



The

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NEXT OSA MEETING

The next regular society meeting
will be **Monday, November 2, 2009**
at **7:00 P.M.**

Meetings are held at the

Training Center

at the

Arizona State Veteran Home
4141 N. 3rd St., Phoenix.

OSA meetings are open to all
plant enthusiasts

Refreshments will be provided.

Beverages by

Bob MacLeod

Snacks by

Debra Hartill and Wilella Stimmell

Refreshment Coordinators:

Barbara Parnell (480) 948-0714

Mary Gannon (623) 878-4173

Carol Erwin (602) 996-1696

Board Meeting 1:00 PM

November 22nd at the home of

Barbara and Harry Parnell

Grower on Call

Keith Mead

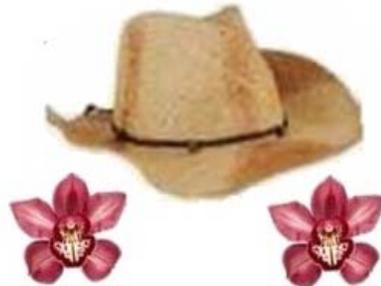
kjkm@comcast.net

November Program

Have you ever wondered what goes on during the OSA yearly trip to Gublers in the high desert of California for the Morongo Basin Orchid Festival? Ever wish you could attend the festival, participate in the proceedings and help out but just haven't been able to make it? Joe Bacik will give a multimedia travelogue presentation on our groups' recent trip to Landers. It will be almost like being there.

IT'S TIME

Hats off to
Orchids
November
7th and 8th



Welcome New Members
Tony Duran, Pat Miller and Jo Anne Waddoups
have joined the OSA family.
Please introduce yourself and make them welcome.

THANKS TO THE OCTOBER RAFFLE TABLE DONORS

Joe Bacik, Wilella Stimmell,
and non-members Mark Obermayer and Craig Pearson
Your purchase of raffle tickets helps fund OSA's educational
and community service programs
THANKS FOR YOUR CONTINUED SUPPORT

IN THIS ISSUE

FROM THE PRESIDENT'S DESK	Julie Rathbun	Page 2
THE 2008 AND 2009 EXPEDITIONS TO THE CARICHE MOUNTAINS	Gustavo A. Romero	Page 3



From the President's Desk

Julie Rathbun

For those of you who missed our October 5 meeting, you missed a treat! The DVD of the hunt for the Ghost Orchid was not only a travelogue of the Florida swamps (everyone in the audience, including me!, cringed at the sight of snakes and alligators), it was also an education in why many growers do not have success growing the Ghost Orchid in their collections. And the narrator, Stig Dalstrom, had a delightful sense of humor!

I'm keeping my message short in this issue because in order to include the lengthy submission from our friend, Gustavo Romero, we need as much space as possible. We are very fortunate that Gustavo wrote an article about two of his most recent expeditions to the "wilds" of Venezuela.

During our November 2nd meeting, we will hold our annual election of OSA's Board of Directors. Also, our October trip to the Morongo Basin Orchid Festival was photographed by program team member, Joe Bacik. The program for our November meeting will be highlights of our trip. Joe offered to put his considerable computer talents to work and present a program about the Festival. Thanks, Joe!

50/50 raffle: I am working on a quilt, but it won't be ready until next year. Your board decided that for this year, we will substitute a 50/50 raffle. The winner's name will be drawn at the end of our December 7 meeting. Tickets will be available at our November 2 meeting, at our November 7th and 8th show, and at our December 7 meeting. The more tickets we sell, the larger the amount we will be able to split with the lucky winner. Buy tickets for yourself and for your friends and neighbors! The winner need not be present to win! This is our first 50/50 raffle. Do your part to help make it a huge success!

See you on November 2!

Julie

The Arizona Orchidist is published monthly by the Orchid Society of Arizona, Inc.

Direct Inquiries to our website at:

www.orchidsocietyaz.org

Or to any of the Board Officers or Trustees:

Board of Directors for 2009

President	(602) 843-0223
Julie Rathbun	jandfent@aol.com
First Vice President	(480) 722-9328
Aaron Hicks	ahicks51@cox.net
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Joe Bacik	bacikj@cox.net
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Barbara Parnell	birdie552002@yahoo.com
Treasurer	(480) 947-8479
Wilella Stimmell	wilellas@worldnet.att.net
Librarian	(602) 803-6889
Lou Ann Remeikis	re-
meikis@andiamo-tel.com	
Editor	(505) 898-0975
Keith Mead	kjkm@comcast.net
Trustees	Frank Bopp (623) 937-0019
	fgbopp@cox.net
Carol Erwin	(602) 996-1696
	nerwin2@cox.net
Kimberly Levingston	(602) 843-6213
	kimberlydahle@yahoo.com
Seelye Smith	(602) 404-1013
	sss3301@hotmail.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 Orchid Digest Corporation, the Arizona Federation of Garden Clubs, Inc. , and The Nature Conservancy.

