of cold reverse-osmosis-purified water at 55 F (12 C) during the winter months. Flowers of many of these smaller, cooler-growing maxillarias are long-lasting and can be open for two months.

Lastly, *Max. coccinea*, also known as *Ornithidium coccineum* (the genus name refers to little birds) is the last of the brightly colored, smaller-flowered types. Emanating from the Caribbean, with a 0.3–0.67-inch (0.7–1.7-cm) flower size, these closed, cherry-like flowers are orange-red. In my native Puerto Rico, where I have seen them in different areas, they occur in a variety of higher elevations on the island and vary from orange to deeper red tones.

HYBRID MAXILLARIAS *Maxillaria* Maui Coconut is the most commonly found and popular hybrid. It is an intermediate hybrid between *Maxillaria tenuifolia* and *Maxillaria sanguinea*. *Maxillaria* Maui Coconut 'Westerfeld' AM/AOS is a good example of this hybrid beautifully grown and profusely bloomed. This plant displayed flowers that were well nestled uniformly around a more *Max. sanguinea*-like, smaller pseudobulbed plant that had flowers that were likely slightly larger than that of the parents at 1½ inches (3.8 cm). The flowers had strong color saturation on a well-flowered miniature specimen.

Other commonly found hybrids have parentage involving the more often cultivated species *Maxillaria striata* and *Maxillaria sanderiana*. *Maxillaria* Sangay 'Bryon' AM/AOS, a cross between *Maxillaria pulla* and *Max. striata*, had four flowers with a 3-inch (7.6-cm)–wide by 2¾-inch (6.9-cm) natural spread. The intermediate-sized flowers clearly show the influence from both parents: the shape of the *Max. striata* parent and softened striations in a muted orange-yellow color from the *Max. pulla* parent.

Maxillaria Macas 'Barbara' HCC/AOS, a hybrid of *Maxillaria fletcheriana* and *Max. sanderiana*, illustrates how two of the few large, white, lycaste-type maxillaria flowers can produce an open, smooth, 4¾-inch (12-cm) flower. This flower, strongly influenced by *Max. sanderiana* in appearance, is possibly ⅜–¾ inch (1–2 cm) larger than the geometric mean (expected size of the hybrid based on the parents' size). The only thing that this particular flower does not have is a strong lip and sepal basal coloration.

Maxillaria Hani 'Orange Crush' HCC/AOS (*fucata × striata*) with two flowers

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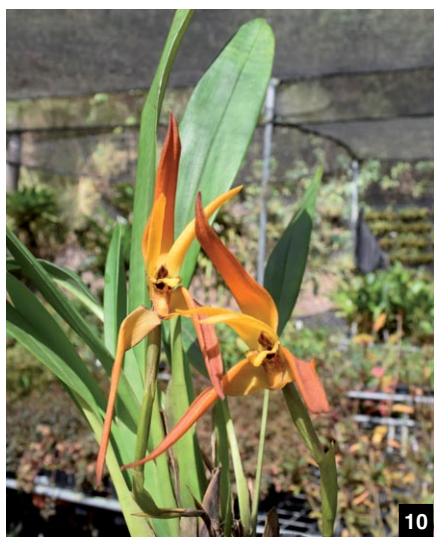
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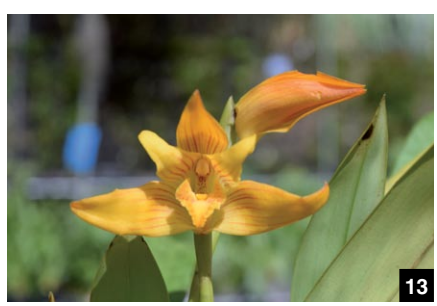
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AOS AWARD ARCHIVES


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[4] *Maxillaria juergensii* 'Mother's Day' HCC/AOS
[5] *Maxillaria schunkeana* 'Hanging Gardens' AM/AOS
[6] *Maxillaria uncata* 'Dr. Lee Fent' HCC-CCM/AOS
[7] *Maxillaria sophronitis* 'Karlene' HCC/AOS
[8] *Maxillaria* Sangay 'Bryon' AM/AOS (*pulla* × *striata*)
[9] *Maxillaria* Macas 'Barbara' HCC/AOS (*fletcheriana* × *sanderiana*)
[10] *Maxillaria* (*fractiflexa* × *molitor*)
[11] *Maxillaria* Jinsop Medina (*striata* × *fractiflexa*)
[12] *Maxillaria* Padre Jorge Moreno (*platypetala* × *huebschii*)
[13] *Maxillaria* (Sangay × *molitor*)
[14] *Maxillaria* Hani 'Orange Crush' HCC/AOS (*fucata* × *striata*)


15 LYNN O'SHAUGHNESSY

illustrates how a smaller, yellow, flatter *Maxillaria fucata* crossed with the extremely recurved *Max. striata* can result in a flower that could be slightly smaller due to lateral sepal reflexation but is vertically larger and with broad segments. The sepals are rich orange, flushed with red-orange bringing out color not seen in this genus. Clearly both parents make a great contribution to this hybrid.

Maxillaria Big Red (*sanderiana* × *nigrescens*) received an Award of Distinction (AD/AOS) in 1996 and was described as "a promising, new breeding line producing large-flowered, red maxillarias." Indeed, it inherits much from the dark red-maroon or brown-red color of *Max. nigrescens* crossed onto a pure white *Max. sanderiana*.

One interesting thing to note in maxillaria hybridization is that they can interbreed with lycastes. It will be interesting to see if compatible maxillacaste hybrids ever produce plentiful, improved flowers that also are filled with interesting colors. So far little has been done in the way of breeding between these two genera.

Recently, *Angularia* Denise Barrow (*Anguloa clowesii* × *Max. striata*) received an AD/AOS and an AM/AOS for some beautiful, open, concolor gold flowers that reached an impressive 5 inches (12.2 cm). Looking at the result shows clearly how much potential there is within this genus and with intergeneric hybrids.


16 STEVEN GONZÁLEZ


17 TECK HIA

SURVEY OF NONAWARDED MAXILLARIA HYBRIDS Looking at an estimated 70 registered hybrids and only five with AOS awards, it is easy to see that there is much potential even beyond the current hybrid inventory to produce floriferous plants that might also be hybridized for ease of growth.

[15] *Angularia* Denise Barrow 'Mid-Michigan' AM-AD/AOS (*Anguloa clowesii* × *Maxillaria striata*)
[16] *Maxillaria* Fabricio-Suarez (*molitor* × *sanderiana*)
[17] *Maxillacaste* Delta Dawn AD/AOS (*Maxillaria huebschii* × *Lycaste* Peter Sander)
[18] *Maxillaria seidelii* 'Laura' CCE/AOS
[19] Maxillaria juergensii 'Calibri' CCM/AOS; 200 flowers on a plant just under 2 feet (28 cm) in diameter.

KEN JACOBSEN

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KEN JACOBSEN

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ERIC HUNT

[20] Many Maxillaria species grow as terrestrials, rambling through the underbrush. This species was photographed in situ in Southern Peru.

Most of the current registered hybrids do revolve around the same list of larger-flowered and more-awarded maxillarias. When I attended the 22nd World Orchid Conference in Guayaquil, Ecuador, we visited the greenhouses of the entity that is responsible for the majority of hybrids registered after 2005, Ecuagenera. Looking at the maxillaria hybrids on the Ecuagenera website, we see a *Maxillaria* Alan Digby that clearly inherits its strong colors from *Max. striata* — but is not registered? Internet searches state that it is a combination of the two most colorful larger species, *Max. striata* and *Maxillaria molitor*.

Maxillaria Fabricio Suarez (*molitor* × *sanderiana*) was registered in 2007 by Ecuagenera, but has never been awarded, and combines parentage that one would expect to produce beautiful hybrids. Some of the photos found on the internet show lighter color, which might be due to fading as flowers age, but the open flowers are colorful.

An interesting hybrid shown by Ecuagenera is *Maxillacaste* Heinz Michael Pinkepank, which is *Max. sanderiana* crossed with *Lycaste virginalis*. This also shows the flower and color potential of this intergeneric combination.

While at Ecuagenera in November of 2017, we had the opportunity to see some of the hybrids that were in bloom at that time. Ecuagenera has registered some of these since the mid-1980s into the 1990s. Many of these involve the large and more floriferous parents: *Maxillaria elegantula, Maxillaria huebschii, Max. striata, Max. molitor, Maxillaria fractiflexa, Maxillaria arachnites, Maxillaria platypetala*, and the smaller *Max. pulla*. Looking at the photos taken at Ecuagenera, size, color and floriferousness were definitely the aim. Unfortunately, we do not see any hybrids that result in floriferous crosses that produce abundant flowers on medium-to-smaller plants — this would aim at using midsized and easier-to-grow, smaller maxillarias as parents.

Indeed, between an endless variety of species from a broad range of cultural conditions to hybrids with endless variety and potential of flowers forms and colors and scents, the genus *Maxillaria* presents endless opportunity to explore and to focus on enjoyable plants that can be added to your collection. Once you have initial success, you will appreciate and feel the challenge to expand into this complex group of orchids.

MAXILLARIA CULTURE This group is diverse and many times intolerant of rapid changes in culture. Many of us purchase plants domestically as seedlings or divisions, or imported plants. Regardless, I have found that the process should be to first to acclimate a new plant and then work to achieve healthy growth. This is particularly important for imported bare-root plants.

The biggest danger at this stage is rotting in existing or new leads because of overly wet conditions. Initially, provide high humidity and water only at the base area and substrate, not the leaves. Once the plant is stable, rooting and accustomed to your grow-area conditions and it is strong, then we expect that the plant is on its way to becoming a blooming specimen. This could take a few months or a full year's growth cycle.

The main growth areas for my plants are a warmer, wetter shelf only for those plants that come from such a climate and a cooler Orchidarium enclosure outside of my grow room in a cool basement room. The Orchidarium maintains the high light and over 85-percent levels of constant humidity that are needed for the slow-growing bulbs to mature.

Another issue for many maxillaria plants is their growth habit. A few of them grow upward and, if not, then they ramble far and wide. Many of them take large stair-steps in an upward and outward direction. For this reason, plants that grow in a more upward cluster might be accommodated in a pot, until vertical space is exhausted if not growing in a greenhouse. Other plants can be mounted on cork oak bark or a tree fern slab and will grow up or out with some roots attaching to the vertical mount over time.

Others plants, like *Maxillaria gracilis* and *Maxillaria splendens*, grow better under my conditions in New Zealand sphagnum and plastic pots. These plants never dry out completely. Most of the smaller plants in my collection grow well in a mostly tree-fern mix with some fine-to-small Orchiata bark. This is consistent with comments that many plants with finer roots or botanicals that come from habitats where plants grow in accumulated detritus are excellent candidates for osmunda fiber or tree-fern mix. Although I try to minimize the use of this precious and costly resource, I do have smaller maxillarias and pleurothallids in this type of a mix.

My experimentation has led me to prefer plastic pots on most plants, although some initial potting for cooler-range, intermediate plants remain happy and floriferous in this basic mix in clay pots. Although clay requires more watering, the medium likely lasts longer than in plastic pots.

Most of my plants are late-winter to early-spring bloomers. Once established, they typically have a peak season when they display the most flowers. This usually happens as the new growths emerge. I have found that if they are growing well, they might take a slight rest and have smaller reblooming periods one to two months later. With cool summer nights in Minnesota, my cool-growing orchids go outdoors early in the season to avoid higher heat accumulation in my grow areas. At that time, I clean and empty my Orchidarium.

Years ago, I dared to try and grow a couple of the larger-flowering and -growing maxillarias and did not understanding the adaptation stage. I overwatered and quickly led my plants to irreversible rot. Most of these plants lend themselves to basket culture, which is easier in greenhouse culture. Never say never — one of these years I might target a more forgiving species and make another attempt to see if I gain the success that I have had over the last five years with the smaller species. Remember to listen to your maxillaria plants in a timely manner; they do not lie as to being unhappy and needing a different culture medium or microclimate in your growing area. Respond quickly.

ERIC HUNT

[21] Others such as this *Maxillaria notylioglossa*, a wide-spread tropical species in South America, grow in quite exposed locations as epiphytes making it very important to know the native habitat of your plants.

Once plants are established, they should flower freely. If not, make changes. If your leaves are developing, bulbs maturing and roots growing everywhere, you have succeeded. Some plants are said to be difficult bloomers. One such species that has been labeled a problematic bloomer is *Max. sophronitis*, of which it has been said "tends to flower infrequently" (Mirenda 2009). This might be true as I have grown a division of *Max. sophronitis* with rambling rhizomes in the cool room where it blooms annually while the nice tightly clustered division that my wife grows has never shown flowers in about eight years.

Parsons and Gerritson (2013) attribute the shy bloomers to the clones that need cooler conditions. Who knows, maybe the nicely clustered plant will bloom someday maybe if my spouse gives up and I put it in the cool room? *Maxillaria sophronitis* is an attractive growing plant — I doubt she'll give it up!

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— Steve Gonzalez has been growing orchids for over 35 years since landing a neighborhood garden job repotting cattleyas in Rio Piedras, Puerto Rico. He is a past president and has been a member of the Orchid Society of Minnesota since 1991, and is currently an associate judge in the Chicago judging center. Living in the Caribbean and US Midwest and working as an international manager traveling Latin America over time has given him the opportunity to see plants in situ and meet many of the business and botanical experts in the Americas' orchid world over the last 40 years (email stevegonzalez@live.com).

Orchids in Watercolor

Paphiopedilum godefroyae

Marcia Whitmore

Paphiopedilum godefroyae (‘Bleeding Heart’ × ‘Gold Fish’) is one my favorite smaller paphiopedilums. This is another small, hot-growing, terrestrial or lithophyte native to Thailand growing at less than 50 feet (15.2 m) above sea level. The plant grows on limestone cliffs in moss or leaf litter in light shade. My plant benefits from an addition of limestone added to the medium. This can also be accomplished by adding oyster shells that can be purchased at feed stores. The leaves are light green with a maroon overlay to the underside. The flowers usually appear in the spring or summer and are long-lasting. My plant had one nice flower. I felt a composition with the plant drawn and painted from different positions would be pleasing.

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).

New Habenaria Hybrids and

TEXT AND PHOTOGRAPHS, UNLESS OTHERWISE CREDITED, BY LEON GLICENSTEIN

THIS ARTICLE DETAILS a few additional habenaria hybrids that have been registered since my article *Selected Habenaria Hybrids* appeared in the August 2018 issue of *Orchids* Magazine.

In 2017, I made the cross of *Habenaria* (*rhodocheila* × Tanager), the latter (*xanthocheila* × *rhodocheila*), two different ways. The first was an orange-lipped *Hab*. *rhodocheila* with a yellow-lipped *Hab*. Tanager, the second with a *Hab*. *rhodocheila* parent that itself was a cross between red- and orange-lipped forms with a yellow-lipped *Hab*. Tanager. So in both cases, the *Hab*. Tanager used was a cross of a yellow-lipped *Hab*. *rhodocheila* with *Hab*. *xanthocheila*. In 2018 I made the cross of a red-lipped *Hab*. *rhodocheila* and a bright golden-orange-lipped *Hab*. Tanager. The *Hab*. Tanager parent was the result of a red-lipped *Hab*. *rhodocheila*. I was curious as to what range of colors the progeny would have. No matter what the color, they would all have the same grex name. But what name? Realizing that there are red, orange and yellow canaries, the colors I expect will come out of this cross, and because I have been using bird names for my habenaria hybrids, I have registered the cross as *Habenaria* Canary. The flower has a natural spread of about 1.5 inches (3.8 cm), and so far I have seen light red-, orange-, coral-, yellow- and yellow-orange–lipped forms from the cross. I hope to see some bright red-lipped progeny from the repeat cross I made this year with different clones of the parents.

