



The Arizona Orchidist

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1966

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June & July 2016

NEXT OSA MEETING

The next regular society meeting will be

Monday, June 6th at 7:00 P.M.

NO MEETING IN JULY

Meetings are held at the

Training Center

at the

Arizona State Veteran Home

4141 S. Herrera Way, Phoenix.

(Formerly North 3rd Street)

OSA meetings are open to all
plant enthusiasts

Refreshments will be provided

Beverage by Gene Gyger

Snacks by

**Carol Erwin and
Randy Ricardi**

Refreshment Coordinators:

Lou Ann Remeikis (602) 803-6889

Barbara Parnell (602) 451-5952

Board Meeting

June 26 at 1 p.m. at the home of Bob
and Cece Blue

July board meeting – TBA

Growers on Call

June Bob MacLeod (623) 810-3967

July Julie Rathbun
(602) 843-0223
jandfent@aol.com

June and July

A Demonstration of our Community Service Programs

Because the seedlings to be repotted are too large for our usual milk jug greenhouses, milk jugs will not be required. When you take your newly repotted seedling home, a tray with lava rocks will probably be a more suitable home for the plant.



Raffle Donors

Dolly Floyd, Gene Gyger, Bob MacLeod,
OSA, Wilella Stimmell, and Dean Toms

Thanks for your support !

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From the President's Desk

Julie Rathbun

At our May 2nd meeting, members enjoyed the film clips that Joe Bacik downloaded from the Orchid Nerd website. Thanks, Joe!

Unfortunately, I forgot to announce that we will NOT hold a meeting on July 4. The only other meeting we will not hold this year is our Sept. meeting, which falls on Labor Day.

During the meeting, I also announced that Barbara Parnell has graciously agreed to be our Show Chair for our annual Fall Show. Thanks, Barbara!

Thanks to our members who donated plants and orchid-related items for our raffle table. We haven't had recent donations of multiple plants for our raffle table, so we don't have enough plants to donate to the raffle. For May, I felt that it was necessary to donate several plants from inventory. Unfortunately, the cost of plants in inventory must be deducted from raffle ticket sales. We haven't had to use plants in inventory for at least a year! If it becomes necessary for future raffles, we will have to limit the number of plants taken from inventory for a raffle. After the cost of the inventory plants is deducted from raffle ticket sales, if the amount is more than we receive in raffle ticket sales, our Treasurer makes sure that the ticket sales and the inventory cost are a "wash". The practice of the Treasurer covering any shortfall from the raffle should not be a policy encouraged by OSA. Future Treasurers will not be willing to compensate for the difference; nor should it be expected of any Treasurer to add personal funds because it's simply not fair. As a 501 (c) (3), we cannot "sell" any plants at less than we paid for them, so if in future, we need to "sell" plants from inventory to the raffle, officers will need to communicate with each other **before** the meeting. If we can't accomplish this, then the alternative might be that we discontinue our monthly raffle.

This issue of our newsletter is a **combined June/July newsletter**.

Elsewhere in this newsletter, you will find an article written by Dr. Gustavo Romero. Over the years, OSA has donated funds for his numerous orchid expeditions. Gustavo always shows his appreciation for our generosity by writing an article about his expeditions.

See you on June 6.

Julie

COMMUNITY SERVICE SCHEDULE

Wilella Stimmell

On April 23rd, **Bob MacLeod, Julie Rathbun, Dean Toms,** and I presented a repotting program for teens at the Fountain Hills Branch Library. However, several adults also participated in our program. Since all of the seedlings were in bud/bloom, and some flowers were different colors, we selected only plants that were the of the same color. By setting the same color flowered seedlings at the potting stations, we saved time by avoiding the participants' complaining that they wanted a different color flower.

Christy Valentine, the Librarian, invited us to return and repeat our program for only adults. We told her that we would be happy to return, but not until next year.

At the end of our program, the participants thanked us for sharing our knowledge of orchids with them. It's always nice to be appreciated for our efforts!

Water first, then feed ?

- In nature, epiphytes attached to trees and shrubs basically only get fed when it rains, and the exudates and collected detritus gets washed down to them out of the canopy.
- That happens almost immediately upon the commencement of rain, then it's nothing but pure water after that.
- The velamen on the roots has been shown to be particularly good at trapping the nutrient ions immediately, and holding onto them, so they won't be washed away by the continuing downpour – another evolutionary adaptation for their "niche" lives.