CAN WE COUNT ON YOU??? **We're Down To The Wire (It's Show Time)**

OSA's annual show and sale is fast approaching. Shortly after you receive your newsletter, it will be time for the show. In case you've been out of touch, or not read previous newsletters, the "**Hats Off To Orchids**" extravaganza is set for public attendance on Saturday and Sunday (November 7th and 8th).

Show set-up is scheduled from **5:00 PM until finished** on **Friday, November 6th**, at the Arizona State Veterans Home (Liberty Hall), 4141 N. 3rd Street, Phoenix, AZ. To make this a success, we truly need the help of OSA's entire membership. If you can help for five hours...or five minutes...your efforts are appreciated.

I have mentioned at meetings, and in newsletters, some of the items needed to set up the show. Below you will find a non-inclusive list of items needed for the show!

- BLOOMING PLANTS
- Variety of hats
- Small tables/plant stands for plants in our displays
- Cookies for the refreshment table
- Your valuable time and efforts for Friday's set-up **5:00 PM until finished**
- Your valuable time on Saturday and/or Sunday to meet & greet our visitors (Sign-up sheets will be on hand at the November 2nd meeting)
- Your valuable time on Sunday, at **3:00 PM until finished**, to assist with show tear-down
- Anything else you can think of that might be helpful to the show's success.
- Boxes for purchased plants

If you have any questions, suggestions, or need to contact me, please call me at 602-803-6889.

Thanks – Lou Ann Remeikis

The 2008 and 2009 Expeditions to the Cariche Mountains (Amazonas state, Venezuela)

I am happy to report that after an unsuccessful attempt to reach the *Serranía de Cariche* (or Cariche Mountains) in August-September 2008, this past June we were able to explore its southern-most reaches. We are interested in these mountains because they are the only habitat we have not explored in the context of our project "the Orchidaceae of the Autonomous Maroa Municipality" (*Orchidaceae del Municipio Autónomo Maroa*), one of seven municipalities that constitute the Amazonas state of Venezuela (for a description of the overall project, see *The Arizona Orchidist* 42, 5: 4-7, May 2006).

The Cariche Mountains are a unique complex of relatively low and elongated sandstone *cerros* (or small mountains) oriented more or less north-south. From satellite imagery one can discern at least six of these mountains, some appearing to be over 20 km long, the shortest about 2 km long, roughly between 0.25 and 1.0 km wide. From satellite imagery, their elevation is hard to estimate. The sandstone originated between 1.6 and 1 billion years ago from shallow sea or large inland lake sediments that were deposited on the much older Guiana or Guayana Shield, which consists of a rock basement of granites and gneisses.¹ The sandstone deposits are better known as the Roraima Formation. The unique feature of the *Serranía de Cariche* is its relatively low elevation (apparently below 1000 m): in contrast, most other sandstone mountains in Brazil, Guayana, Venezuela, better known as *tepuis*, range in elevation primarily between 2000 and 2400 m, some reaching more than 3000 m (e.g., *Pico da Neblina*, part of the Neblina massif and the highest mountain in Brazil, is located along the Brazilian-Venezuelan border). Elevation-wise, the Cariche mountains compare with some of the remnants of the Roraima formation in eastern Colombia, which has extensive outcrops in the Caquetá, Guainía, Guaviare, Inirida, and Vaupés river basins, the western-most limit of which is the Macarena range.

There is little information in the literature about the *Serranía de Cariche*, but it is well known to gold miners since this precious metal is extracted from mountain-sides and streams that drained the area. We had a chance to interview several people who worked these mines. From the miners, we obtained critical data about trails and places to camp. (It is important to realize that in this part of the Amazon river basin, water levels go up and down considerably, and there are only a few, strategic places that stay above water all year round. These strategic places are of course ideal to establish towns or camp sites.)