The first flowers of *Pectabenaria* Snow Bird (*Habenaria lindleyana* × *Pecteilis hawkesiana*) opened during the first snow storm of 2018 in State College, Pennsylvania. The slightly cupped, white flowers are approximately 2 inches (5 cm) in natural spread. Because both parents have a rosette of leaves at the base of the plant, this is seen in the hybrid too. Pictured here is a first-bloom seedling and should have more flowers as the plant matures. When in full flower it will look like a bevy of kettling Snow Birds.

A third cross is that of *Pecteilis hawkesiana* and *Pectabenaria* WOW's White Fairies. *Pectabenaria* WOW's White

Three New Nothogenera

Fairies is a hybrid of *Pecteilis susannae* and *Habenaria medusa* made by Nam Fook Lee in Southeast Asia and registered in 2006. I was expecting a flower with more fringe on the lip than it has, but I have only seen the first plant to bloom. The flower is approximately 2 inches (5 cm) in natural spread, with large white sepals initially heavily overlaid with green, but whitening in a few days. Unlike the other hybrids, the white petals are separate from the dorsal sepal, not forming a hood, like the *Pecteilis* parent, and the side lobes of the lip are only slightly serrated. It has been registered as *Pectabenaria* Oberon.

In October 2018, Dr. James Heilig, PhD, a member of the AOS Research Committee, registered a hybrid he named *Habenaria* True Colors (*roebbelenii* × *erichmichelii*); the inflorescence is made up of richly colored, pink flowers. Unfortunately, the originator of this hybrid is unknown. I have asked a few habenaria breeders if it was their hybrid, to no avail. The hybridizer, if reading this, should contact the RHS registrar, Julian Shaw, to supply this information. Credit should be given to the originator where possible.

Perhaps the most spectacular hybrid recently registered was bred by the prestigious Mae Fah Luang Foundation, Doi Tung Development Project of Thailand. This is a cross of *Habenaria carnea* and *Pecteilis susannae*, registered as *Pectabenaria* Thai Dancer. The 2-inch (5-cm) flowers are a beautiful soft pink. The very small petals of the *Pecteilis susannae* drastically reduce the size of the petals in the hybrid, but the flower is so full that one does not really notice it. The sepals and petals open with a slight green tinge, like the *Pecteilis* parent, over the pink, but that disappears in a few days leaving a solid pink flower. Unfortunately, the wonderful fringe of the *Pecteilis susannae* flower is mostly lost in the hybrid, and has been reduced to a pinking or dentation on the side lobes of the lip on the flowers I have seen.

These are only a few of the ever-increasing number of habenaria hybrids being registered. As of January 2019, approximately 52 habenaria hybrids,

[1–5] These photographs illustrate the variability of *Habenaria* Canary (*rhodocheila* × Tanager).
[6] *Habenaria* True Colors (*roebbelenii* × *erichmichelii*). Photograph courtesy of James Heilig, PhD.
[7] *Habenaria lindleyana*
[8] *Pecteilis hawkesiana*
[9–13] *Pectabenaria* Snow Bird (*Habenaria lindleyana* × *Pecteilis hawksiana*)

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[14] ***Pecteilis susannae***
[15] ***Pectabenaria*** **Wow's White Fairies. Photograph courtesy of Nam Fook Lee.**
[16] ***Pectabenaria*** **Oberon (Pecteilis hawksiana × Wow's White Fairies)**
[17] ***Habenaria carnea***
[18–20] ***Pectabenaria*** **Thai Dancer (*Habe-n-aria carnea* × *Pecteilis susannae*)**

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[21] ***Stenorrhynchos*** **Judy's Valentine (*albomaculatum* × *glicensteinii*)**
[22] ***Eltroplectris calcarata*** **inflorescence.**
[23] ***Eltroplectris calcarata*** **leaf and petiole.**
[24–26] ***Stenoplectris*** **Whip-poor-will (*Stenorrhynchos* Judy's Valentine × *Eltroplectris calcarata*)**

both generic and intergeneric, have been registered with the RHS International Orchid Registry. It is fascinating to see how breeders will create new forms, colors and color combinations for this group, and perhaps even develop plants that do not go through a yearly dormancy period, may flower more than once a year, and so will become even easier to grow and everyone will want to grow them.

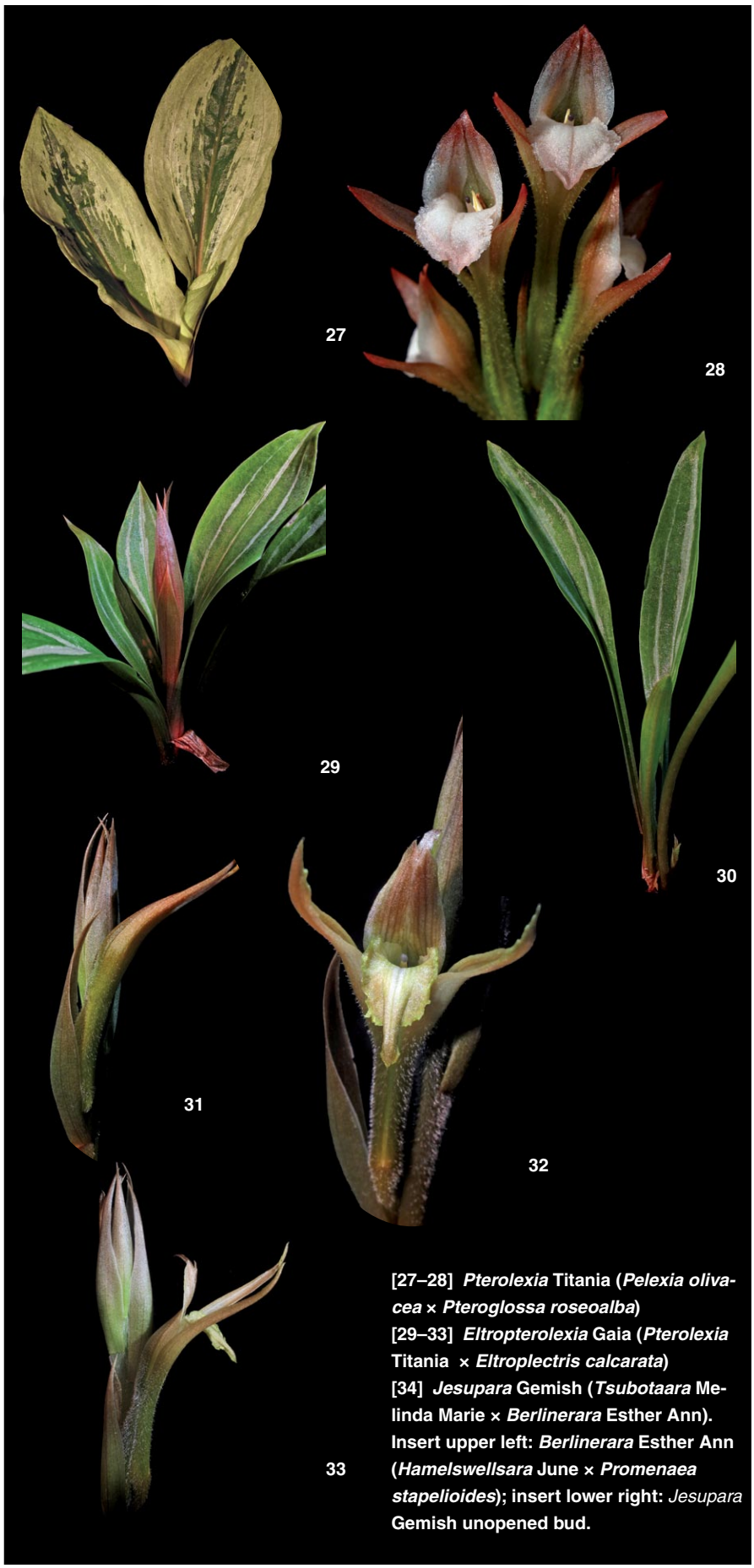
NEW NOTHOGENERA A nothogenus is a name used to describe a new "hybrid genus" composed of two or more genera. When there are only two genera involved, the name is a combination of the names of the two parent genera. If there are three or more genera in the new nothogenus, it may be named for a person(s) followed with the suffix -ara.

The new nothogenus, in this case, is *Jesupara*, named for Ann and H. Philips [Phil] Jesup, fantastic orchid growers, honorary vice-presidents of the AOS, former proofreaders of *Orchids* and the former *Awards Quarterly*, AOS gold medal recipients, friends, avid UConn Women's Basketball team freaks, and just nice people, to name a few of their many accomplishments and attributes. The newly-registered hybrid is *Jesupara* Gemish (*Tsubotaara* Melinda Marie 'Blue Fairy' × *Berlinerara* Esther Ann. Why gemish? In Yiddish and German, "gemish" refers to "a mixture of things," and this nothogenus is a mixture of seven natural genera — *Aganisia*, *Batemannia*, *Otostylis*, *Pabstia*, *Promenaea*, *Zygopetalum*, and *Zygosepalum*.

The bud on the first plant to produce one was initially a uniform, dark black-purple, which eventually changed to a dark cordovan color — itself exciting — however, just because the back side of a developing flower is so dark does not mean that the face of the flower, the side we see when the bud opens, will also be as dark. I could only hope.

When the bud opened it was not a solid black-purple as I desired. The flower is large for the plant, and is fairly flat, of good substance, and has a natural spread of 2.5 inches (6.4 cm). The base color is a creamy yellow with hints of green. There is an overlay of purple toward the apices of the sepals and petals, and the lip is white, heavily marked with red-violet-purple and a white border. In the right light, the flower surface sparkles. Pictured is a first bloom seedling; based on the two parents, it should have 3–4 flowers per stem when the plants mature.

The second new nothogenus arises from a cross of *Stenorrhynchos* Judy's



[27–28] *Pterolexia* Titania (*Pelexia olivacea* × *Pteroglossa roseoalba*)
[29–33] *Eltropterolexia* Gaia (*Pterolexia* Titania × *Eltroplectris calcarata*)
[34] *Jesupara* Gemish (*Tsubotaara* Melinda Marie × *Berlinerara* Esther Ann). Insert upper left: *Berlinerara* Esther Ann (*Hamelswellsara* June × *Promenaea stapelioides*); insert lower right: *Jesupara* Gemish unopened bud.

Valentine and *Eltroplectris calcarata.* I was not sure how I wanted to combine the names (i.e., *Stenoplectris* or *Eltrorrhynchos*). Neither name is very euphonious, but *Stenoplectris* flows a tad better when saying the name out loud; besides which, *Eltrorrhynchos* sounds like the name of a deadly, neotropical, fungal disease. Therefore, this new hybrid will be registered as *Stenoplectris* Whip-poor-will.

The *Eltroplectris* parent has opened up the tubular flower of the *Stenorrhynchos*, so that the hybrid has a natural spread of approximately 1.5 inches (3.8 cm), with 1.5-inch-long (3.8-cm) lateral sepals that are fairly upright, forward pointing, and to the sides of the flower. The foliage is very much like that of the *Eltroplectris calcarata* pollen parent, having a long leaf petiole and satiny leaf surface appearance, unlike the short to almost nonexistent leaf petiole and dull-surfaced leaf of the *Stenorrhynchos* Judy's Valentine seed parent. The lip has some of the fringe of the *Eltroplectris* parent. The viscidium is blue-gray, like that found in a number of the members of the Spiranthinae.

A third new nothogenus is a hybrid of *Pterolexia* Titania (*Pelexia olivacea* × *Pteroglossa roseoalba*) and *Eltroplectris calcarata*. I had tried crossing *Pterolexia roseoalba* with *Eltroplectris calcarata* when they were both *Eltroplectris*, with no success, so this was, I hoped, a back door into the hybrid. I did get fruit and seed from this trigeneric cross. *Pterolexia* Titania has variegated foliage and pink flowers; not something I expected from the cross.

The foliage of this new hybrid is variable; some with silver or white stripes, others with fully green leaves, but they all have the sheen of the *Eltroplectris calcarata* parent. A number have had the long leaf petiole of the *Eltroplectris* too. As the first flower bud developed it was dark and took on the elongated shape of *Eltroplectris calcarata* buds, so I expected elongated lateral sepals like those of *Stenoplectris* Whip-poor-will. When the bud finally opened, it is obvious how dominant the *Eltroplectris calcarata* is in these hybrids. As expected, the lateral sepals were long and fairly forward-pointing, but slightly to the side of the lip. The flower has a natural spread of about 1.5 inches (3.8 cm), with base colors of red-brown, green, yellow and white. Because this is only the first one to flower, I can still hope that there will be a pink one in the future.

I decided not to name this new nothogenus for anyone, so I have registered the plant as *Eltropterolexia* Gaia.

New nothogenera are being created every year. Some of them are combinations that we never dreamed possible based upon our present ideas of generic relationships. What that means is that we still have a lot to learn. Based upon previous nothogenera created in the Spiranthinae, the ones shown in this article are not unexpected. However, I hear that there are some very interesting ones coming along in other orchid families that have yet to be registered. I cannot wait to see them.

— Leon Glicenstein, PhD, is an international lecturer who speaks to orchid and plant societies. He has grown orchids for more than 55 years and was a breeder of novel orchid hybrids for the former Hoosier Orchid Company, especially in the Gongorinae, Zygopetalinae, Pleurothallidae, angraecoids, jewel and painted-leaf orchids; Orlando Avenue, State College, Pennsylvania 16803 (glicenstein33@msn.com).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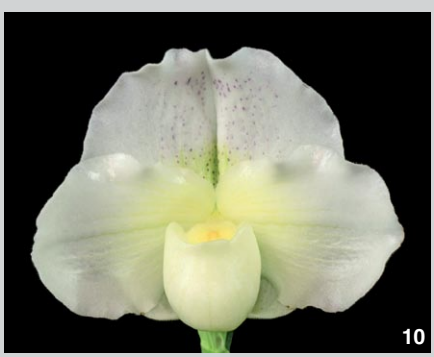
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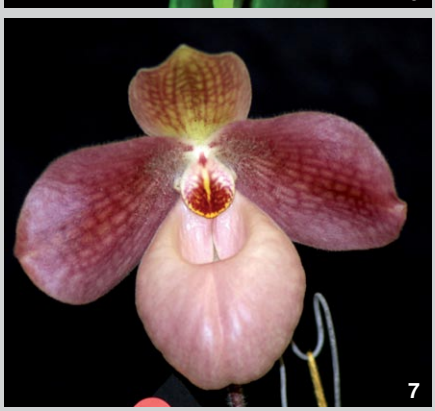
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[1] *Cattleya schilleriana* 'Sebastian Ferrell' AM/AOS 81 pts. Exhibitor: Orchid Eros; photographer: Glen Barfield. Hawaii Judging Center

[2] *Cattleya forbesii* 'Exotic Orchids' AM/AOS 84 pts. Exhibitor: Exotic Orchids of Maui, Inc.; photographer: Michael Blietz. Hawaii Judging Center.

