

December 2014 **The Orchid Grower**

Orchid Growers' Guild of Madison
Website orchidguild.org



Meeting Dates

December 21, Olbrich
January 18, 2015, Olbrich

Meetings start at 1:30 pm at Olbrich Gardens unless otherwise noted

Up-Coming Events

- **January 31-February 1, 2015**, Orchid Quest, Middleton
- **February 21-22**, Batavia Orchid Society Show, Wheaton, IL
- **March 7-8**, Northeastern Wisconsin Orchid Society Show, Neenah WI
- **March 19-21, 2015**, Spring MAOC, Nashville TN
- **Spring 2016**- MAOC, Cincinnati/Dayton Area

Officers and Committees

President:

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Vice President:

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Secretary:

Audrey Lucier (2015)
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Treasurer:

Keith Nelson (2016)
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Board:

A FEW WORDS FROM OUR PRESIDENT Next meeting Holiday Party

Happy winter to all and may our orchids treat us to a break from the snow and ice.

It is time to celebrate at our holiday party Sunday, December 21st. We will have plant judging at 1:00 pm, and later the annual announcement of awards.

The pot luck is scheduled for 1:30 PM. As usual, bring a dish to pass and some good cheer. You are welcome to check out attendance and food selections at signupgenius.com.



Santa's helper, Liz Wood, will be there.

If you have not yet reserved a Holiday plant for \$10, it is not too late! Please let our treasurer Keith Nelson know if you would like a plant. You can pay at the party or by check to OGG, PO Box 5432. Madison, WI 53705. Memberships are also due at \$18/single, \$24/couple. You should fill out an up-dated Membership Form if any of your contact information has changed since October of 2013. When thinking if your information is the same, remember you are checking not only your address but your telephone and email address. The price goes up January 1st to \$20.00.

Rich Narf is our temporary Webmaster. He is working on a different configuration of the OGG website. He is also looking for someone interested in replacing him. Stay tuned!



One of the blooms on a *Phragmipedium schlimii* grown by Audrey Lucier

INSIDE THIS ISSUE

| | |
|---|----|
| Fall MAOC Report, "Orchids Under Glass" | 3 |
| "Jardín de Orquídeas Moxviquil", October Talk | 5 |
| "New Perspectives on Orchid Evolution", November Talk | 8 |
| Next Meeting [Holiday Party] | 1 |
| OGG Ribbon Judging November | 2 |
| Up-Coming Events | 10 |

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AOS: Jill Hynum
MAOC: Audrey Lucier
Orchid Digest: Jill Hynum

January is time for Orchid Quest. Our meeting Sunday, January 18th will be devoted to Orchid Quest planning and a presentation by Sue Reed on plant labeling and preparation. She also needs help with our exhibit, so be ready to volunteer to coordinate our display.

We also need two volunteers for hospitality for the January meeting, as no one has signed up. Please email me if you can provide treats.

You may remember Joe Meisel of the Ceiba Foundation, Madison who has spoken to OGG regarding orchid conservation in Peru. He has a new book out [see below.]

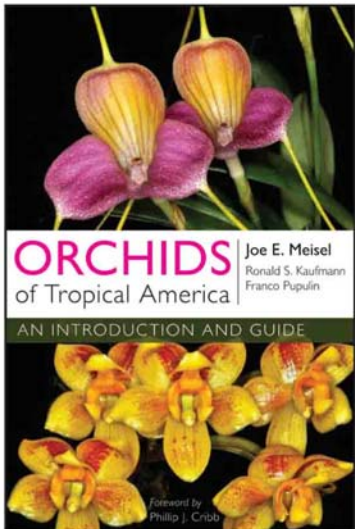
I thank our member Meg McLaughlin for plants donated for our October meeting Silent Auction. As previously noted the auction earned \$262 for. OGG. Jeff Baylis also contributed a few plants. In November, another member George Pobuda from Tomahawk, WI donated plants for a silent auction. The proceeds from George's plants were \$243. What a treat and great variety of plants. Please bring any that bloom for judging or display at our next meeting.

I am sorry to miss the Holiday party, but will see you in January.