Last year, I left Boston for Caracas August 19 and then traveled on to Puerto Ayacucho and Maroa using the usual transportation (a large jet from Boston to Caracas, a 2-engine turboprop from Caracas to Puerto Ayacucho, and a single engine Cessna 206 to Maroa). I arrived in Maroa the afternoon of Wednesday, 27 August. The next day we organized our equipment, hired our crew, and bought gasoline and lubricants for our outboard engine. Our crew was mostly a combination of the people I had hired for my two previous expeditions:² Carlos and Oscar Gómez, father and son, Baré Indians; José Miguel and Demetrio Aragua (the latter the only new member of the crew), uncle and nephew and Baniva (Waniva or Vaniva) Indians; Emiro Yuriyuri³, our main guide and a Guarequena (or Warequena) Indian; and Pascual Garrido, a Curripaco (or Kurripako) Indian.⁴

As on our previous trips, we rented Mr. Sandalio's dugout canoe, which accommodated well all of our crew and equipment; it was propelled by our 15 two-stroke Yamaha outboard motor. In addition, we carried a much smaller dugout canoe across the back of our craft, which was useful to explore the sometimes maze-like navigation channels we were to encounter in the Mee river, and also to check fish traps and other fishing gear.

We left Maroa on Friday 29 August. It took us three days to reach the confluence of the upper Mee and the *Caño Desecho*⁵, after making two temporary camp sites in Tinaja⁶ (the night of August 29) and in Bolívar⁷ (the next night). We left Bolívar early the morning of August 31 and after about four hours we entered the upper Mee. From then on we relied on Emiro to guide us and to find a critical *tierra firme* point that would give us access to the Cariche mountains (he was the only member of the crew that had navigated in the upper Mee). We slept the first night in the upper Mee in a precarious camp site, basically on a few tree roots over the flooded forest, with not much room to cook or to place our hammocks.⁸ The next morning we continued going up the upper Mee, having to cut an ever increasing number of thick, dead tree trunks that blocked our advance. It took us 30-45 minutes or longer to cut the dead tree trunks with an axe. In the early afternoon, we sent Emiro in the small craft to try to find the place where we could set up our base camp. Emiro was gone for over an hour and when he returned he told us he could not find the camp site that we could not continue in our large dugout boat because the water level was also low, and there were many tree trunks in the navigation channel. Since we could not advance anymore and we apparently had not found the point for our base camp, we decided to go back to Maroa. We did know the southern-most mountain was about 3-4 miles away from where we were, but the terrain was swampy and inhospitable, and it could have taken us days to reach it unless we had the correct path.

It was late by then and, because we could not possibly reach Bolívar, we decided to camp in Sejal, another abandoned village, this time in the upper Mee.¹⁰ From Sejal it took us two days to travel back to Maroa, with overnight stops in Bolívar and Tinaja. We arrived in Maroa late in the afternoon, Thursday, September 4.

Along the Coronochite and lower Mee we found the following epiphytic orchid species:

Bifrenaria longicornis Lindl.;
Brassavola martiana Lindl.;
Campylocentrum fasciola (Cogn.) Rolfe;
Campylocentrum huebneri Schltr.;
Catasetum longifolium Lindl. (just below of leaf crown of the palm *Mauritia flexuosa* L.f.; most plants were found to be higher than 30 ft, and some were as high as 120 ft);
Catasetum pileatum Rchb.f.;¹¹
Caularthron bicornutum (Hook.) Raf.;
Epidendrum magnicallosum C. Schweinf.
Eriopsis sceptrum Rchb.f. & Warsz. (usually very high up on trees along the side of the river);
Galeandra devoniana R.H. Schomb. ex Lindl. (usually on the middle trunk of the palm *Leopoldinia pulchra* Mart.);
Notylia sp.

and along the upper Mee:

Acacallis cyanea Lindl.;¹²
Dichaea ancoraelabia C. Schweinf.;¹²
Lophiaris nana (Lindl.) Braem;
Pleurothallis (Acianthera) miqueliana (Focke) Lindl.;
Pleurothallis (Acianthera) lanceana Lodd. (on ant nests);
Pleurothallis (Acianthera) sp. (on ant nests);¹³
Coryanthes aff. senhasiana Gerlach (on ant nests).

We spent the following day (Friday, September 5) north of Maroa exploring one particular section of the Yavita-Maroa road that we had previously not visited. We found, among other orchids, a possible new species of *Bulbophyllum*, similar to *B. setigerum* Lindl. and *B. correae* Pabst, both of which we had collected before. This possible novelty had much larger and more robust bulbs and a straight and unusually long inflorescence (but only bearing a few, sessile fruits; the inflorescence of *B. setigerum* is relatively short and uncinata, or sharply hooked at the apex; the one of *B. correae* is straight, but much shorter). So far, we have not been able to identify it. In the same habitat we found for the first time a large population of *Jacquiniella globosa* (Jacq.) Schltr., an orchid relatively common in Tropical America but hitherto not detected in our study area. We also found a few plants of *Epistephium* that were over 5 m high, with stems 3-4 cm in diameter but bearing at the top only old capsules. At first we suspected they were referable to *E. hernandii* Garay, which we had collected before in the same area (but the plants were not nearly as tall or robust), but realized that the plants could also represent *Epistephium brevicristatum* R.E. Schultes, only known from the type locality in Colombia but that we would expect to find in the habitat we were exploring. Finally, we found for the first time a flowering plant of *Epidendrum longicolle* Lindl., a vegetatively distinctive species related to *E. nocturnum* Jacq. that we had encountered many times before, but never in flower. *Epidendrum longicolle* has never been illustrated for the flora of Venezuela, and the flower we collected was the basis for a detailed botanical drawing done by Bobbi Angell, Harvard University Herbaria's renowned botanical artist.