[3] *Vanda spathulata* 'Natural World' AM/AOS 81 pts. Exhibitor: Tropical Orchid Farm; photographer: Michael Blietz. Hawaii Judging Center

[4] *Cattleya* Quest Picante 'Elaine' HCC/AOS (Pradit Spot x Nestor (1914)) 78 pts. Exhibitor: Derek Lowenstein; photographer: Malcolm McCorquodale. Houston Judging Center

[5] *Cattleya aclandiae* 'Eye Candy' AM/AOS 84 pts. Exhibitor: Exotic Orchids of Maui, Inc.; photographer: Michael Blietz. Hawaii Judging Center

[6] *Phragmipedium schlimii* 'Penn's View' AM/AOS 87 pts. Exhibitor: Woodstream Orchids; photographer: Duane Erdmann. Mid-Atlantic Judging Center

[7] *Paphiopedilum* Liberty Taiwan 'Louisiana' HCC/AOS (*micranthum* x *hangianum*) 79 pts. Exhibitor: Alan Taylor; photographer: Nancy Rowe. Houston Judging Center

[8] *Cattleya briegeri* 'Palila' AM/AOS 82 pts. Exhibitor: Orchid Eros; photographer: Glen Barfield. Hawaii Judging Center

[9] *Cattleya briegeri* 'Hello Sunshine' AM/AOS 82 pts. Exhibitor: Exotic Orchids of Maui, Inc.; photographer: Michael Blietz. Hawaii Judging Center

[10] *Paphiopedilum* Mirror Shield 'Haley Suzanne' HCC/AOS (Irish Eyes x White Knight) 77 pts. Exhibitor: Piping Rock Orchids; photographer: Duane Erdmann. Mid-Atlantic Judging Center

[11] *Rhyncattleanthe* Memoria Geri Male 'Angie Earl' AM/AOS (*Rhyncholaeliocattleya* Golden Circle x Love Sound) 81 pts. Exhibitor: Stephen Male and Fishing Creek Orchids; photographer: Duane Erdmann. Mid-Atlantic Judging Center

[12] *Bulbophyllum falcatum* 'Gold Country' CCE/AOS 91 pts. Exhibitor: Stephen Male and Fishing Creek Orchids; photographer: Duane Erdmann. Mid-Atlantic Judging Center

[13] *Paphiopedilum javanicum* 'Haley Suzanne' AM/AOS 83 pts. Exhibitor: Piping Rock Orchids; photographer: Duane Erdmann. Mid-Atlantic Judging Center

[14] *Catasetum* Greg Scott 'Stephen Moffitt' AM/AOS (Donna Wise x *pileatum*) 82 pts. Exhibitor: Steve Moffitt; photographer: Malcolm McCorquodale. Houston Judging Center

[15] *Paphiopedilum* Yang-Ji Hawk 'Sookie's Twist' AM/AOS (*sanderianum* x *anitum*) 80 pts. Exhibitor: Helen Hersh; photographer: Maurice Marietti. Mid-Atlantic Judging Center

[16] *Vanda* Cherry Blossom 'Logan' CCM-AM/AOS (*falcata* x *ampullacea*) 86-81 pts. Exhibitor: Wes Addison; photographer: Eric Goo. Pacific South Judging Center


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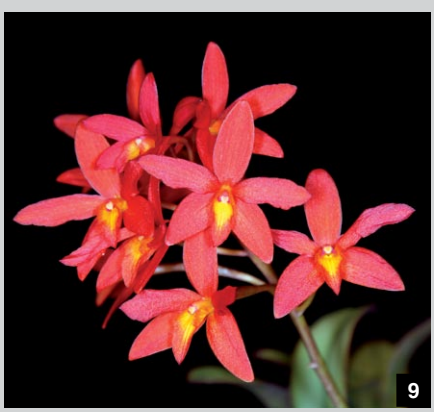
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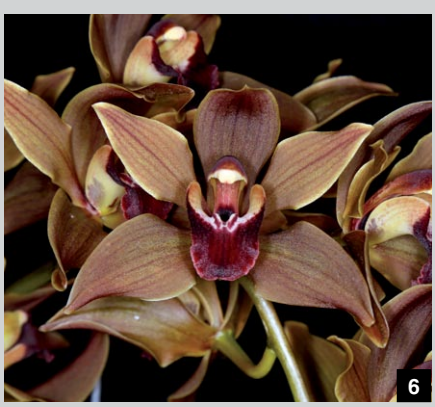
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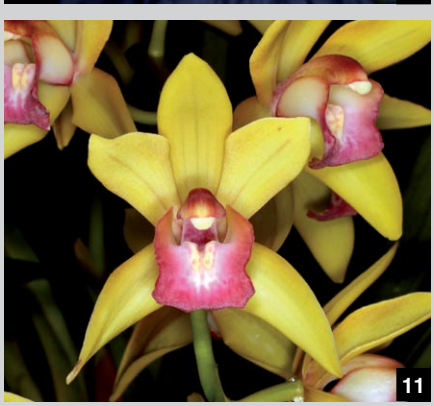
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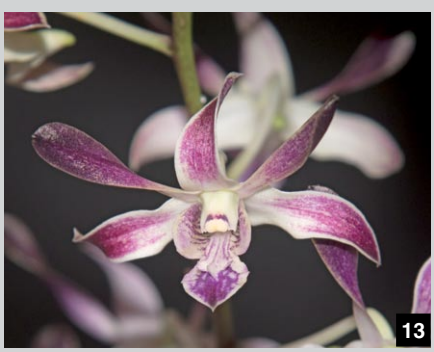

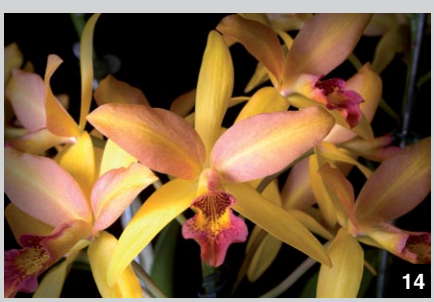

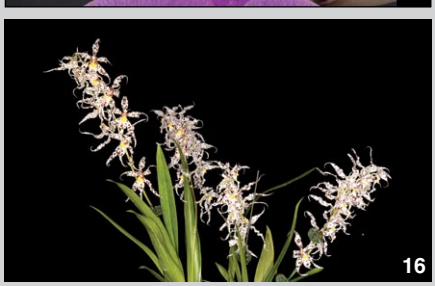

[1] *Miltoniopsis* Rouge 'Picardie' AM/AOS (Edmonds x Hamburg) 87 pts. Exhibitor: Waldor Orchids, Inc.; photographer Maurice Marietti. Mid-Atlantic Judging Center

[2] *Dendrobium* Spring Dream 'Apollon' HCC/AOS (Constance Wrigley x Thwaitesiae) 77 pts. Exhibitor: Synea Tan; photographer: Patrick Boisvert. Toronto Judging Center

[3] *Bulbophyllum fletcherianum* 'Rothschild's Monster' AM/AOS 83 pts. Exhibitor: Helen Hersh; photographer: Maurice Marietti. Mid-Atlantic Judging Center

[4] *Lepanthes matamorosii* 'Elven Daggers' HCC-CHM/AOS 79-82 pts. Exhibitor: Jay Norris and Max Wilson; photographer: Patrick Boisvert. Toronto Judging Center

[5] *Oncidium* Lois Posey 'Synea' AM/AOS (*noezlianum* x *strictum*) 81 pts. Exhibitor: Synea Tan; photographer: Patrick Boisvert. Toronto Judging Center

[6] *Cymbidium* Rusty Leaves 'Chocolate Drop' HCC/AOS (*lowianum* x *atropurpureum*) 79 pts. Exhibitor: John Dunkelberger; photographer: William Ammerman. National Capital Judging Center

[7] *Tolumnia* Volcano Wave 'A la Mode' HCC/AOS (Wave Dancer x Genting Volcano) 78 pts. Exhibitor: Shawn Wood; photographer: William Ammerman. National Capital Judging Center

[8] *Phragmipedium* Fritz Schomburg 'Haley Suzanne' AM/AOS (*kovachii* x *besseae*) 83 pts. Exhibitor: Glen Decker; photographer: Patrick Boisvert. Toronto Judging Center

[9] *Cattleya* Francisco 'Little Ember' HCC/AOS (Seagulls Milarina x *cernua*) 78 pts. Exhibitor: Shawn Wood; photographer: William Ammerman. National Capital Judging Center

[10] *Rhyncholaeliocattleya* Memoria Irene Feil 'Ruby Red' AM/AOS (*Cattleya* Pink Doll x Odom's Sweetheart) 86 pts. Exhibitor: John Whiting; photographer: William Ammerman. National Capital Judging Center

[11] *Cymbidium* Neon Lights 'Goldenrod' HCC/AOS (Leprechaun x *insigne*) 78 pts. Exhibitor: John Dunkelberger; photographer: William Ammerman. National Capital Judging Center

[12] *Dendrobium* Karloo's Blushes 'Longwood Gardens' CCE/AOS (Karloo x Rutherford Blushing Bride) 94 pts. Exhibitor: Dick and Carol Doran; photographer: Duane Erdmann. Mid-Atlantic Judging Center

[13] *Dendrobium* Blue Seas 'Memoria Sarah' HCC/AOS (Blue Twinkle x *antennatum*) 76 pts. Exhibitor: Sandra Higham; photographer: Malcolm McCorquodale. Houston Judging Center

[14] *Cattlianthe* Sorpresita 'Sir Kim Darroch' HCC/AOS (*Guarianthe skinneri* x Trick or Treat) 78 pts. Exhibitor: John Sonnier: British Embassy Washington; photographer: Julie Rotramel. National Capital Judging Center

[15] *Phalaenopsis* Taisuco Lida 'Alexandre Leblod' AM/AOS (Nobby's Pink Lady x Taiscufo Anna) 80 pts. Exhibitor Le Paradis Des Orchidées; photogrpher: Denis Maheux. Toronto Judging Center

[16] *Oncidium naevium* 'Crosman' CCM/AOS 86 pts. Exhibitor: Jeanne Kaeding; photographer: William Ammerman. National Capital Judging Center

[17] *Pomatocalpa spicata* 'Little Buddy' CCM/AOS 84 pts. Exhibitor: Little Brook Orchids; photographer: Duane Erdmann. National Capital Judging Center


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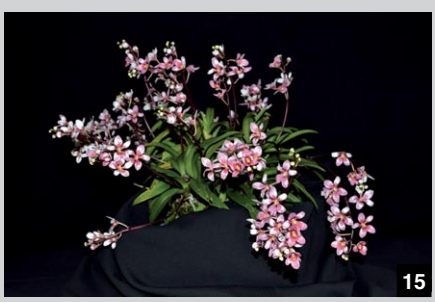

[1] *Masdevallia* Highland Monarch 'Anna's Golden Sunshine' AM/AOS (Highland Fling x Monarch) 85 pts. Exhibitor: Wade Hollenbach; photographer: William Ammerman. National Capital Judging Center

[2] *Cynorkis angustipetala* 'NYBG' CCM/AOS 89 pts. Exhibitor: New York Botanical Garden; photographer: Charles Marden Fitch. Northeast Judging Center

[3] *Bulbophyllum falcatum* 'Windswept's Safari' CCE/AOS 92 pts. Exhibitor: Windswept in Time Orchids; photographer: William Ammerman. National Capital Judging Center

[4] *Dendrobium kingianum* 'Hillside' HCC/AOS 79 pts. Exhibitor: Dick and Carol Doran; photographer: Charles Marden Fitch. Northeast Judging Center

[5] *Guarechea* Frances Dyer 'Little Plum' AM/AOS (*Guarianthe bowringiana* x *Prosthechea fragrans*) 80 pts. Exhibitor: Mark Gaglioti; photographer: Charles Marden Fitch. Northeast Judging Center

[6] *Cymbidium* Pauwelsii 'Kessander' CCE/AOS (*insigne* x *lowianum*) 96 pts. Exhibitor: Jerry Kessler; photographer: Teck Hia. Northeast Judging Center

[7] *Sarcochilus* Carol Ann 'Dazzling' AM/AOS (Elegance x Bonanza) 82 pts. Exhibitor: Dick and Carol Doran; photographer: Charles Marden Fitch. Northeast Judging Center

[8] *Rhyncholaelia glauca* 'Cleveland's' HCC/AOS 78 pts. Exhibitor: Robert Cleveland; photographer: Teck Hia. Northeast Judging Center

[9] *Leptotes pohlitinocoi* 'Two Tone' HCC/AOS 78 pts. Exhibitor: Robert Cleveland; photographer: Teck Hia. Northeast Judging Center

[10] *Paphiopedilum lowii* 'Penns View' HCC/AOS 78 pts. Exhibitor: Woodstream Orchids; photographer: Julie Rotramel. National Capital Judging Center

[11] *Paphiopedilum papuanum* 'Penns Creek' HCC/AOS 79 pts. Exhibitor: Woodstream Orchids; photographer: Julie Rotramel. National Capital Judging Center

[12] *Paphiopedilum* Temptation 'Cleveland's' AM/AOS (*kolopakingii* x *philippinense*) 85 pts. Exhibitor: Robert Cleveland; photographer: Teck Hia. Northeast Judging Center

[13] *Phalaenopsis* Joyce Stewart 'Smell the Roses' HCC/AOS (Timothy Christopher x *equestris*) 76 pts. Exhibitor: James Heilig; photographer: Ken Jacobsen. Pacific Central Judging Center

[14] *Paphiopedilum* Saiun 'Penns Creek' AM/AOS (*sukhakulii* x *wardii*) 83 pts. Exhibitor: Woodstream Orchids; photographer: Julie Rotramel. National Capital Judging Center

[15] *Sarcochilus* Stella 'Jeannie Suzanne' CCM/AOS (Dots x Janine) 80 pts. Exhibitor: John Whitney; photographer: Ken Jacobsen. Pacific Central Judging Center

[16] *Dendrobium cuthbertsonii* 'Blushing Panda' AM/AOS 82 pts. Exhibitor: Golden Gate Orchids; photographer: Ken Jacobsen. Pacific Central Judging Center


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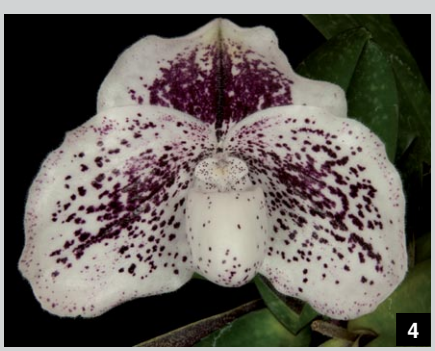
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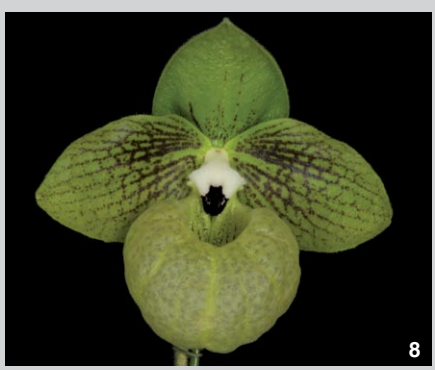
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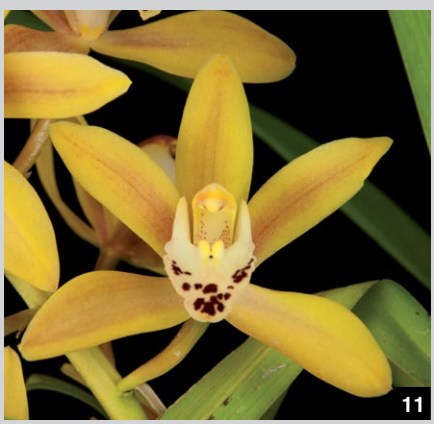
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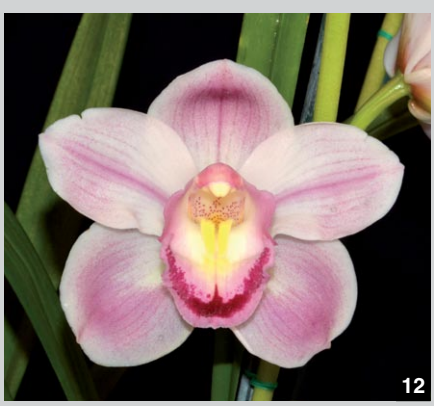
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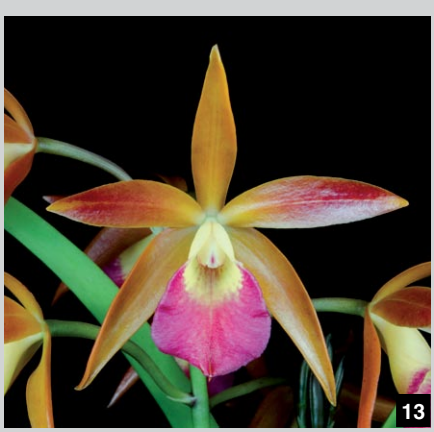
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[1] *Phalaenopsis mannii* '('Bodacious' AM/AOS x 'Mahogany')' AQ/AOS. Exhibitor: Orchidaceae; photographer: Michael Pearson. Pacific Northwest Judging Center