—Lorraine Snyder

Orchids of Tropical America
An Introduction and Guide
JOE E. MEISEL, RONALD S. KAUFMANN, AND FRANCO PUPULIN
FOREWORD BY PHILLIP J. CRIBB

Orchids of Tropical America is an entertaining, informative, and splendidly illustrated introduction to the orchid family for enthusiasts and newcomers seeking to learn about more than 120 widespread orchid genera. Joe E. Meisel, Ronald S. Kaufmann, and Franco Pupulin bring alive the riot of colors, extraordinary shapes, and varied biology and ecology of the principal orchid genera ranging from Mexico and the Caribbean to Bolivia and Brazil. Orchids, likely the most diverse family of plants on earth, reach their peak diversity in the tropical countries of the Western Hemisphere, including, for example, more than 2,500 species in Brazil and 4,000 in Ecuador. The book also highlights reserves in the American tropics where travelers can enjoy orchids in the wild.



OGG RIBBON JUDGING NOVEMBER 2014

First Place

Audrey Lucier
Gary Lensmeyer
Gary Lensmeyer
Audrey Lucier
Nancy Thomas

Dendrobium phalaenopsis type
Lc Acker's Spotlight 'Pink Lady' *C. aelandiae* x *Cattlianthe* Acker's Madison)
Oncidium Sprite
Phragmipedium schlimii
Pleurothallis trichostoma

Third Place

Gary Lensmeyer

Blc Robert Furguson (Blc. Golden Slippers x Blc. Oconee)

FALL MAOC, “Orchids Under Glass” November 7-9, Columbus OH

The Franklin Conservatory in Columbus, OH was an impressive site for the show, meetings and speakers. As home to a very large collection of Chihuly Blown Glass sculptures, there were beautiful colors everywhere one looked and a temporary exhibit of Scary Plants added more interest.

The Affiliated Societies Meeting dealt with getting members to volunteer as officers and for away shows. Making personal appeals was the main suggestion, but not before welcoming new members and getting to know them and their special talents. Several societies devote first 30 minutes of each meeting to helping beginners. Cincinnati holds a potting bee 2 weeks after their shows and invites those who bought orchids to come and get free potting. Besides repotting, a follow-up to shows might be a presentation of “How Orchids are Similar”. Nashville has one month a year as Problem Plant Month. Societies setup an exhibit at local Garden

Shows to advertise themselves.

Away show participation increases if given gas, mileage, and lodging. For a society exhibit, it is important to have each plant displayed to best advantage in order to receive ribbons. Robert Fuchs does an excellent program on Setting up Exhibits. Societies can have non-judged shows where individuals can show as few as 1 plant but get a feel for exhibiting and see others plants.

To promote interest in shows, societies can have awards for Most Artistic Exhibit or a People’s Choice Award or Best Exhibit with 5 or under plants. A large basket with plants in place can be taken to show to make setup easier and still earn ribbons.

Speakers’ budgets run from \$600-\$2,400 / year, depending on size of society. Some set up speakers in conjunction with other groups to save money.

AOS is emphasizing going digital to involve younger people. They have a new application



Antique birdcage with orchids



Brassavola grandiflora received
HCC/AOS



Pond with Fish and decorative balls



Glassus candleae

that promotes benefits like Webinars and cultural information available to members on web. We can print out single sheets to give out at shows listing benefits and also culture information. The webinar Nov 20 is Nile Duesdieker on **Spiders, Gnats, and Greenhoods** about Australian terrestrials. (Technical problem means this one will be rescheduled.) These can be played later at meetings.

The next Mid-American Congress is in Nashville, March 20-22, 2015. It will be under one roof, the Franklin Marriott Cool Springs, a convention center with free parking. A great time was promised by Tom Harper, (who was also recommended as a speaker). Speakers there will be Olaf Gruss and Allen Koch. The business meeting presented the information of a new AOS Library being built at Fairchild Gardens. The next AOS meeting will be in Portland, Oregon. There is no host for a 2015 Fall Mid-American so it will be done by MAOC at a show yet to be determined. The Spring 2016 MAOC will be hosted by Greater Cincinnati and Miami Valley Societies.