If you water first, you saturate the velamen, and the plant can no longer absorb the nutrients from the later-applied solutions as well.

Water Quality

- As mentioned earlier, orchids in nature see almost pure rainwater, containing only minuscule levels of dissolved solids at the start of rain storms.

It makes sense that the plants will do better if we apply that same strategy in our collections, using collected rain water, distilled, or reverse osmosis water for all of our irrigation.

Ray Barkalow of firstrays.com

The Arizona Orchidist is published monthly by the

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Direct Inquiries to our website at:

www.orchidsocietyaz.org

Or to any of the Board Officers or Trustees:

Board of Directors for 2016

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Julie Rathbun	jandfent@aol.com
First Vice President	(623) 810-3967
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Keith Mead	orchidsinabq@gmail.com
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Refreshments Chair	(602) 803-6889
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	(602) 531-5635
Ed Perregaux	livennjoy@hotmail.com
	(602) 615-0522
Randy Ricardi	rricard2@mac.com

The Orchid Society of Arizona, Inc. is a non-profit 501 (C) (3) organization dedicated to community service and the study of orchids. It is affiliated with the American Orchid Society, the Arizona Federation of Garden Clubs, Inc., and The Nature Conservancy.

TRAVEL TO JAHUACTAL SAVANNA, QUINTANA ROO, MÉXICO

This past February I finally reached one of the most phytogeographically and ecologically interesting sites in the peninsula of Yucatán, the Jahuactal savanna. In the company of colleagues from the Yucatan Institute of Scientific Research (known as CICY, or "Centro de Investigación Científica de Yucatán"), I had tried to reach this site twice before in the last three years but we had encountered problems (the first time the savanna was flooded; the second time the access road was too muddy, and we did not have a four-wheel driven vehicle).

I flew from Boston to Mérida, the capital of the state of Yucatán, Sunday, this past February 21. The following day we drove to the town of Xpujil, in the state of Campeche, where we stayed at Hotel Calakmul. It is a small establishment, but it is clean and comfortable and has a good restaurant where we ate most of our meals. Xpujil is close to both Belize and Guatemala, and is surrounded by many Mayan ruins including Calakmul, a UNESCO World Heritage Site.

This time I traveled with Dr. Germán Carnevali, a colleague with whom I have collaborated for the past 30 years, and his technician, José Luis Tapia, both of whom had visited and collected orchids in the the savanna some eight years ago. We rode in a relatively new Ford F-150 SuperCab, powered by a V-6 engine and a 5-speed manual transmission. It is a comfortable vehicle and rides well in good roads, but it does poorly in mud (it does not have 4-wheel traction). It belongs to CICY, and traveling in a government vehicle greatly facilitated our passage through police, military, and plant and animal sanitation stops. Some of my expenses were funded by the Orchid Society of Arizona.

We reached Xpujil late in the afternoon and that evening, after getting our rooms and unloading our gear at the hotel, we drove to Caobas ("Mahoganies", literally), the main town of the Ejido Caobas,¹ in the state of Quintana Roo,² a ca. 30 mile drive. In caobas we contacted Mauro Cruz López, one of the ejido's representatives. We agreed to return early the next day and Mauro promised to get a guide to accompany us to the savanna.

Jahuactal Savanna (sometimes spelled "Jaguactal"), is also located in Ejido Caobas, in the state Quintana Roo; it is named after a species of palm, called *jawacte* in Mayan (*Bactris major* Jacq.), frequent in the transition zone between forest and savanna. The savanna is roughly 3.8 miles long and 1.25 miles wide, completely surrounded by tall tropical humid forest rich in Mahogany (*Swietenia macrophylla* King, Meliaceae) and Cedar (*Cedrela odorata* L., Meliaceae), which the locals harvest using sustainable techniques. The forest is 65–100 ft above the long bowl-shaped savanna, which does not have any drainage (no detectable creeks coming out of it); water must simply seep through the porous underlying substrate, as is the case throughout most of the Yucatan peninsula, where there are few if any rivers.

Jahuactal savanna is famous because it is only one of two localities in the Yucatan Peninsula and in Mexico where the Caribbean pine (*Pinus caribaea* Morelet, Pinaceae) grows naturally. The population at Jahuactal is in fact the northern-most station for the Caribbean pine, represented by one of its three varieties, *P. caribaea* Morelet var. *hondurensis* (Sénécl.) W. H. G. Barrett & Golfari. There are only a few trees left, and they appear to be part of a relictual population that had a much wider range in the past. These pines are not exploited because the trunks are bent and deformed, with little timber of commercial use.