[2] *Phalaenopsis mannii* 'Joan' HCC/AOS 79 pts. Exhibitor: Orchidaceae; photographer: Michael Pearson. Pacific Northwest Judging Center

[3] *Paphiopedilum wilhelminae* 'Garnet' HCC/AOS 79 pts. Exhibitor: Japheth Ko; photographer: Chaunie Langland. Pacific Central Judging Center

[4] *Paphiopedilum* Grey Tricks 'Painted Lady' AM/AOS (S. Gratrix x Greyi) 80 pts. Exhibitor: Hillsview Gardens; photographer: Ross Leach. Pacific Northwest Judging Center

[5] *Aerangis monantha* 'Botanica's Pride' CCM-AM/AOS 85-81 pts. Exhibitor: Botanica; photographer: Mike Pearson. Pacific Northwest Judging Center

[6] *Cymbidium goeringii* 'Asian Emissary' AM/AOS 82 pts. Exhibitor: Amy and Ken Jacobsen; photographer: Chaunie Langland. Pacific Central Judging Center

[7] *Cymbidium* Squogre 'Lemon Mint' HCC/AOS (Icho Tower x So Bold) 79 pts. Exhibitor: Weegie Caughlan; photographer: Chaunie Langland. Pacific Central Judging Center

[8] *Paphiopedilum malipoense* 'Green Star' AM/AOS 82 pts. Exhibitor: Hillsview Gardens; photographer: Ross Leach. Pacific Northwest Judging Center

[9] *Restrepia antennifera* 'Joseph' AM/AOS 81 pts. Exhibitor: Liana Webb; photographer: Ross Leach. Pacific Northwest Judging Center

[10] *Cymbidium* Memoria Amelia Earhart 'B52' CCM/AOS (Hazel Tyers x *devonianum*) 82 pts. Exhibitor: Pierre Pujol; photographer: Chaunie Langland. Pacific Central Judging Center

[11] *Cymbidium* Ming 'Emperor' AM/AOS (Oiso x Rusper) 81 pts. Exhibitor: Sherren Wargnier; photographer: Ross Leach. Pacific Northwest Judging Center

[12] *Cymbidium* Valley Splash 'Awesome' HCC/AOS (Vivacious x Hazel Tyers) 77 pts. Exhibitor: Weegie Caughlan; photographer: Chaunie Langland. Pacific Central Judging Center

[13] *Brassocatanthe* Estrella del Aconquija 'Sunset Flares' HCC/AOS (*Brassavola perrinii* x *Cattlianthe* Chocolate Drop) 76 pts. Exhibitor: Ruben Colmenares; photographer: Arnold Gum. Pacific South Judging Center

[14] *Dendrobium speciosum* 'Charleys Gold' HCC/AOS 76 pts. Exhibitor: Charles R. Fouquette; photographer: Arnold Gum. Pacific South Judging Center

[15] *Cymbidium* Flame Hawk 'Lipper' CCM/AOS (Touchstone x Sensation) 80 pts. Exhibitor: Pierre Pujol; photographer: Chaunie Langland. Pacific Central Judging Center

[16] *Cymbidium* Maryse Pujol 'Woodside' HCC/AOS (Ruby Lips x Kirby Lesh) 78 pts. Exhibitor: Pierre Pujol; photographer: Chaunie Langland. Pacific Central Judging Center


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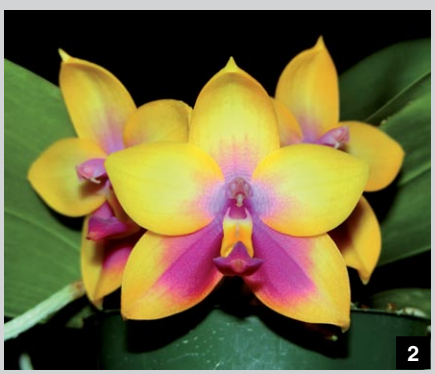
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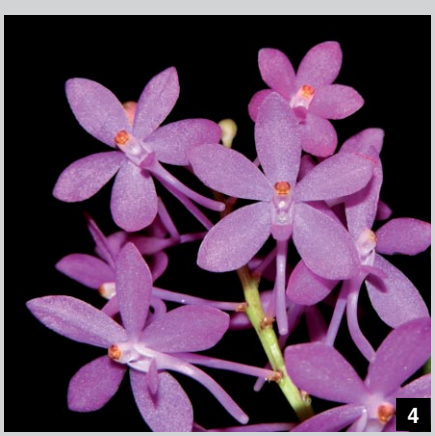
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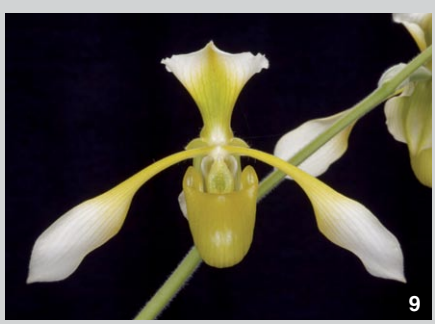
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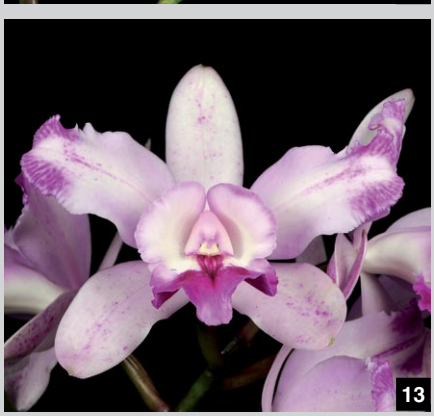

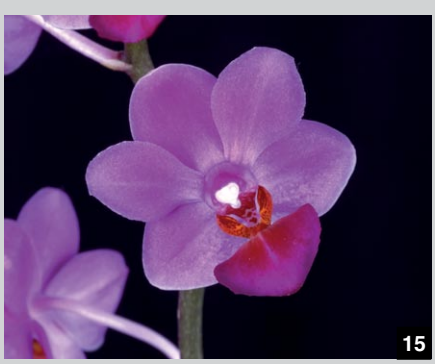

[1] *Masdevallia lucernula* 'Cosmos' CCE-AM/AOS 91-83 pts. Exhibitor: Terry Thompson; photographer: Tim Morton. Pacific Northwest Judging Center

[2] *Phalaenopsis* Sweet Shadow 'Phoenix Gold' AM/AOS (LD's Bear Queen x Sweet Trinity) 82 pts. Exhibitor: Eric Goo and Phoenix Orchids; photographer: Eric Goo. Pacific South Judging Center

[3] *Phalaenopsis tetraspis* 'Montclair Jade' AM/AOS 85 pts. Exhibitor: Norman's Orchids; photographer: Larry Vierheilig. Pacific South Judging Center

[4] *Vanda* Cherry Blossom 'Logan' AMCCM/AOS (*falcata* x *ampullacea*) 81-86 pts. Exhibitor: Wes Addison; photographer: Eric Goo. Pacific South Judging Center

[5] *Cymbidium* Crimson Falls 'Ori Gem' HCC/AOS (Space Tango x Phar Lap) 79 pts. Exhibitor: Duy Nguyen; photographer: Arthur Pinkers. Pacific South Judging Center

[6] *Paphiopedilum* Lady Isabel 'Jolah Orchids' AM/AOS (*rothschildianum* x *stonei*) 85 pts. Exhibitor: James Huffman; photographer: Sue Birnbaum. Pacific Northwest Judging Center

[7] *Paphiopedilum* Robinianum 'Gayle's Cinderella Slippers' FCC/AOS (*lowii* x *parishii*) 90 pts. Exhibitor: Gayle Brodie; photographer: Arthur Pinkers. Pacific South Judging Center

[8] *Cattleya* Little Sunset 'Tangerine Feathers' AM/AOS (*cinnabarina* x *pumila*) 82 pts. Exhibitor: Santa Barbara Orchid Estate; photographer: Larry Vierheilig. Pacific South Judging Center

[9] *Paphiopedilum* Toni Semple 'Claire De Lune' AM/AOS (*haynaldianum* x *lowii*) 82 pts. Exhibitor: Harold Koopowitz-Paph Factory; photographer: Arthur Pinkers. Pacific South Judging Center

[10] *Oncidium naevium* 'Cassandra' CHM/AOS 86 pts. Exhibitor: Robert Burkey; photographer: Tim Morton. Pacific Northwest Judging Center

[11] *Cattleya jongheana* (Alba) 'Florence' AM/AOS 82 pts. Exhibitor: Peter T. Lin; photographer: Arthur Pinkers. Pacific South Judging Center

[12] *Phalaenopsis tetraspis* 'Casablanca' AM/AOS 85 pts. Exhibitor: Norman's Orchids; photographer: Larry Vierheilig. Pacific South Judging Center

[13] *Cattleya intermedia* 'Sycamore Creek Owl' HCC/AOS 76 pts. Exhibitor: Bill Robson; photographer: Larry Vierheilig. Pacific South Judging Center

[14] *Vandoglossum* Yawi's Taiwan Queen 'Diamond Orchids' AM/AOS (*Holcoglossum flavescens* x *Vanda* Gordon Dillon) 80 pts. Exhibitor: Peter T. Lin; photographer: Arthur Pinkers. Pacific South Judging Center

[15] *Phalaenopsis* Annie Van Tweel 'Donna' HCC/AOS (*pulcherrima* x *lobbii*) 76 pts. Exhibitor: Norman's Orchids; photographer: Arthur Pinkers. Pacific South Judging Center

[16] *Dendrobium* Jiaho Candy 'Popping Pumpkin' AM/AOS (Hsinying Frosty-maree x *bellatulum*) 83 pts. Exhibitor: Norman's Orchids; photographer: Arthur Pinkers. Pacific South Judging


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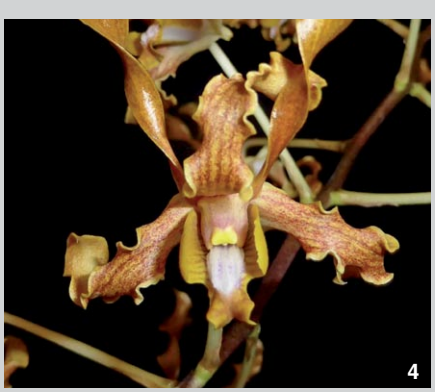
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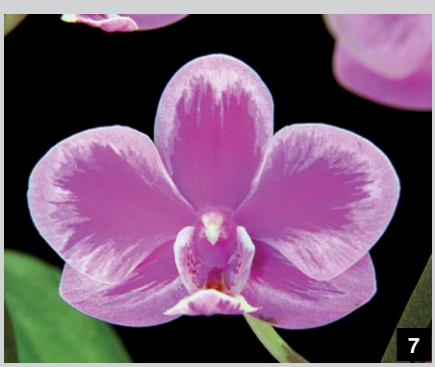
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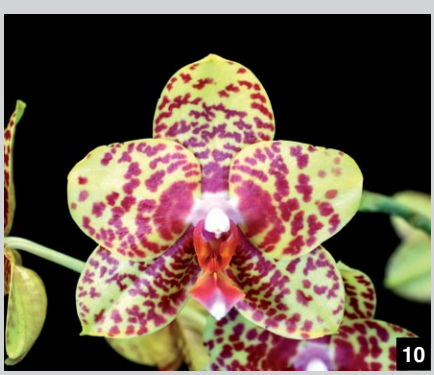
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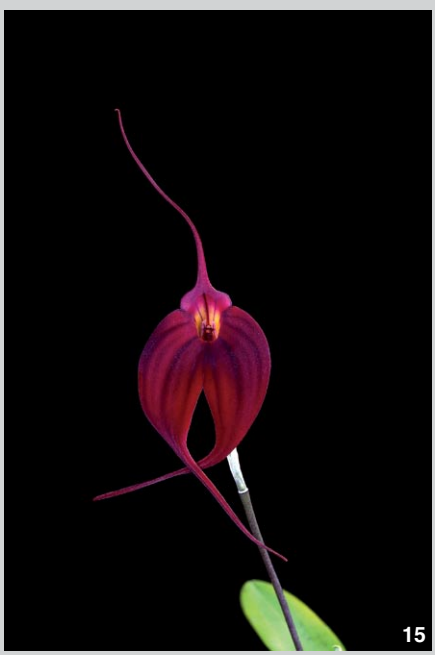
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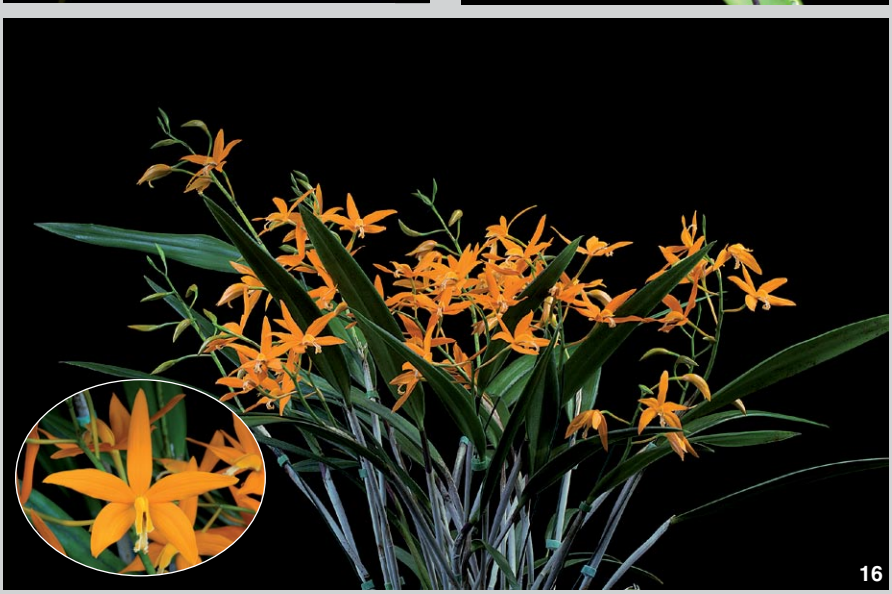
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[1] *Paphiopedilum* Paul Parks 'Dark Delight' AM/AOS (*adductum* x *sanderianum*) 83 pts. Exhibitor: Harold Koopowitz- Paph Factory; photographer: Arthur Pinkers. Pacific South Judging Center

[2] *Dendrobium griffithianum* 'Machiavelli' AM/AOS 83 pts. Exhibitor: René E. Garcia; photographer: Irma Saldaña. Puerto Rico Judging Center

[3] *Psychilis krugii* 'Machiavelli II' AM/AOS 82 pts. Exhibitor: René E. Garcia; photographer: Irma Saldana. Puerto Rico Judging Center

[4] *Dendrobium* Lim Tee Hooi 'Machiavelli II' AM/AOS (*discolor* x *tangerinum*) 80 pts. Exhibitor: René E. Garcia; photographer: Irma Saldaña. Puerto Rico Judging Center

[5] *Paphiopedilum* Wössner Wolke 'Tustin Treasure' AM/AOS (*emersonii* x *hangianum*) 82 pts. Exhibitor: Harold Koopowitz- Paph Factory; photographer: Arthur Pinkers. Pacific South Judging Center

[6] *Paphiopedilum* Delightfully Macabre 'Esther' AM/AOS (Luna Magic x Macabre Delight) 80 pts. Exhibitor: Charles Spinelli; photographer: Bruce Muhlbradt. Rocky Mountain Judging Center

[7] *Phalaenopsis* Queen Beer 'Brazos' HCC/AOS (*pulcherrima* x Meteor) 76 pts. Exhibitor: Mitsi Runyan; photographer: Charlie Riner. Shreveport Judging Center

[8] *Renantanda* Kultana Orange Star 'Fuchsia ' AM/AOS (*Renanthera* Kalsom x *Vanda* Varut Fuchsia) 80 pts. Exhibitor: Noel Soler-Figueroa; photographer: Irma Saldaña. Puerto Rico Judging Center

