Hilo Orchid Society Newsletter

November 2014

Next Meeting

Date: Sat., Nov. 8, 2014
Time: **1:30** Informal "talk story"
2:00 Meeting starts
Place: Kamana Senior Center, 127 Kamana St., Hilo
Speaker: Graham Wood
Topic: A Breeding Program for Paphiopedilums

Last month we got an introduction to Paphiopedilums from Thanh Nguyen, a Florida grower. This month we get a different perspective on these slipper orchids from our own Graham Wood. Graham will speak on "A Breeding Program for Paphiopedilums: Can We Make Changes?"

Graham is a Paph hybridizer, so he looks at Paphs differently than most of us. He sees a Paph and thinks, how could it be made better? He says he thinks of a Paph orchid as a canvas, where color, pattern, contrast, and saturation can all be changed.

Graham owns Lehua Orchids, where he hybridizes and grows Paphiopedilums, Masdevallias, Angaecoids, and Lycastes. Graham's real love for Paphs came in the late 1990s when he worked for a year at the Orchid Zone. Since about 2000 he has been focusing on his Paph breeding progam. Graham has won approximately 130 American Orchid Society awards for quality and culture.

Come to the meeting – you may never look at Paphs the same way again!

Sign Up for Holiday Party and Auction

There will be no regular meeting in December. Instead, we're holding our annual Holiday Party and Auction on Sunday, Dec. 14 at the Hilo Yacht Club. Doors open at 10:30 a.m. to enjoy beverages and entertainment and talk story. At 12:00 will be a delicious buffet lunch, followed by the main event, an auction of donated plants. It's a chance to get together with old friends, perhaps make new ones, and obtain some special plants at bargain prices and benefit your Society at the same time. Guests are welcome.

You must sign up and pay in advance. If you're interested, please sign up at the November meeting, or you can pay by mail – we'll send an email soon with the details.

Election of Officers and Trustees

The election of officers and trustees for 2015 will take place at the November meeting. As specified in our Bylaws, Board members serve two-year terms, with half the members up for election each year. For the 2015-2016 term, our Nominating Committee, consisting of Larry Kuekes, Vivian Ueoka, and Ruth Robison, has produced the following slate of officers and trustees:

Vice-President	Ben Oliveros
Recording Secretary	Lisa Steinmeyer
Corresponding Secretary	Joe Bush
Trustee	Lillian Paiva
Trustee	Barry Yamada

Additional nominations may be made from the floor. Any additional nominees must be present at the meeting and willing to run against the slate endorsed by the Nominating Committee.

The new officers and trustees will be officially installed at the holiday party on Dec. 14th.

October AOS Judging Awards

Photo by Glen Barfield

Paph. armeniacum HCC/AOS, grown by Hilo Orchid Farm

October Members' Choice Awards

Photos by Glory Garner

Hobbyist 2nd place: *Bulbophyllum grandiflorum* 'Leonard's Leopard' AM/AOS, grown by Bill Rawson

Left: Hobbyist 1st place: *Lc.* Mary Elizabeth Bohn, grown by Victoria Azuolas
Right: Hobbyist 3rd place: *Pleurothallis perijaensis*, grown by Glory Kirkland

Note: there were no commercial grower members' choice awards because there were no labeled commercial plants on the show table.

2014-2015 Scholarship Winners

Scholarship winners Madeline Stark, center left, and Robyn Rector, center right, with Ruth Robison, left, and Barbara Heintz, right

HOS awarded scholarships of $2500 for this academic year to two seniors attending UH Hilo. These two deserving students were honored at our October 11th meeting. Let's meet them.

Robyn Rector is a junior at UH Hilo, majoring in biology, with a minor in agriculture. She intends to pursue a graduate degree in a biology related field. She would then like to become a professor and conduct research in mycology and sustainable agriculture and in order to "positively influence our next generation in the scientific process concerning preservation of biodiversity and the amazing world we live in." She has obtained three jobs through campus and affiliated organizations: an RCUH program which is one of the only tropical (C4) tree dendrochronology programs currently in the world; the USDA, where she is working with an entomology lab focused on irradiation and biocontrol agents for insect pests in agriculture on Hawai`i Island; and, the Core Genetics Facility studying the genetic variation in Amakihi (native Hawaiian Honeycreeper) and the evolved resistance to avian malaria.

Robyn's community involvement has included nonprofit environmental organizations BISC and Three Mountain Alliance and the Seaview Performing Arts Center for Education (SPACE) located in lower Puna, which focuses on providing circus arts education to underprivileged children through after school programs.

Madeline Stark is the first in her family to go to college. She is determined to graduate with her B.S. in Agriculture and to be an example and encouragement to her family. Madeline believes "that we all have something beautiful and worthy to give back before our time is done here on earth. I want to live a life of service and a legacy that will sustain humanity and the environment. This is why I came to the University of Hawai`i to study Agriculture and ecology, 'Agroecology'."

Madeline says, "There is great opportunity for the state of Hawaii to lead by example in Sustainable Agriculture. The majority of my volunteer work has been in planting gardens as an effort towards self-sufficiency and restoration." She has volunteered with the Hakalau National Forest Wildlife Refuge and the Lets Grow Hilo and UH Hilo. She also volunteered with the County Department of Research and Development under the Agricultural Specialist, Jeffery Melrose, to categorize all agricultural related efforts in the State of Hawai`i.