This savanna is also famous because of the many plant families, genera and species it houses that cannot be found elsewhere in the Yucatan peninsula or even in Mexico. They are generally plant that are found in acidic soils, rare in the peninsula and in Mexico, where soils tend to be alkaline; some taxa can be found as far away as the Guayana region of Brazil, Colombia, the Guianas, and Venezuela, such as Droseraceae (*Drosera* L.), Gentianaceae (*Coutubea* Steud.) Melastomataceae (*Clidemia* D. Don and *Miconia* Ruiz & pavón), Ochnaceae (*Ouratea* Aubl. and *Sauvagesia* L.).

Continued from page 4

We returned to Caobas early on Tuesday, February 23 and, as agreed, Mauro was waiting for us with our guide, his brother Esteban. We left town at about 7:30 AM and were at the entrance of the savanna, guarded by a locked gate, by 8:00 AM. We took points using two different GPS units roughly every mile. We encountered a small fallen tree across the road at mile 4, which we easily cut down in a few minutes. At mile 4.5 we found another fallen tree, this one slightly thicker, which we also easily removed ("we" meaning mainly Esteban, with whom, after watching him chop wood, I would never want to have a machete fight). Soon after, we found another large fallen tree across the road that we could not possibly cut using the two machetes we had. We decided to leave the vehicle behind and walk the rest of the way. Going to the savanna was a pleasant ca. four-mile walk: it was cool (68–70 F) and breezy, and generally downhill. We continued to take points with our GPS units.

During our walk I saw my old nemesis, one of the climbing palms of the Neotropics³ (*Desmoncus orthacanthos* Mart.), the one with hooks at the tip of the leaves, this time growing, harmlessly, by the side of the road. We also saw a few orchids, only one bearing flowers:

Cohniella sp.

Lophiaris sp.

Prosthechea radiata (Lindl.) W. E. Higgins

Trigonidium egertonianum Bateman ex Lindley (in flower).

We reached the savanna and explored the vegetation along the path that would have taken us to the pine trees, which was narrow and muddy; the mud was deep and very sticky, and our shoes rapidly accumulated a heavy load of dirt, and walking became a tiresome activity.

During the short stay in the savanna it was evident that there was a gradual thinning of the forest as one approached the savanna and that, between the forest and the savanna proper, there was a humid belt of small trees coated with epiphytes: ferns, cacti, bromeliads and orchids, few of which had flowers:

Epidendrum galeottianum A. Rich. & Galeotti;

Epidendrum nocturnum Jacq. (a few plants in flower);

Epidendrum stanfordianum Bat.;

Myrmecophila christinae Carnevali & Gómez-Juárez;

Specklinia grobyi (Bateman ex Lindl.) F. Barros;

Trigonidium egertonianum Bateman ex Lindley (a few plants in flower).

It is in this "belt" of small trees loaded with epiphytes where species of *Coryanthes* Hook., *Gongora* Hook., and *Macradenia* R. Br. were collected in the past.

Out in the savanna the epiphytic load diminished rapidly, and orchids were restricted to two terrestrial species:

Encyclia guatemalensis (Kl.) Dressler & G.E. Pollard

Oncidium ensatum Lindl.

At least one unidentified species of *Habenaria* Willd. is also found in the savanna proper, but this time we did not encounter it.

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By noon, we were out in the savanna, fully exposed to the sun, and it was hot: we soon got overheated and dehydrated. We had water, but we forgot to bring electrolytes of any sort. The return to the vehicle was a bit painful and difficult, but we immediately had electrolytes (effervescent pills easily dissolved in water) and we felt much better. We returned to Caobas, dropped Esteban at his house, and drove back to Xpujil. We had a light dinner and went to bed early.

Germán and I met early the next morning and plotted in Google Earth the GPS readings we had captured the day before. We soon realized that the road we had taken was not an access road to the savanna: it was a timber-extracting road, going along the edge savanna from west to east and beyond the savanna. The road point where we reached the savanna, the same point where all other plant collecting groups had come in the past, was in the extreme northeastern portion of the savanna, an easy walk to the pines, but encompassing only a small portion of habitats we could detect from a satellite image of the site. We also realized that early along the road, perhaps close to mile 1.5, we were within 0.5 miles away from the savanna, and close to what appeared to be very many different habitats.