[9] *Zelemnia* Midas 'Umbolt Broncos' HCC/AOS (*Tolumnia* Red Belt x *Zelenkoa onusta*) 78 pts. Exhibitor: Doug and Terry Kennedy; photographer: Ed Cott. Toronto Judging Center

[10] *Phalaenopsis* Zheng Min Koala 'Crystal Star' AM/AOS (Haur Jin Princess x Hanover Passion) 82 pts. Exhibitor: Crystal Star Orchids Ellen & Eric Lee; photographer: Ed Cott. Toronto Judging Center

[11] *Encyclia bractescens* 'Nancy Sue' HCC/AOS 78 pts. Exhibitor: Markus Ehrlich; photographer: Bruce Hugo. Rocky Mountain Judging Center

[12] *Tolumnia* SIO's June Marie 'Cheri/George' AM/AOS (Buck Hollow x Anita) 80 pts. Exhibitor: Cheri Bergeron; photographer: Bruce Muhlbradt. Rocky Mountain Judging Center

[13] *Tolumnia* Jairak Firm 'Lava Flow' AM/AOS (Rainbow x Plush) 80 pts. Exhibitor: Doug and Terry Kennedy; photographer: Ed Cott. Toronto Judging Center

[14] *Phalaenopsis* Dai Yang Mammon 'Tears for Pandas' HCC/AOS (Chian Xen Mammon x Tinny Honey) 76 pts. Exhibitor: Dr. Leslie Ee; photographer: Robin McLaughlin. Toronto Judging Center

[15] *Masdevallia* Bay Breeze 'Royal Velvet' AM/AOS (Fraseri x John Tomaschke) 81 pts. Exhibitor: Paul Paludet; photographer: Judith Higham. Western Canada Judging Center

[16] *Cattleya harpophylla* 'Orange Obsession' CCM-AM/AOS 84-80 pts. Exhibitor: Darrell Albert; photographer: Judith Higham. Western Canada Judging Center


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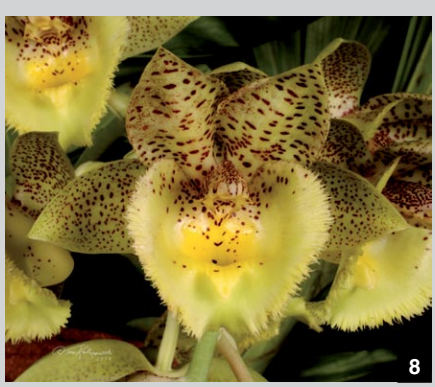
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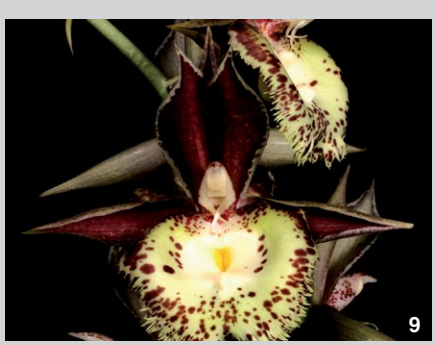
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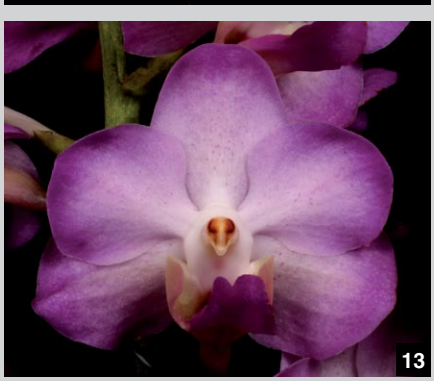
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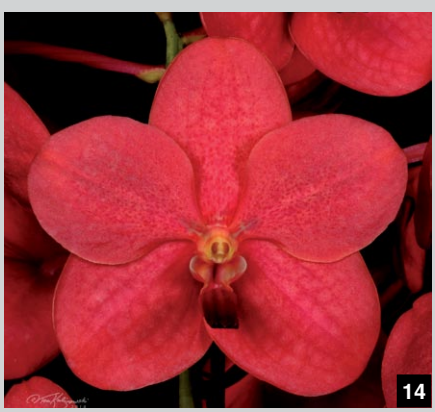
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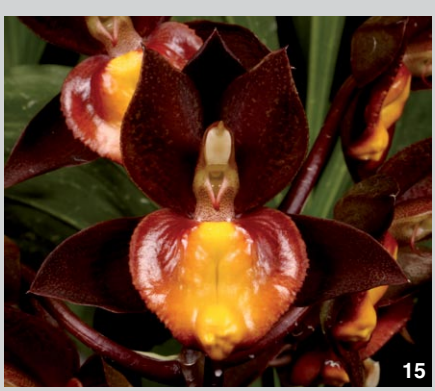
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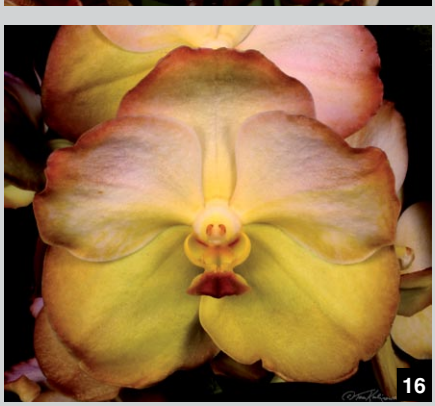
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[1] *Epidendrum stamfordianum* 'Too Cool' CCM/AOS 84 pts. Exhibitor: Darrell Albert; photographer: Judith Higham. Western Canada Judging Center

[2] *Gongora rufescens* 'Charlotte Ann Wheeler' AM/AOS 82 pts. Exhibitor: Terry Letendre; photographer: Judith Higham. Western Canada Judging Center

[3] *Oncidium laeve* 'Drury' CCM/AOS 81 pts. Exhibitor: Orchid Species Preservation Foundation; photographer: Judith Higham. Western Canada Judging Center

[4] *Dendrobium unicum* 'Mary Cash' HCC/AOS 77 pts. Exhibitor: Mary Cash; photographer: Charlotte Randolph. Alamo Judging Center

[5] *Paphiopedilum* Shimizu Delight 'Angeline' HCC/AOS (Double Bell x *godefroyae*) 76 pts. Exhibitor: Bob Lucas; photographer: Judith Higham. Western Canada Judging Center

[6] *Phalaenopsis amboinensis* 'Sarah' HCC/AOS 78 pts. Exhibitor: Ben Rostron; photographer: Judith Higham. Western Canada Judging Center

[7] *Coelogyne* Bird in Flight 'Crownfox' AM/AOS (*usitana* x *lawrenceana*) 81 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Center

[8] *Clowesetum* Lou Lodyga 'Alexander Ruano' HCC/AOS (Jumbo Lace x *Catasetum* Susan Fuchs) 78 pts. Exhibitor: Lou Lodyga; photographer: Tom Kuligowski. West Palm Beach Judging Center

[9] *Catasetum* Rumba 'Carola' HCC/AOS (Frilly Doris x Orchidglade) 77 pts. Exhibitor: Armando Betancourt; photographer: Tom Kuligowski. West Palm Beach Judging Center

[10] *Cattleya* Canhamiana 'Azure Skies' CCM/AOS (*mossiae* x *purpurata*) 84 pts. Exhibitor: Claire Garrett; photographer: Tom Kuligowski. West Palm Beach Judging Center

[11] *Rhyncholaeliocattleya* Edisto 'Carol' AM/AOS (*Cattleya* Maria Ozzella x Oconee) 84 pts. Exhibitor: Luiz Hamilton Lima; photographer: Tom Kuligowski. West Palm Beach Judging Center

[12] *Paphiopedilum* Pinocchio 'Chrysalis Elba Morales' HCC/AOS (*glaucophyllum* x *primulinum* var. *primulinum*) 78 pts. Exhibitor: Christine Morales and Alex Rodriguez; photographer: Tom Kuligowski. West Palm Beach Judging Ctr

[13] *Perreiraara* Alessia Hanna 'Nana' AM/AOS (*Vandachostylis* Crownfox Magic x *Aerides lawrenceae*) 83 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Ctr

[14] *Vanda* Jean Hollebone 'Bryan' AM/AOS (Laksi x Wirat) 80 pts. Exhibitor: R.F. Orchids, Inc.; photographer: Tom Kuligowski. West Palm Beach Judging Ctr

[15] *Catasetum* Armando Betancourt 'Rishika's Mocha Latte' AM/AOS (*tenebrosum* x Chuck Taylor) 83 pts. Exhibitor: John Budree; photographer: Tom Kuligowski. West Palm Beach Judging Center

[16] *Vanda* Yellow Butterfly 'Lilly's Butterfly' AM/AOS (Tubtim Velvet x Butterfly) 82 pts. Exhibitor: Wayne Green; photographer: Tom Kuligowski. West Palm Beach Judging Center


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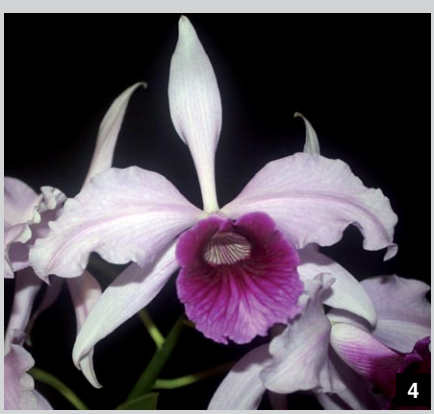
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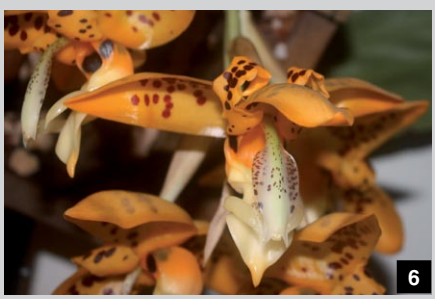
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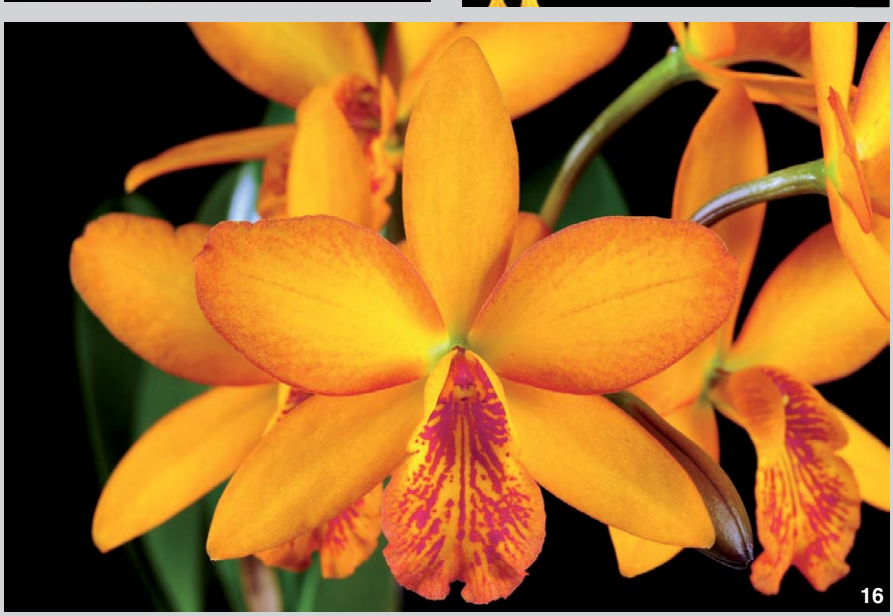
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[1] *Cattleya mossiae* 'CedarWood Splendor' AM/AOS 82 pts. Exhibitor: Cecily Maciejeski; photographer: Sallie Delahoussaye. Alamo Judging Center

[2] *Rhyncholaeliocattleya* Greenwich 'Elmhurst' AM/AOS (*Cattleya* Ann Follis x Lester McDonald) 86 pts. Exhibitor: Jeanne Buchanan; photographer: Charlotte Randolph. Alamo Judging Ctr

[3] *Cattleya purpurata* 'Jim's Lucky Boy' AM/AOS 84 pts. Exhibitor: Fred Missbach; photographer: Barney Garrison. Atlanta Judging Center

[4] *Cattleya purpurata* 'Pina Colada' AM/AOS 81 pts. Exhibitor: Fred Missbach; photographer: Barney Garrison. Atlanta Judging Center

[5] *Paphiopedilum* Lebaudyanum 'Orchiddawg' AM/AOS (*haynaldianum* x *philippinense*) 82 pts. Exhibitor: David Potts; photographer: Marcus Valentine. Atlanta Judging Center

[6] *Stanhopea schilleriana* 'Genevieve' CHM/AOS 85 pts. Exhibitor: Doug Hartong; photographer: Barney Garrison. Atlanta Judging Center

[7] *Paphiopedilum moquetteanum* 'Bulby Baby' AM/AOS 83 pts. Exhibitor: Carson Barnes; photographer: Barney Garrison. Atlanta Judging Center

[8] *Vanda* Ray's Just Begun 'Pottsy's Annette' CCM-FCC/AOS (Orange Glow x Kultana) 87-91 pts. Exhibitor: Ray and Annette Potts; photographer: Marcus Valentine. Atlanta Judging Center

[9] *Phalaenopsis parishii* 'Jumpin' Jimmies' CCM/AOS 84 pts. Exhibitor: Carson Barnes; photographer: Jason R. Mills. Atlanta Judging Center

[10] *Chiloschista lunifera* 'Pottsy's Chocolate Delight' AM/AOS 83 pts. Exhibitor: Ray and Annette Potts; photographer: Marcus Valentine. Atlanta Judging Center

[11] *Paphiopedilum* Enchantingly Wood 'Swamprad' AM/AOS (Wood Wonder x Macabre Contrasts) 81 pts. Exhibitor: Mark R. Mills; photographer: Marcus Valentine. Atlanta Judging Center

[12] *Phalaenopsis* Liu's Cute Angel 'Martha Ann' AM/AOS (Jiaho Cherry x *lobbii*) 83 pts. Exhibitor: Nathan Bell; photographer: Marcus Valentine. Atlanta Judging Center

[13] *Chysis* Maritza Bielecki 'Swamprad' AM/AOS (Langleyensis x *limminghei*) 80 pts. Exhibitor: Mark R. Mills; photographer: Marcus Valentine. Atlanta Judging Center

[14] *Calopogon* Fluffy 'Carlos' CCM/AOS (*tuberosus* x *multiflorus*) 83 pts. Exhibitor: Beth and Doug Martin; photographer: Marcus Valentine. Atlanta Judging Center

[15] *Renanthera vietnamensis* 'Pottsy's About Time' CHM/AOS 83 pts. Exhibitor: Ray and Annette Potts; photographer: Marcus Valentine. Atlanta Judging Center

[16] *Bullara* Kyoguchi Gold 'Mr. Keith' AM/AOS (*Guaricyclia* Kyoguchi x *Rhyncattleanthe* Gold Medallions) 81 pts. Exhibitor: Andrea Price; photographer: Marcus Valentine. Atlanta Judging Center