Ruth Robison

Orchid Stories

Blue Genes

Left: Blc. Lois McNeil 'Ace', a "blue" orchid. Or is it? Photo by Larry Kuekes.
Right: *Thelymitra crinita*, one of the few true-blue orchids. Photo by Sean Mack on Wikimedia Commons.

In the orchid world, blue or "coerulea" varieties of orchids are prized and highly sought after, and we admire their beautiful blue color. But, like the story "The Emperor's New Clothes", there's something amiss. In the story, it took a little child to declare the truth, "The Emperor is naked!" Well, the truth is, "Blue orchids aren't blue!" They're never the true, deep, sky-blue that "coerulea" (from the Latin word for blue or sky) implies. At best, they're bluish purple, or violet, or indigo. We call them blue because these colors are the closest to blue that orchids can get.

The only exceptions are a handful of rare terrestrial orchids from Australia, such as *Thelymitra crinita* (see photo). I've never seen a live one, just pictures, and they're not available for sale. So for practical purposes, I'm excluding them from this discussion, and when I refer to "orchids", I really mean "orchids except those unavailable blue Australian species".

A "blue" or "coerulea" orchid that's available for you to grow might look more like Blc. Lois McNeil 'Ace' (see photo). It's beautiful, but I would call its color light violet, not blue.

But true-blue flowers do exist, such as delphiniums, hydrangeas, and morning glory Heavenly Blue. So why are these flowers true-blue, while orchids aren't? The answer is in the pigments that the plants are able to manufacture.

Plants make four types of pigments. Chlorophyll gives the green color to leaves. Carotenoids are red, orange, or yellow. Examples are orange carrots and red tomatoes. Betalains are red or yellow. Example: red beets. Finally, anthocyanins can range from red to purple to blue. Here the plot thickens.

Anthocynanin pigments change color depending on pH (acidity). The particular anthocynanin pigment that makes true-blue flowers blue is called delphinidin. In an alkaline environment, it's blue. In an acidic environment, it's red. But it's not that simple. Hydrangeas, which contain delphinidin, turn blue in acid soil and pink in alkaline soil, the opposite of what you'd expect. Why? They absorb more aluminum from acid soil, and aluminum reacts inside the petals to make them *less* acid, therefore blue.

Orchids can't make delphinidin, but they make other anthocyanin pigments that create the bluish-purple, violet, and indigo colors that pass for "blue" in the orchid world.

In theory, it should be possible to make blue orchids through genetic engineering, by introducing genes into orchids to make delphinidin, but this is easier said than done. A Japanese company, Suntory, actually tried doing this for roses. Like orchids, roses can't make delphinidin, which is why there are no blue roses. Suntory's "Applause" rose was genetically engineered in an elaborate process

that involved inserting a delphinidin-making gene from a pansy, plus modifying two other genes to suppress other pigments. After all that work, it didn't turn out as planned. Remember that delphinidin color depends on pH in a tricky way. Apparently the rose petals weren't alkaline enough, so the color turned out to be a washed-out mauve instead of blue (see photo).

Well, there's more than one way to skin a Catt. There are actually blue orchids on the market now. How did they do it? By taking white Phalaenopsis and dying them blue (see photo). To me, the flowers look grotesque, and of course the color is totally fake, but they are blue.

Larry Kuekes

Suntory's "Applause" rose was genetically engineered to be blue. Whoops!

You can buy blue Phalaenopsis. But there's a catch. Photo by bunnygoth on flickr.com.

Larry Kuekes and Julie Goettsch carry Spathoglottis to be planted in front of bayfront shops.

Orchid Planting on the Bayfront

Our Orchid Isle Committee continues to place orchids in publicly visible places to promote the Orchid Isle. On Oct. 1, we planted Spathoglottis and terete Vandas, both tolerant of full sun, in planters in front of the bayfront shops in Hilo for all to enjoy.

Donor Appreciation

We inadvertently omitted Alawaena Orchids from the list of growers who donated plants for our September silent auction. We thank Alawaena and all the other commercial growers for supporting our Society and making events like this possible.

Recognition for Sandy Song

Sandy Song, longtime HOS member and chair of the Hilo branch of the American Orchid Society judging center, will be honored by the Hawaii County Bar Association on Nov. 9 at the Ku'ikahi Mediation Center's ninth Recognition Dinner and Auction, for her many years of service as an attorney in Hilo. For more information and ticket pricing, see http://www.hawaiimediation.org/annualdinnerflyer2014.pdf

CALENDAR OF ORCHID EVENTS

Hilo Orchid Society meetings and AOS Judging are held at Kamana Senior Center, Hilo unless otherwise specified.

Nov. 8	1:30	HOS meeting. Graham Wood will speak on Paphiopedilums.
	4:00	AOS Judging
Dec. 14	10:30	Holiday Party at Hilo Yacht Club
Jan. 10	1:30	HOS meeting
	4:00	AOS Judging
Feb. 14	1:30	HOS meeting
	4:00	AOS Judging

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