Discussion of budget, essay contest winners, conservation awards, a speakers list on website, and Orchidist of the Year Award was given to Aileen Garrison. Next essay subject to be "My most exciting orchid-related experience. The old slide shows are being converted to Power Point and dialog being added and made available on website.

The same slate of officers were reelected:

President Doris Asher, 1st Vice President Jim Newsome MD, 2nd Vice President Janice Yates, Treasurer Alexa Noel, and Secretary Cheryl Erins.

The speakers were:

Andrea Niessen "Maxillaria of Colombia" A discussion of how genus has been split into 17 new genera but a caution at end that all will possibly be remerged into about 5 in February 2015.

Patricia Harding "SITF", on what Species Identification Task Force needs when giving out AOS awards to new plants which need to be identified first. The importance of getting the committee quick, complete info was emphasized. She also presented info about the WOC meeting held in S. Africa with slides at the evening banquet.

Gustavo Aguirre "Cattleyas of Columbia" From Orquideas Katia in Columbia. This was a detailed presentation which will be available on MAOC website.

---Text and photographs by Audrey Lucier, MAOC Liason



Franklin Conservatory orchids



Phrag Fritz Schomberg

RE-CAP OF OCTOBER PRESENTATION

An Introduction to the Jardín de Orquídeas Moxviquil and the Orchids of Chiapas, Mexico

In late October of 2013, my wife Denise and I were vacationing with family in Oaxaca, Mexico for several weeks. During that time we took a five day side trip to San Cristóbal de Las Casas, an historic colonial city in the state of Chiapas. Chiapas is bordered by Guatemala to the south, state of Oaxaca to the north, and is geographically diverse, with elevations ranging from sea level on the Pacific coast to 4080 meters (13,390 ft) in the mountains. San Cristóbal is situated near the geographic center of Chiapas, at an elevation of 7,500 ft. in the Central Highlands. We were there to visit the historic city itself and also the tour the Mayan villages and towns in the mountains that surround San Cristóbal. While preparing for the trip, I came across a website which describes the Jardín de Orquídeas and its mission. I was intrigued, and decided to spend a morning there while the rest of our group went on a tour into the mountains. My only regret is that I could not spend the entire day at the Jardín!

What intrigued me about the Jardín de Orquídeas Moxviquil, besides the obvious opportunity to view blooming orchid species from all Chiapas habitats, was its unique mission as a non-profit conservation organization devoted to the salvage and rescue of orchids and other epi-



Trichopilia tortilis



Sendero

phytes from trees felled by logging, clear cutting and slash and burn agriculture throughout the state of Chiapas. While I have seen other 'orchid reserves' established to preserve orchid habitat in small patches of forest, this is the first reserve I have ever seen set up to rescue salvaged plants from logging in an entire region and cultivate them for conservation, education, and research. This botanical garden was established in 1994 as the brain child of 'Cisco' Craig Dietz, an American ex pat permanently living in San Cristóbal and the Director of the Orquídeas Moxviquil. As the director, Cisco holds a unique permit from the government of Chiapas to salvage/rescue orchids and other epiphytes from any legal or illegal forest harvesting within the state.

The Jardín is located on the northern edge of San Cristóbal, at the base of a forested foothill, on a large tract of donated forest. The physical plant includes several new buildings, including an auditorium, a museum and educational center, a dormitory for visiting student groups, an office building for operation of the Jardín and its non-profit organization, and two greenhouses. In addition there is a trail complex for an interpretive trail. The complex is set up specifically to educate primary and secondary students about the unique natural resources of Chiapas, and the biology of the native forests.

The cultivation of the salvaged epiphytes is a complex issue for management of the garden. San Cristóbal sits at an elevation of 7,500 ft. At

(Continued on page 6)



O. sotoanum



Arpophyllum sp



Oncidium leucochilum

(Continued from page 5)

this elevation it is subject to occasional frosts in the winter months, in spite of Chiapas being officially in the tropics. Orchids salvaged from habitats at the same of higher elevations as San Cristóbal can be grown outside on the grounds. But orchids from lower, warmer elevations must be housed in one of the garden's greenhouses in order to survive. Currently there are two such greenhouses, which limits the space for sensitive species.