Later that week we visited the other station of Caribbean pine in Mexico, near Pioneros del Río Xnohá, in the state of Campeche. Here I encountered my second and third worst enemies, chiggers and ticks, which punish me terribly, despite all measures I had taken to avoid them (applying repellent along the waistline and bottom of pants, avoiding touching bushes and grasses, etc.). We also saw some interesting orchids, including:

Campylocentrum poeppigii (Rchb.f.) Rolfe;

Nidema boothii Schltr.;

Specklinia yucatanensis (Ames & C.Schweinf.) Pridgeon & Chase;

Trichosalpinx ciliaris (Lindl.) Luer;

At this site, again, the only orchid with flowers was *Trigonidium egertonianum*.

I plan to visit the Jahuactal savanna again this coming June. We plan to establish a camp site close to mile 1.5 of the access road, reach the savanna from there, and sample as many habitats as we can in 4–5 days. I do believe that a comprehensive sampling of the vegetation of this savanna will reveal many more species not only of orchids but also of other epiphytes and terrestrial plants.

I will keep you informed.

Gustavo A. Romero-González, Keeper, Orchid herbarium of Oakes Ames, Harvard University Herbaria, 22 Divinity Avenue Cambridge, Massachusetts 02138, romero@oeb.harvard.edu

NOTES

¹ "Ejidos" are a form of communal land ownership in Mexico.

² The popular tourist spots of Cancún, Cozumel, Isla Mujeres, and Playa del Carmen, as well as the more recently developed "Riviera Maya", are all located in the eastern portion of the state of Quintana Roo.

³ Climbing palms are represented in Africa, Asia and Australasia by roughly 19 genera and 600 species in tribe Calameae; in the Americas, the sole representative is the genus *Desmoncus* Mart., a fast-growing group of palms that I have mentioned in my previous essays.

Foliar verses Root Feeding

- Because many orchids have evolved to be very conservative with their water, they have developed thick, waxy, cuticle layers on their leaves to retard water loss. It's particularly evident in phalaenopsis, for example. Those layers tend to be very water repellent, so would prevent the rapid absorption of the aqueous solutions.
- The areas of the leaf surface that DO absorb are closely associated with stomata (which don't absorb liquids), but again, as a water conservation adaptation, they tend to be on the undersides of leaves, which tend to see less solution exposure.

Orchids vary all over the map, so some plants may absorb nutrients better through the foliar route better than others, while all absorb them well through their roots.

A Little Science

- Growth of a plant is more about fixing carbon than anything else. That primarily comes from CO₂ in the air, but water availability affects that capture.
- There is an enzyme within plants that can react either with oxygen or carbon dioxide. If it binds with carbon dioxide, there is growth. If it binds with oxygen, the plant's energy is wasted.
- When the water supply is readily available at the root system, hormones signals are sent upward telling the leaf stomata to open, which allows the "inhaling" of more fresh air, and the "exhaling" of the excess O₂ freed during carbon fixing.
- If the water supply is lacking, as happens when we water infrequently, those hormone signals are not sent, the stomata stay closed, and the CO₂/O₂ ratio decreases, lessening the probability of that enzyme to fix nitrogen, hence slowing growth.

If one does the calculations associated with carbon fixing, in order for a plant to gain pound of mass, it must process roughly 25 gallons of water, and only about a teaspoon of fertilizer elements.

- Orchids are about 85% water, 14% carbon and nitrogen, and 1% everything else, combined.
- Analyses of the "throughfall" and "trunk flow" of water cascading from the leaf canopy and down branched to epiphytes has been shown to be <25 ppm total dissolved solids (TDS), with almost all of that being nitrogen.
- There is no such thing as a "bloom booster". A plant is genetically programmed to bloom to its maximum potential, and a well-grown plant will do so. The best we can try to attain is to not do something that detracts from that.

Rotating fertilizer formulas – unless you have poor ones – is a waste of time. That plant in nature sees a nearly identical "diet" at every feeding for its entire life, so if you've found a fertilizer that seems to work, stick with it and don't complicate your life..

Thanks to Ray Barkalow firstrays.com

OSA June 2016 Calendar

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5	6 OSA Meeting 7 PM	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26  Suz Cramer	27	28	29  Kevin Kohler	30		



Orchid Society of Arizona

c/o Keith Mead
5425 Thomas Drive NE
Albuquerque, NM 87111

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