LINDLEYANA

New Ecuadorian Orchids

Two New Species in Oncidiinae and a new species in Zygopetalinae

BY HUGO MEDINA, JOSÉ PORTILLA AND ALEXANDER HIRTZ

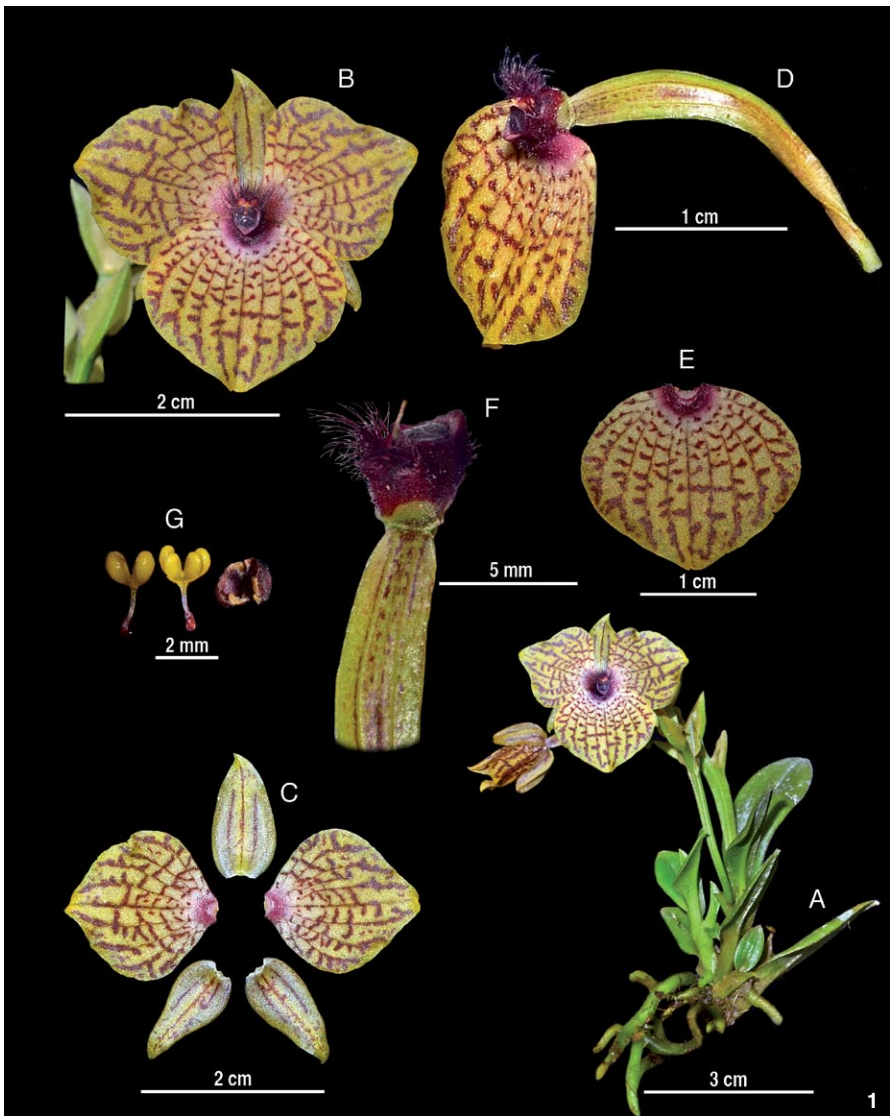
ABSTRACT Two new species of *Telipogon* and a new species of *Dichaea* are described through the collection efforts of Ecuagenera's project "Rescate, conservación, reproducción y manejo ex-situ de la flora del Ecuador," Ministerio del Ambiente authorization Nº 004-2016-IC-FLO DNB/MA. T*elipogon montufariana* and *Telipogon humboldtiana*, from Azuay province of Ecuador, are described and illustrated as well as the new species *Dichaea bonplandiana*. The new species is compared to *Dichaea australis* from which it differs by the flower color and lip morphology. The lip of the new species is distintive in the yellow-green flowers and cream-colored lip with a small callus and ciliate margins. The semiterete column is also distinctive in having a pubescent ventral surface and hornlike projection.

KEYWORDS Ecuador, new species, species from the Andes, Oncidium Alliance, Zygopetalinae, *Dichaea*, *Dichaea bonplandiana*, *Telipogon*, *Telipogon montufariana*, *Telipogon humboldtiana*.

NEW *TELIPOGON* SPECIES

INTRODUCTION Over 200 years have passed since the genus *Telipogon* was described by Karl Sigismund Kunth (1815). The name comes from the Greek *telos* meaning "end" or "point" and *pogon* meaning "beard" referring to the trichomes on the petals and column. Later, Reichenbach described several species in this genus. Pfitzer (1887) included *Telipogon* in the tribe *Notylieae*. Schlechter (1915) proposed uniting *Trichoceros*, *Telipogon* and *Stellilabium* in the subtribe Telipogoninae. Dressler and Dodson (1960) classified these genera in the Ornithocephalus Alliance, but the consensus among taxonomists was to recognize Schlechter's classification (Burns-Balogh and Funk 1986; Dressler 1993; Szlachetko 1995). The results of molecular analyses by Chase et al. (2003, 2015) resulted in all of the aforementioned groups being placed in a more broadly circumscribed Oncidiinae.

Until 2005, 190 species were attributed to *Telipogon*. Molecular, phylogenetic analysis by Williams et al. (2005) indicated that *Stellilabium* was embedded within *Telipogon*, which resulted in the transfer of 36 species to *Telipogon*. New species of *Telipogon* continue to be described. As of 2019, 262 species of *Telipogon* have been recognized including about 26 that appear to be heterotypic synonyms (Dodson 2004; Nauray Huari and Galán de Mera 2008; Kolanowska et al. 2016; World Checklist of Selected Plant Families [WCSP] 2019).



[1] *Telipogon humboldtiana*, photographed by H. Medina.

[2] *Telipogon humboldtiana* H. Medina et al. A. Habit. B. Flower. C. Perianth dissected. D. Column and lip, side view. E. View lip. F. Column, lateral view. G. Layers of the polinarium back view. Illustration of the plant that served as holotype, by Hugo Medina.

[3] *Telipogon antioquianus*. Photograph courtesy of Wikimedia Commons.

Telipogon humboldtiana H. Medina, J. Portilla and A. Hirtz *sp. nov.* Type: ECUADOR. Azuay: road to Jumpiran near Jadan, 2°52'51.13"S 78°49'31.13"O, 3,000 m, reported to grow on branches of small trees, flowered in cultivation at Ecuagenera Orchid Nursery, Gualaceo, Ecuador, November 2018, *Medina 0295* (holotype: QCNE).

Species novae similis est Telipogon antioquianus Rchb.f. similis, differunt floribus flavo Cum venis atque in tenebris brunneis maculis, petalis deltoide acuto.

Plant caespitose, epiphytic, 5.0–6.0 cm tall. ***Stem*** pseudobulbous, 1.3 cm long, 0.3 cm wide, enveloped by five leaves. *Leaves* fleshy, lanceolate, acute, imbricating and becoming progressively larger from the base of the stem to the apex, 0.8–4.6 cm long, 0.4–1.5 cm wide. The lower leaves provided and transitioning entirely to a papyraceous, sheathlike base enveloping the pseudobulb, 0.8 cm long, 0.8 cm wide. *Roots* cylindrical, glabrous, whitish green,

apex clear green, 0.2 cm in diameter. *Inflorescence* a successively-flowered raceme producing up to six flowers with one or two flowers open simultaneously, *peduncle* triquetrous, 5.0 cm long, 0.3 cm in diameter, the peduncle emerging from a papyraceous, acuminate bract from an axillary node, each flower emerging from a conduplicate floral bract covering the base of the ovary, 1.0 cm long and 0.7 cm wide when expanded. *Flower* resupinate, bright yellow with a brown reticulate pattern, 2.2–3.1 cm in diameter; *dorsal sepal* obovate, acute, yellow with three brown stripes, 1.4 cm long, 0.7 cm wide; *lateral sepals* lanceolate, acute, yellow with three, brown linear markings, 1.3 cm long, 0.6 cm wide; *petals* deltoid, cuneate, yellow reticulated with brown, 9-veined, elliptical, yellow, with brown striations and markings occasionally forming a reticulate pattern, 1.7 cm long, 1.6 cm wide; *lip* circular-deltoid, yellow reticulated with brown, 12-veined, with a low, hirsute, crescent-shaped, purple *callus* at the base, 0.3 cm long, 1.6–1.9 cm wide. ***Column*** dark brown, stout, terete, fused to the lip, hirsute, densely hispid apically before the purple, cucullate *anther cap*, two pairs of *pollinia* provided with a long stipe and hooklike viscidium, the apical *stigma* purple, 0.3 cm long, 0.4 cm wide. *Ovary* triquetrous, dull green, slightly mottled brown, 2.6 cm long, 0.3 cm wide. *Fruit* unknown.

ETYMOLOGY Named to honor the German botanist Alexander Von Humboldt, a polymath known for his contributions in geography, astronomy, humanities and studies of nature; also well known for his exploration of the Neotropics in the 1800s and his resulting contributions toward understanding its orchid flora.

DISTRIBUTION Known only from the northeast Azuay Province of Ecuador, road to Jumpiran near Jadan town.

PHENOLOGY Cultivated plants bloom sporadically from November to February.

HABITAT AND ECOLOGY Plants of this species occur sympatrically in cloud forests around 3,000 m on thin, mossy branches among other epiphytes including including *Telipogon azuayanus* Rchb. F.

DISCUSSION The new species is most similar to a group of *Telipogon* distributed from Central America into South America with populations most frequent in higher elevations of the Andes. Among these species, *Tp. humboldtiana* is most similar to *Tp. antioquianus* Rchb.f., from which it can be distinguished by the resupinate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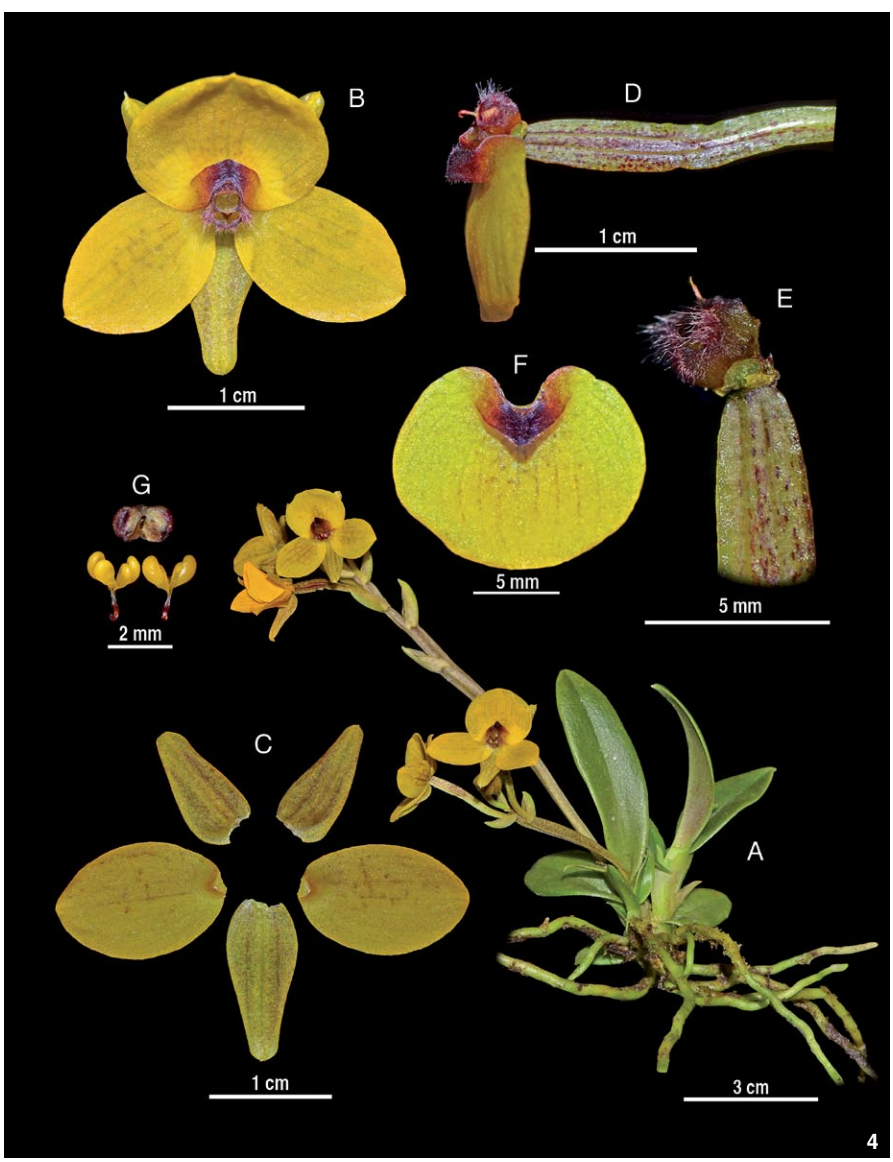

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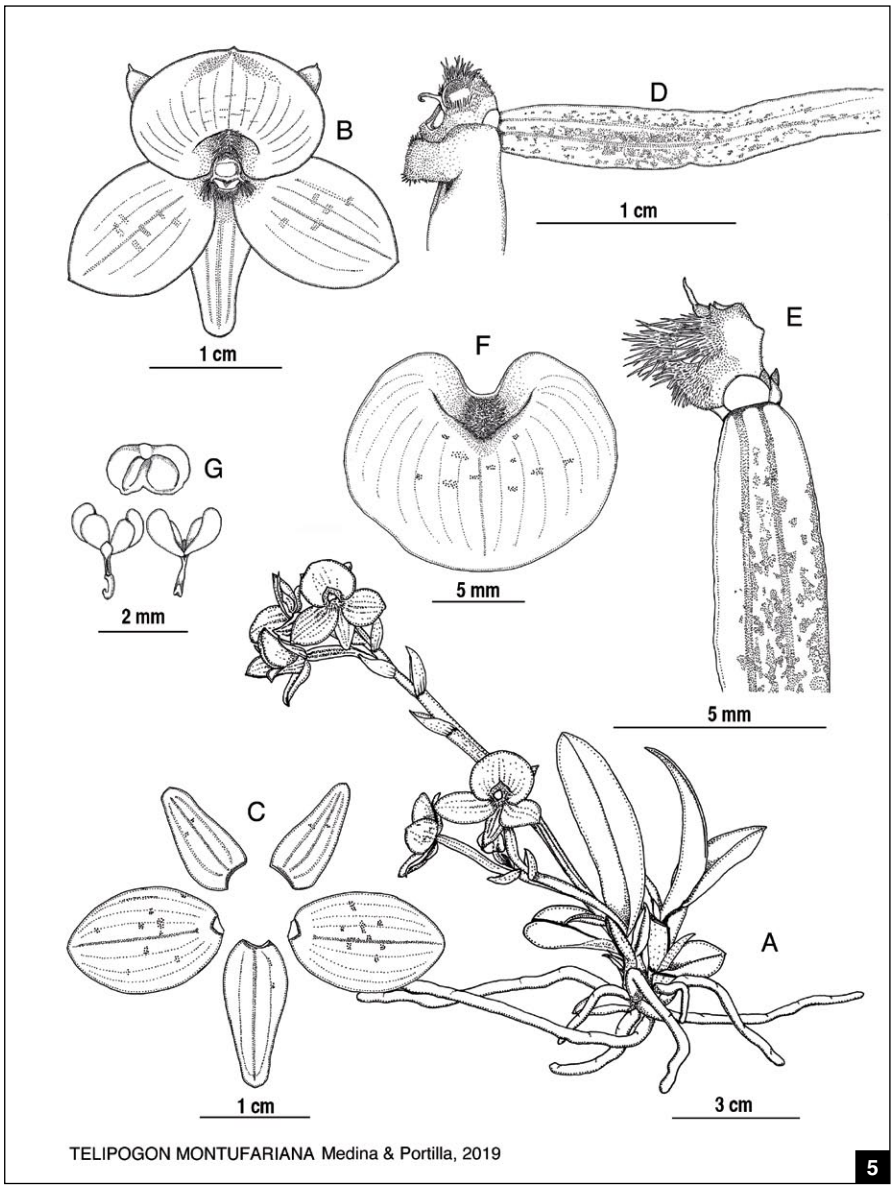
flowers (vs. nonresupinate), the more intense coloration of the flowers including a brown reticulated pattern (vs. duller coloration and lacking a brown reticulated pattern), deltoid petals (vs. obovate petals), more acute petal apices, circular-deltoid lip with a more pronounced callus (vs. circular lip with a low, narrow callus). — *Jose Portilla (producciongye@ecuagenera.com).*

Telipogon montufariana H. Medina, J. Portilla and A. Hirtz *sp. nov.* Type: ECUADOR.: Azuay, Matanga, near the border of Morona-Santiago, reported to grow on branches of small trees around 3,100 m, flowered in cultivation at Ecuagenera Orchid Nursery, Gualaceo, Ecuador, November 2018, *J. Portilla 0263* (holotype: QCNE).