The primary goal here is not to assemble as large a collection as possible. Rather, it is to rescue as many plants (and species) as possible. The plants in the collection are regularly given or donated to other non-profit or academic organizations for conservation and research purposes. With this aim in mind, every plant is identified to species when it blooms, and every salvaged specimen has records in a database of where and when it was collected, including GPS and elevation data, and the species of tree it was growing on. This has made the collection of great interest to Mexican botanists and plant ecologists. As specimens are given away, they create room for more salvaged plants.

To really understand the importance of this non-profit entity for the conservation of orchid species in Mexico, one needs to understand the scope of the collection, and the importance of Chiapas forests as habitat for epiphytes. There

are a total of about 1300 orchid species known to occur in Mexico. Chiapas alone has 700 of those species within its borders, more than half of the total. Orquídeas Moxviquil currently has about 3000 rescued orchid plants in its collection, comprising 418 species of the 700 known from Chiapas. It also has an on-line inventory of the species in the collection on its website and a 5000 entry database including all the location and elevation data for each plant.

Another unique aspect of the collection is that the plants are not removed from the limb on which they are growing. During salvage, an entire section of the limb with its entire epiphyte community of plants is collected, and the entire sample is cultivated intact. This has made the collection especially valuable to plant ecologists. As a consequence, Orquídeas Moxviquil has developed strong ties to Mexican universities.

As one walks around the grounds of the Jardín, one sees blooming orchid and bromeliad species everywhere. The native forests of the central highlands of this part of Mexico are a mixed oak and conifer forest, and every tree on the grounds has branches laden with orchids and bromeliads, many in bloom. The diversity of species is huge; everything from tiny twig epiphytes to sprawling Schomburgkias. The greenhouse for warm growing species is packed with salvaged branches covered with epiphytes. Aside from a major orchid show, I have never seen such numbers or variety

(Continued on page 7)



Branch community



Trichosalpinx pringlei



Restrepia musifera

(Continued from page 6)

of orchid species in bloom in one place. A three hour visit did not do the place justice. Besides orchids and bromeliads, the collection includes a wide range of salvaged plants from other families, for example carnivorous butterworts and native fuchsias.

If you find yourself in Chiapas, I strongly recommend spending some time in San Cristóbal de Las Casas, and schedule a day in Jardín de Orquídeas Moxviquil. It is a 'one stop visit' to

see a large sample of the epiphyte diversity to be found in the forests of Chiapas. If possible, have Cisco guide you around the grounds. He is extremely knowledgeable and enthusiastic about his botanical charges. The website

www.orchidsmexico.com contains a great deal of information about the garden and the non-profit that is its source of funding.

---Photographs and text by Jeff Baylis



Left is a Lc Acker's Spotlight 'Pink Lady', and an *Oncidium Sprite*, both grown by Gary Lensmeyer

RE-CAP OF NOVEMBER PRESENTATION

New Perspectives on Orchid Evolution

Professor Thomas Givnish, AAAS Fellow and the Henry Allan Gleason Professor of Botany and Environmental Studies at UW-Madison

Prof. Givnish presented the results of a new analysis of the evolutionary history of the plant Order Asparagales, which includes the Family Orchidaceae, the orchids. The new analysis is based on new genetic data gathered by participants in the “Monocot Tree of Life” research project, of which Prof. Givnish is the head principal investigator.

(http://www.botany.wisc.edu/givnish/Givnish/Welcome_files/MonocotPressRelease.pdf)

This is an ambitious effort to sequence the entire chloroplast genome from a wide range of orchids and their relatives in all twelve orders of monocots. The chloroplast is an organelle within the cell that has its own genome, which is not subject to sexual recombination as the nuclear DNA is. By calibrating the genome sequence data against 17 known angiosperm plant fossils, a broad history of the evolutionary relationships can be placed on a time line, and the pace of evolution within lineages can be inferred.