Species novae similis est Telipogon obovatus Lindl. similis, differunt floribus flavo summa apud paulo brunneis maculis, prope invisibilia.

Plant caespitose, epiphytic, 7.0–8.0 cm tall, 13.0–14.0 cm tall including the inflorescence. *Stem* pseudobulbous, 1.3 cm long, 0.5 cm wide, enveloped by two leaves. *Leaves* fleshy, lanceolate, acute, imbricating and becoming progressively larger from the base of the stem to the apex, 2.1–5.3 cm long, 1.1–1.5 cm wide, rarely with a small terminal leaf 1.7 cm long, 0.4 cm wide. The lower leaves provided and transitioning entirely to a papyraceous, sheathlike base enveloping the pseudobulb, 1.4 cm long, 1.3 cm wide. *Roots* cylindrical, glabrous, whitish green, apex clear green, 0.3 cm in diameter. *Inflorescence* a successively-flowered raceme producing up to six flowers with up to three flowers open simultaneously, *peduncle* triquetrous, 3.5–10.3 cm long, 0.2–0.3 cm in diameter, emerging from a papyraceous, acuminate bract at the base and apex of the shoot, each flower emerging from a conduplicate floral bract covering the base of the ovary, 1.1 cm long and 0.8 cm wide when expanded. The apical inflorescences bear fewer flowers than the basal inflorescences. *Flower* nonresupinate, bright yellow with a few brown striations, 2.2–2.4 cm in diameter; *dorsal sepal* lanceolate, yellow with three brown veins, 1.2 cm long, 0.6 cm wide; *lateral sepals* lanceolate, acute, yellow with three brown veins, 0.9 cm long, 0.6 cm wide; *petals* elliptical, yellow, with brown striations and markings occasionally forming a reticulate pattern, 1.2 cm long, 0.8 cm wide; *lip* circular, yellow, spotted brown in striate patterns, 16-veined, with a raised, triangular *callus* at the base, orange-brown and hirsute becoming dark purple and hispid toward the raised central portion, 1.2 cm long, 1.1—1.3 cm wide. *Column* dark brown, stout, terete, fused to the lip, hirsute, hispid apically before the cucullate, purple *anther cap*, two pairs of *pollinia* provided with a long stipe and hooklike viscidium, the apical *stigma* bright green, 0.1 cm long, 0.2 cm wide. ***Ovary*** triquetrous, green, slightly mottled brown, 2.5 cm long, 0.3 cm wide. ***Fruit*** unknown.



ETYMOLOGY Named in honor of Carlos Montúfar, son of Juan Pío Montúfar II, Marquis of Selva Alegre, born in the South American colony of the Presidency of Quito. In 1802 Carlos received and accompanied the botanists Humboldt and Bonpland during the expedition of Ecuador, Peru, Mexico, the United States, and Cuba and traveled with them back to Europe.

DISTRIBUTION Known only from the Azuay Province of Ecuador along the road to Jumpiran near the town of Jadan southern Ecuador, and in the Province of Morona-Santiago in the Matanga Mountain range, near the border with the Province of Azuay.

PHENOLOGY Cultivated plants bloom sporadically from November to

[4] A. *Telipogon montufariana*, photographed by H. Medina.

[5] *Telipogon montufariana* H. Medina et al. A. Habit. B. Flower. C. Perianth dissected. D. Column and lip, side view. E. Column, lateral view. F. View lip. G. Layer of the anther and polinaria (two views). Illustration of the plant that served as holotype, by Hugo Medina.

[6] *Telipogon montufariana*, Prepared sheet of the plant that served as holotype, by H. Medina.

February.

HABITAT AND ECOLOGY Plants of this species occur sympatrically in cloud forests around 3,000 m on thin, mossy branches among other epiphytes including *Telipogon portillae* Christenson.

DISCUSSION The new species is most similar to a group of *Telipogon* distributed from Central America into South America with populations most frequent in higher elevations of the Andes. Among these species, *Tp. montufariana* is most similar to *Telipogon obovatus* Lindl., but can be distinguished by the bright yellow perianth marked with brown (vs. unmarked, duller yellow flowers), elliptical petals (vs. quadrate), circular lip with a broad hirsute and hispid callus (vs. obovate, smaller cordate callus), and the sparsely hispid column (vs. densely hispid).

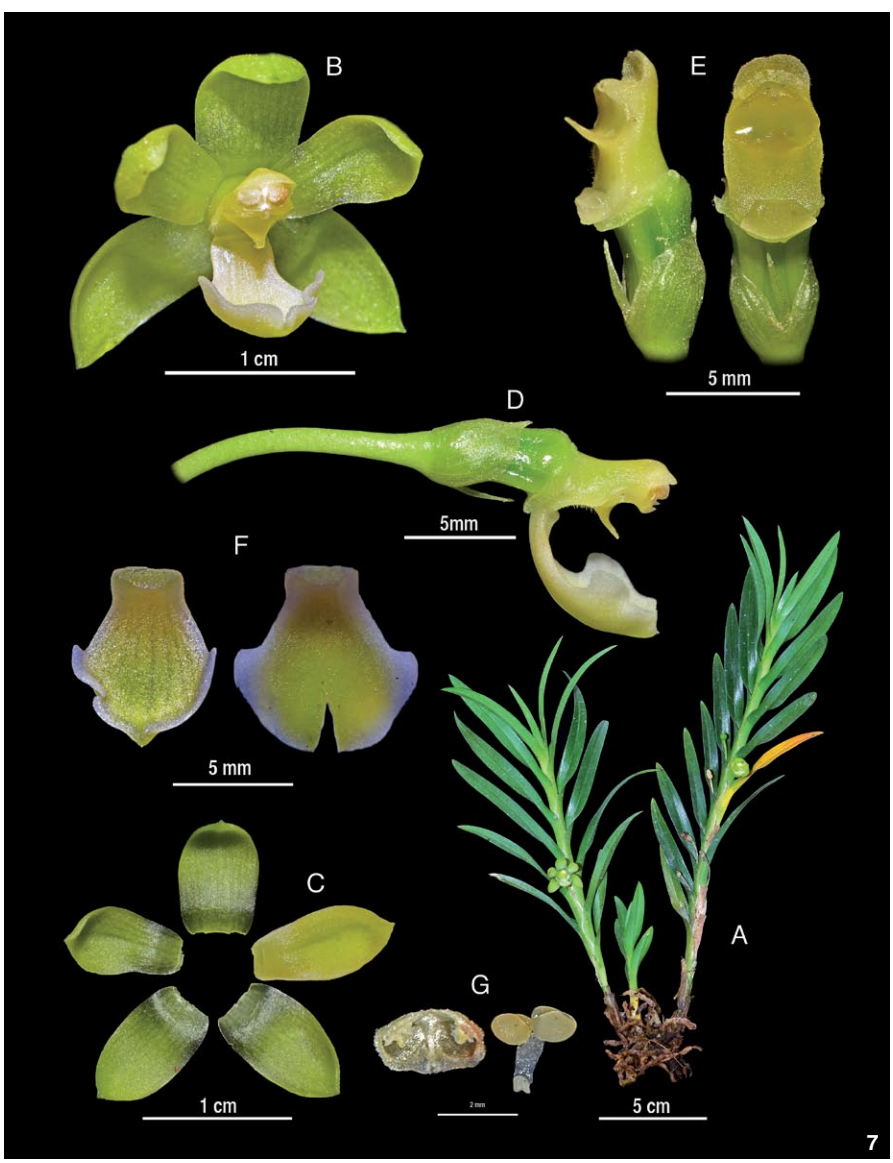
NEW *DICHAEA* SPECIES

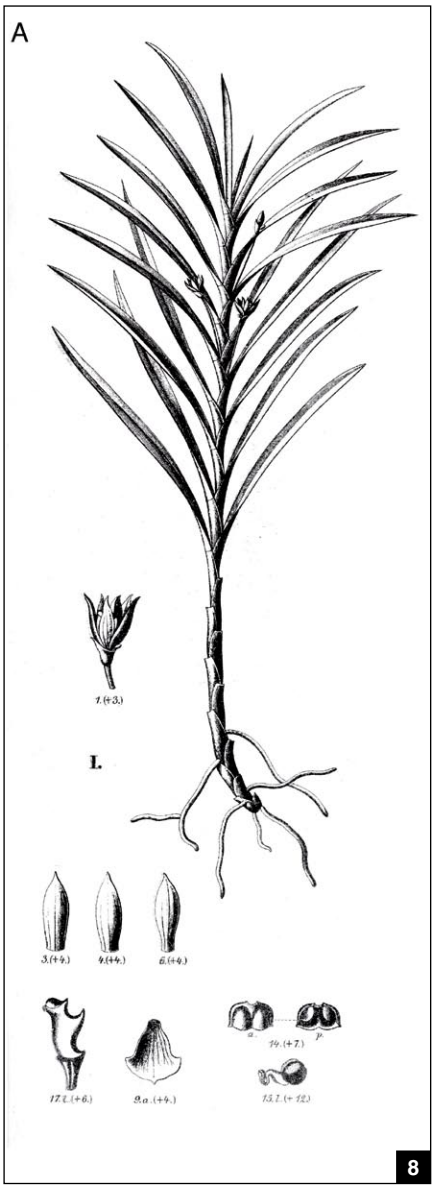
INTRODUCTION The name *Dichaea* comes from the Greek *diche*, meaning "doubled," in reference to the two-ranked, imbricating leaves. The genus *Dichaea* has a slightly complicated taxonomic origin. The genus was described in 1833 by Lindley based on *Epidendrum echinocarpum* Swartz, which was later recognized to be a synonym of *Dichaea pendula* (Aubl.) Cogn. This name was recognized as an accepted species over the type for the genus due to the requirement of botanical nomenclature that the earliest name for a species has priority even if the species was first recognized in a different genus.

The genus *Dichea* contains the largest number of species in the subtribe *Zygopetalinae* (Whitten et al. 2005). Ecuador boasts about 40 of these species (Dodson 2004). There are 167 species names attributed to the genus, of these 123 are accepted and 44 are considered taxonomic synonyms. These species are divided into four different sections based on the morphology of the ovary (pubescent vs. glabrous) and articulation of the leaves (present vs. absent; Cogniaux 1904–1906). The new species described below is best attributed to *Dichaea* sect. *Dichaeopsis* based on the glabrous ovary and articulated leaves.

Dichaea bonplandiana H. Medina, J. Portilla and A. Hirtz *sp. nov*. Type: ECUADOR. Zamora-Chinchipe: in front of Los Encuentros, across the Zamora River near El Pindal, 3°44"43.11'S 78°35'46.02"O, 895 m, 2017, flowered in cultivation at Ecuagenera in El Pangui, *I. Portilla 0105* (holotype: HA).

Species novae similis est Dichaea australis Cogn., similis, differunt floribus virescens, labrum cum crepito, lobis





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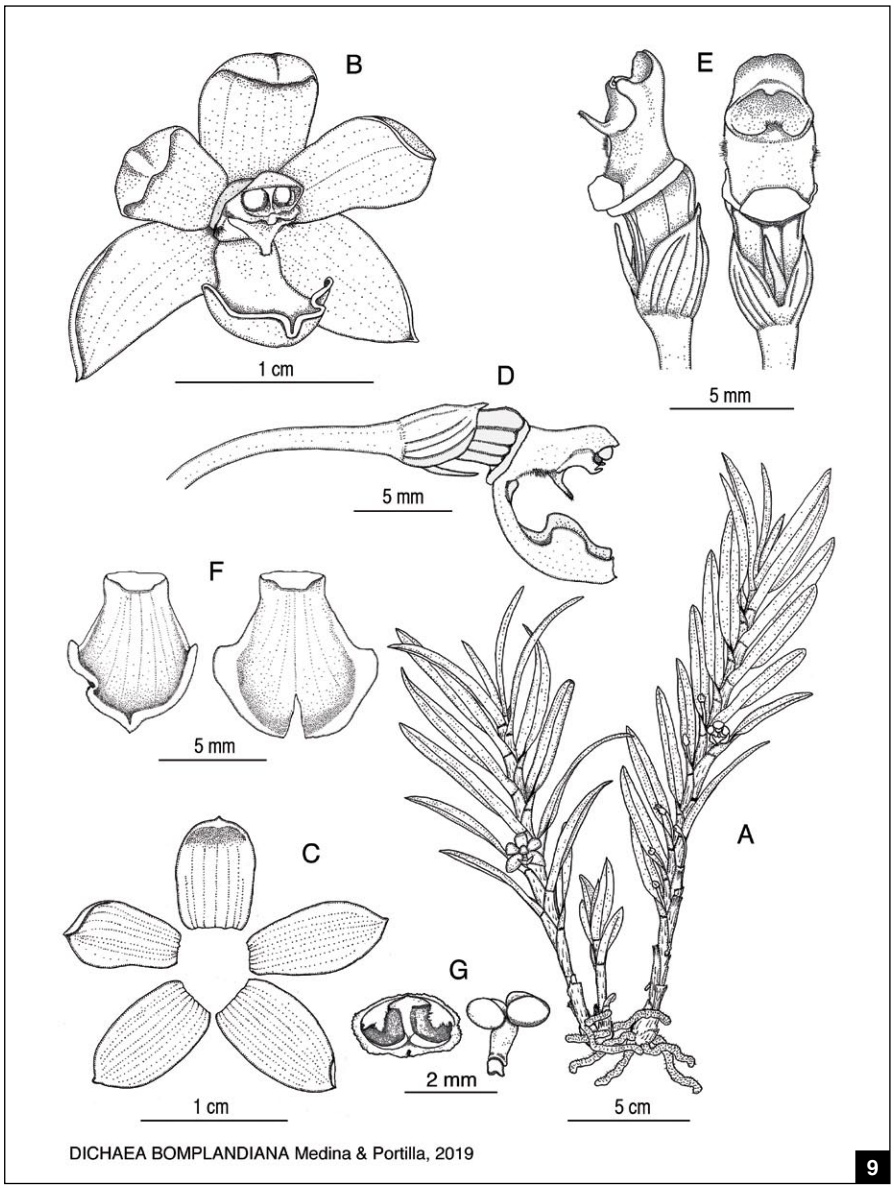

DICHAEA BOMPLANDIANA Medina & Portilla, 2019

9

lateralibus minutissimis spathulatae, in Micro album margine ciliatiscolumna brevi insigne alatis pilosae ignominioso tubae acuminata, basi in parte cum stigmate alarum latera teguntur pilis tectum tumor in pedibus notissimos versus medium cavum.

Plants caespitose epiphytes, erect, many-leaved stems, the base of the shoots protected by dried leaf sheath bases, 28–30 cm tall. *Roots* coarse, pubescent, flexuous, branched, 3 mm in diameter. *Leaves* many, up to 22 per shoot, articulated, deciduous with the sheathlike base, linear, acute, entire margins, 4.5–7.8 cm long, 0.6–0.9 cm wide. *Inflorescence* solitary; flowers produced from the axillary nodes; *peduncle* terete, 1.8 cm long; *floral bract* 0.04 cm long, 0.06 cm wide; *ovary* partially covered by the floral bract, terete, 0.6 cm long, 0.3 cm wide. *Flowers* fleshy, yellow-green, 1.3–1.6 cm in diameter; *dorsal sepal* ovate, acute, the apex incurved and concave, 1.1 cm long, 0.5 cm wide; *lateral sepals* similar to the dorsal sepal, ovate, acute, apex incurved and concave, 1.1 cm long, 0.5 cm wide; *petals* similar to the sepals, ovate, acute, the apex incurved and concave, 1.1 cm long, 0.5 cm wide; *lip* sessile, trilobed, obovate-anchoriform, concave, cream-colored with a white, ciliate margin, 0.8 cm long, 0.8 cm wide when expanded; *column* stout, semiterete, pubescent with a hornlike projection ventrally, *anther cap* flattened and two-chambered, 0.20 cm long, 0.05 cm wide. *Fruit* unknown.