The inferences give the clearest picture yet of the origin of the orchids and key events in their subsequent evolution. Orchids appear to have diverged from the common ancestor of other Asparagales 112 million years ago (112 Mya), and began diverging from each other 90 Mya. The origin of the orchids appears to have occurred in Gondwanaland, the southern paleo-megacontinent. This makes the orchids more ancient in origin than previously believed, and helps explain their modern presence on every continent save Antarctica. The data show little evidence of rapid divergence prior to or immediately following the K-T extinction event 66 Mya, which caused the extinction of 75% of land species. However, there was rapid diversification and divergence within they

family between 38 and 31 Mya, and especially in the subfamily Epidendroidae. A further analysis of the data was undertaken to attempt to see which characteristics of orchid biology could explain the rapid evolution and diversification of this family over the last 30 million years. The following 5 traits emerged as being significant factors in orchid evolution:

The evolution of ***pollinia***, with the packaging of pollen into packets that are transferred intact to pollinate female gametes were found to significantly increase speciation and diversification. This trait evolved very early in the evolutionary history of orchids. Pollinia may allow small numbers of variants to produce numerous seeds and hence offspring from few matings.

An ***epiphytic*** growth habit also accelerated speciation and diversification relative to terrestrial growth. This allowed the invasion of a new adaptive zone, as the boles, branches, bark and twigs represent both larger surface area and more diverse habitat than the ground a forest occupies. ***Tropical distribution*** also accelerated speciation rates, but this effect was only found for epiphytic lineages.

CAM photosynthesis accelerated speciation and increased diversification within lineages. CAM photosynthesis is a form of photosynthesis where stomates open only at night, when carbon dioxide is absorbed and stored for photosynthesis during the day. This is viewed as a water conserving adaptation, which is associated with epiphytism and has evolved at least four times within the orchids.

Deceit pollination (via mimicry of food sources, nesting sites, or potential mates) is rare in other plant lineages, but occurs in one-third of all orchid taxa. It in-

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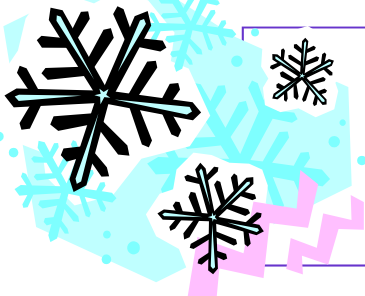
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creased speciation and extinction rates, but resulted in little effect on diversification. Deceit pollination appears to have arisen once, in the common ancestor of all orchids except apostasioids, and then to have been lost 14 times.

The effect of inhabiting extensive tropical mountain ranges in the Andes of South America and the New Guinea Highlands accounts for a good deal of orchid speciation and diversification. The highest rate of species diversification in the orchids occurs in the tribe Epidendreae, and is 4.9 times that

of the Asparagales crown.

The orchids are well known as the most diverse family of angiosperms, with more than 25,000 species. Yet we have almost no physical fossil evidence of their evolutionary history. The molecular data used here are the only clues we have to date to examine the evolution of this extraordinary family of plants. Today this family of plants has species living on every continent except Antarctica. Given its suspected origin 112 Mya in Gondwanaland, it is very likely that it did at one time have a range that included modern Antarctica, which was then one of the subcontinents of Gondwanaland.



YOU KNOW YOU ARE ADDICTED TO ORCHIDS WHEN ...

... you'd rather endure a cold Wisconsin winter at home with your orchids than leave them and go a warmer clime.

NAME TAGS

Need a new name tag? Carrie Weisman would be happy to make you a new one if you have lost yours.

You can contact her at

carrie.wiesman@dwd.wi.gov

UP-COMING EVENTS

- **January 17-18, 2015** - 59th Paphiopedilum Guild & First World Slipper Orchid Conference, Hilo Hawaiian Hotel, 71 Banyan Drive, Hilo, Hawaii
- **January 24-25**, Orchid Society of Minnesota Winter Carnival Orchid Show, St. Paul MN
- **January 31-February 1**, Orchid Quest, Marriott West Conference Center, Middleton
- **February 21-22**, Batavia Orchid Society Show, DuPage County Fairgrounds, 2015 Manchester Rd., Wheaton, IL
- **March 7-8**, Northeastern Wisconsin Orchid Society Show, Holiday Inn Neenah Riverwalk, 123 East Wisconsin Ave., Neenah WI
- **March 14-15**, Illinois Orchid Society Spring Show, Chicago Botanical Gardens
- **March 19-21, 2015**, Spring MAOC, Nashville TN
- **Spring 2016**- MAOC, Cincinnati/Dayton Area