ETYMOLOGY Named to honor Francés Aimé Bonpland, a famous explorer, botanist and member of Humboldt's scientific expedition to South America.

DISTRIBUTION Known only from the southeast of Ecuador, Zamora-Chinchipe,

[7] A fully open *Dichaea bonplandiana* flower. Inset a partially open flower. Photographs by H. Medina.

[8] *Dichaea bonplandiana* H. Medina. A. Habit. B. Flower. C. Perianth dissected. D. Column and lip, side view. E. Column, ventral and lateral view. F. Lip (two views) normal and expanded. G. Layer of the anther and pollinium. Illustration of the plant that served as holotype, by Hugo Medina.

[9] Illustration of the syntype of *Dichaea australis Brazil A, Cogniaux 1780.*

[10] *Dichaea bonplandiana*, Prepared sheet of the plant that served as holotype, by H. Medina.

in front of Los Encuentros after crossing Rio Zamora near El Pindal.

PHENOLOGY The plants flower in cultivation sporadically from November to January and in May.

HABITAT AND ECOLOGY The plants of this species grow as epiphytes in humid, primary and secondary forests under shaded conditions around 900 m.

DISCUSSION The new species is best attributed to *Dichaea* sect. *Dichaeopsis*, characterized by plants with articulate leaves and glabrous ovaries. Species in this section are distributed from Central America to South America with their greatest numbers occurring in the Andes. The new species is most similar to *Dich. australis* Cogn., but can be distinguished by the yellow-green flowers (vs. clear green), the incurved and concave petal apices (vs. flat petal apices), the cream-color lip with a ciliate margin (vs. white with entire margin), and the hornlike projection of the column (vs. lacking such projection). — *Jose Portilla (producciongye@ecuagenera.com).*

Acknowledgments

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AUGUST

2–3—Houston Orchid Society Workshop and Sale, First Christian Church, 1601 Sunset Blvd., Houston, TX; Contact: Derek Lowenstein, 631–459–7327; dereklowenstein@gmail.com

6–11—Sociedad Colombiana de Orquideologia "Exposición Orquideas, Flores & Artesanias," Jardín Botánico – Carrera 52 #73–298, Medellin – Antioquia, Colombia; Contact: Javier Rios, (57) 313 660 0946; secretariaexposicion@sco.org.co

7–11—Virtual Orchid Society "2nd Expo Orchids Shopper," Plaza Centro Mall, Ave. Rafael Cordero #200, Cagus, PR; Contact: Reinaldo Rodriguez, 787–565–5287; vladimir4875@hotmail.com

18–19—*The Orchid Society of Greater St. Louis Annual Orchid Auction, Missouri Botanical Gardens, Beaumont Room, 4344 Shaw Blvd., St. Louis, MO; Contact: Tim Neer, 314–283–5925; auction01@osogsl.org

30–September 1—Asociacion Jueces de Orquideas de Costa Rica "Exposición Nacional de Orquideas AJOCORI 2019," Ave 16, calles 0 y 1, 6° piso parqueo, Hospital Clinica Biblica, San José, Costa Rica; Contact: Ana Cristina Rodriquez León, (506)8393–3736/(506)8980–3449; orquideaslinda@hotmail.com

SEPTEMBER

12–15—Asociacion Bogotana de Orquideologia, Jardin Botanico, Avenida Calle 63 # 68–95, Bogota, Colombia; Contact: Julia Jordan, +57 310–2279596; julie.jordan@grchia.com

14–15—Galveston Bay Orchid Society/ SWROGA Show "Symphony of Orchids," Hilton Houston NASA Clear Lake, 3000 East NASA Parkway, Houston, TX; Contact: Joyce McMillan, 832–279–0211; joycemcmillan@att.net

14–15—*South Bay Orchid Society Show & Sale, South Coast Botanic Garden, 26300 Crenshaw Blvd., Palos Verdes Peninsula, CA; Contact: Arthur Hazboun, 310–995–1592; webmaster@southbayorchidsociety.com

14–15—Wisconsin Orchid Society Show "Fall In Love With Orchids," Mitchell Park Horticultural Conservatory, 524 S. Layton Blvd., Milwaukee, WI; Contacts: Richard Odders, 262–632–3008; odders2445@gmail.com/Bil Nelson, 414–467–6642; qorchids@att.net

20–22—Alabama Orchid Society 35th Show & Sale, Birmingham Botanical Gardens, 2612 Lane Park Road, Birmingham, AL; Cotact: Dr. Beverly A. Von Der Pool, 205–821–0689; bvonderpool@yahoo.com

21–22—Ridge Orchid Society Show "Orchids Gone Wild," W. H. Stuart Center – UF IFAS Extension Polk County, 1702 US Highway 17–98 South, Bartow, FL; Contact: Glen Gary, 863–602–0778; glengary54@yahoo.com

25–29—Asociación Guatemalteca de Orquideologia National Show, Zoológico La Aurora, 5 Calle, Interior Finca La Aurora, Zona 13, Guatemala City, Guatemala; Contact: Robert Fuchs, 305–245–4570; bob@rforchids.com

28–29—*Fascination of Orchids International Show & Sale, South Coast Plaza Village, 1621 Sunflower Ave., Santa Ana, CA; Contact: Theo Johnson, 714–979–5887; ocorchidshow@gmail.com

28–29—Kentucky Orchid Society Show, St. Mathews Episcopal Church, 330 N Hubbards Lane, Louisville, KY; Contacts: Richard Humke, 502–299–1231; richardhumke@gmail.com/Catherine Luckett, 502–893–9282; catluckett@gmail.com

28–29—Smoky Mountain Orchid Society Show, Stanley's Greenhouse, 3029 Davenport Road, Knoxville, TN; Contacts: Mary Ann Lang, 865–675–3695; maryannlang@charter.net/Casey Littell, 865–297–8202; 1littellgirl@gmail.com

28–29—Tampa Orchid Club Expo, USF Botanical Gardens, 12210 USF Pine Drive, Tampa, FL; Contact: Cheryl Crilly, 813–244–7564; cents4me@aol.com

OCTOBER

2–13—Central California Orchid Society "The Big Fresno Fair Orchid Show," Fresno Fairgrounds, 1121 S Chance Avenue, Fresno, CA; Contact: Gordon Wolf, 209–999–0181; gwsangca@yahoo.com

3–6—Maui Orchid Society – Maui Fair "Orchidland Show," War Memorial Gymnasium, 700 Halia Nakoa St., Wailuku, HI; Contact: Bert Akitake, 808–250–1585; jakitake@hotmail.com

5—*Deep Cut Orchid Society Annual Orchid Auction, Monmouth Park Racetrack, 175 Oceanport Avenue, Oceanport. NJ; Contact: Joan Messander, 732–787–4660; jmesand1@verizon.net

5–6—South Florida Orchid Society Show "Orchid Treasures," University of Miami Watsco Center, 1245 Dauer Dr., Coral Gables, FL; Contact: Daniel Christensen, 954–252–8116; damorchid@aol.com

11–13—*Honolulu Orchid Society Show "Celebrating 80 Years of Orchids," Washington Middle School Cafeteria, 1633 S. King St., Honolulu, HI; Contact: Katherine Leonard, 808–542–8672; kateleonard@hawaiiantel.net

12–13—Gainesville Orchid Society Show "Orchids in the Garden," Kanapaha Botanical Gardens, 4700 SW 58th Dr., Gainesville, FL; Contact: Joan MacLeod, 352–665–2640; neilmacleod@bellsouth.net

16–20—Fall Members Meeting and East Everglades Orchid Society Show & Sale, members meeting begins October 16, the show is being held October 18 – 20, 2019 at R.F. Orchids, 28100 SW 182 Ave., Homestead, FL; Contact: Kimberly Belisle, 786–367–7177; kim@orchidseeos.com

18–20—Club Peruano de Orquideas XIII Exposicion de Orquideas "Peru y sus orquideas," Parque Reducto de Miraflores, Calle Ramon Ribeyro 490, Miraflores, Lima, Peru; Contact: Giancarlo Bonicelli, 0051–997386077; gbonicelliv@boniplant.com

18–20—The Huntington Library, Art Collections and Botanical Gardens International Orchid Show, The Huntington Library, Art Collections, and Botanical Gardens, 1151 Oxford Road, San Marino, CA; Contact: Brandon Tam, 626–405–3568; btam@huntington.org

25–27—Asociacion Alajuense de Orquideologia "Exposicion Nacional

de Orquideas de Alajuela 2019," Escuola Migel Obregón Lizano, Alajuela, Costa Rica; Contact: Jorge Giovanni Salazar, (508)8820–5608; suiza040@yahoo.com

25–27—Blue Ridge Orchid Society Show "Orchids and Ghosts," Center in the Square, 1 Market St., Roanoke, VA; Contact: Lillian Gillespie, 434–324–4755; gillespielgh@fairpoint.net

25–27—Delray Beach Orchid Society Show "Orchids on the Square," Old School Square Fieldhouse, 51 N. Swinton Ave., Delray Beach, FL; Contact: Michele Owens, 954–695–9889; molovesorchids@gmail.com

26–27—Eastern Iowa Orchid Show & Sale, Cedar Rapids Elks Lodge #251, 801 33rd Ave. SW, Cedar Rapids, IA; Contact: Andy Coghill–Behrends, 319–512–8076; mistercoghill@hotmail.com

26–27—Windsor Orchid Society Show "Orchid Spooktacular," St. Cyril's Slovak Centre, 1520 Chandler Road, Windsor, Ontario, Canada; Contact: Ed Cott, 519–819–4611; laelia@aol.com

NOVEMBER

8–10—Triangle Orchid Society Show "Fall for Orchids," Doris Duke Center at Sarah P Duke Gardens, 420 Anderson Street, Durham, NC; Contact: Phil Brindle, 919–884–8750; brindlep@frontier.com

9–10—Ft. Pierce Orchid Society Show "Kaleidoscope of Orchids," River Walk Center, 600 N Indian River Drive, Ft. Pierce, FL; Contact: Rita Zeblin, 772–418–7426 (text only); rita2zfpos@gmail.com

15–17—Asociacion Vallecaucana de Orquideologia "Caliorquideas 2019," Orquideorama, Av 2 N #48–10, Cali, Valle, Colombia; Contact: Maria Del Rosario Malveny, +57–312–843–0462; madelrmalvehy@gmail.com

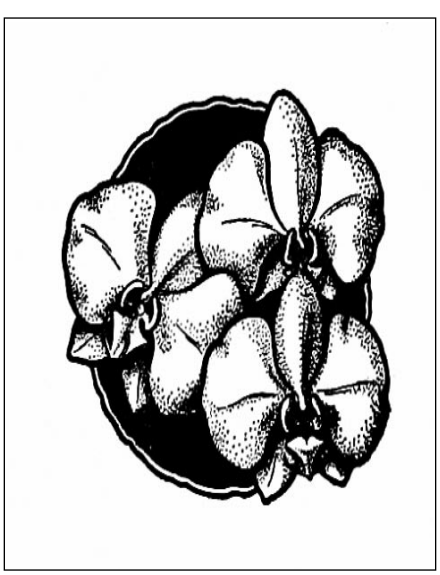
16–17—Deerfield Beach Orchid Society Show "Orchid Obsession," Safe Schools Institute, 1790 Spanish River Boulevard, Boca Raton, FL; Contact: Cheryl Babcock, 954–464–8996; crbabcock1@netzero.net

Events preceded by an asterisk (*) in this listing will not be judged by the AOS.

Too hot in the summer greenhouse?

Stick one side of Velcro disks a foot apart onto the outside of the west side of the greenhouse to fit the shape of the foil-covered, bubble-wrap-type batts like the material used as jackets for hot water heaters. It can be purchased in rolls. The foil will reflect the hot west sun and the bubble wrap will help insulate against the heat. It may also be used to insulate the north side of the greenhouse on the inside to keep heat in and reflect the light back into the greenhouse. — *Jean Allen-Ikeson (email: jean.ikeson@gmail.com).*

ORCHID MARKETPLACE



MAKE SURE PEOPLE CAN REACH YOUR AFFILIATED SOCIETY

Our records are only as good as the information our affiliates provide. We recommend our affiliates update their AOS record periodically — at least after every annual election — using our online form: http://affiliatedssocieties.americanorchidsociety.org/update/

Pay particular attention to:

- proper points of contact
- accurate society information — we use this for the Affiliated Societies search on our website and preparation of the annual Orchid Source Directory listings

Help us ensure the AOS Corner, renewal notices and important correspondence reach you.

ORCHIDS CLASSIFIEDS

SALES

BROWARD ORCHID SUPPLY — we carry fertilizers, fungicides, pesticides, pots, baskets, growing media, tree fern, cork, wire goods, labels, pruners and more. For our complete product line, visit our website at www.browardorchidsupply.com. Call 954-925-2021 for our catalog or questions. AOS members receive a 10% discount. We cater to the hobbyist.

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SELLING MY PRIVATE collection after 28 years; 2,500 sq ft of overgrown cattleyas and 500 sq ft of overgrown dendrobiums are available in Titusville, Fl. Contact: Kenny Yii @ 321-720-7337.

SALES

MAIN STREET ORCHIDS After more than 20 years in business, we are finally offering online sales. Lots of species. Phrags, Phals, Catts, Dens, Tolumnias, other. New additions monthly. Very reasonable prices. Join our email list to see new additions and specials. Visit msorchids.net.

INGRAM'S BETTER ORCHID BOOKS offers new, old, rare, classic, out-of-print orchid books and some orchid magazines. Looking for a specific item? Send order or want list via email to jeingr45@gmail.com or mail to J E Ingram, P.O. Box 12272, Gainesville, FL 32604.

PROPERTY/BUSINESS FOR SALE

SELLING WELL-ESTABLISHED online orchid business due to retirement of owner. Turnkey business with plants, supplies, website, customer base – everything but the greenhouse. Great potential for growth. Email olympicorchids@gmail.com or phone 206-229-7919.

WANTED TO LEASE

WANTED TO LEASE Orchid Growing space in the Los Angeles area. GREENHOUSE and/or OPEN SPACE. Need to relocate extensive collection. Contact: RLRothschild@gmail.com 323 667 1177

Classified ads are $55 for five lines (45 characters/spaces per line) and $15 for each additional line. $25 for first three words in red. $25 to include logo. The first three words can be in all caps, if requested.

AD INDEX

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

Submission of articles for *ORCHIDS* magazine

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

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

A Higher Beauty

Lovely orchid, Queen of the flowers
Living on air, above us you tower.
How are you smarter than the formidable insect?
Are there patterns in your genes, intrinsic?
Vermillion daubs on coffee ice cream,
Velvet tongues of mauve and jade green.
Delicate yellows stroked with chocolate,
An insect shape that won't be mocked at.
It is a cosmic joke that you live in the clouds,
In those tropical mountains, majestically proud.

Kenneth Hoffman

Coming ths fall

The 2019 *Orchids* supplement

Oncidiinae

- *Psychopsis;* Butterflies by Any Other Name
- *Oncidium tigrinum* and its Hybrids
- *Oncostele* Wildcat
- *Trichocentrum stacyi*
- The Genus *Miltonia*
- The Genus *Miltoniopsis*
- The Genus *Rhynchostele*
- The Genus *Rossioglossum*
- The Genus *Tolumnia*
- A Short History of Oncidiinae Beeding
- *Oncidium leucochilum*, A Star in Oncidiinae Beeding
- On the Road to the Sun
  Bright Yellow "Odontoglossums"; Past and Future
- Reflections of a Hybridizer: 30Years of Breeding in the Oncidium Alliance

American Orchid Society

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