I flew to Puerto Ayacucho the next day and then to Caracas Monday, September 8. Later I spent three days in *La Escalera* and *La Gran Sabana*, in southeastern Venezuela, where I photographed and collected, among several other orchids, *Cleisthes parviflora* Lindl. and *C. rosea* Lindl. Of the two, *C. parviflora* has never been accurately depicted in the orchid literature (the plant in Foldats' *Orchidaceae* for the Flora of Venezuela I: 138, Fig. 46, may actually represent this species, but the flower shown no doubt is referable to *C. rosea*). Again, the flowers of *Cleisthes parviflora* were the basis for a detailed botanical drawing done again by Bobbi Angell.

I returned to Boston Thursday, September 18. In retrospect, despite not attaining our primary goal (to explore the Cariche mountains), we did add new reports to our checklist and photographed and/or collected flowers of two rare orchid species (*Cleisthes parviflora* and *Epidendrum longicolle*). We also had gathered invaluable information on the logistics needed to explore the upper Mee (personnel, equipment, and food), and we also geo-referenced our entire route. Using these data and after examining the area we explored using Google Earth, I was firmly convinced that we had gone up too far along the upper Mee, and that the next time we would have no difficulty finding the right path.

For the June 2009 expedition to the Cariche mountains, I again traveled from Boston to Maroa (via Caracas and Puerto Ayacucho and using the same mode of transportation as in the previous year) starting Tuesday, 2 June 2009 and getting to Maroa Wednesday, June 10, after a brief stay in Caracas to obtain my permits and after spending a few days in Puerto Ayacucho to organize our equipment and to purchase supplies. This time, we had problems in Maroa buying gas for the outboard motor (the "gas station" in town only had a "strategic reserve" and was not selling gas. We ended up buying it at a much higher price (the official price for a 50 gallon drum of gasoline is roughly US\$10; we had to pay twenty times that amount). The oil for two-stroke engines was available, although slightly overpriced (but not at the exorbitant price we had paid for gasoline). I hired the same crew except for Emiro, who was not available, and two new members: Mario Camico, who had traveled with me to the Tuamini in January 2005 (see *The Arizona Orchidist* 42, 5: 5-7, May 2005) and Emerson Aragua, José Aragua's grandson (a student at the Salesian high school in La Esmeralda, in the upper Orinoco. Emerson had just started his summer vacation.). As usual, we rented Mr. Sandalio's dugout canoe, which, after a few repairs, was perfectly fit for our trip. Again, we took a second, smaller craft.

We left Maroa June 12, and entered the upper Mee (after the usual overnight stays in Tinaja and Bolívar) late in the morning of June 14. This time the water level was somewhat higher (by at least 0.5--0.75 m) and we rapidly got to Sejal, where Demetrio boarded the small craft and travelled rapidly upstream (he could go faster using a single paddle than we could with our outboard motor because with our much larger craft we often encountered narrow passages, thickets, and fallen trees where we had to slow down or stop altogether. In the small craft, Demetrio could always go over or around such obstacles). We met Demetrio in the mid afternoon, and he was happy to tell us that he had found the place where we could establish our base camp. We spent the afternoon setting up our camp, and by early evening we had a comfortable and protected sleeping place for each member of the crew and even had a small cooking area with a roof of palm leaves.

We left camp around 8 a.m. the next morning (June 15). José Aragua stayed behind to look after our base camp and to fish. After a brief walk in a catinga-type forest (with many *Leopoldinia piassaba* Wallace palms), we reached a bana, similar to the many we have explored in Maroa, but much more congested. We next had to cross a dark, intricate, and seemingly interminable flooded forest of *cuajo*, a species of *Virola* Aubl. (Myristicaceae). We wore knee-high rubber boots, and crossing this flooded forest was a major task: water reached anywhere from our calves to our waist, and our boots were soon full of water. Lifting our legs over roots and branches soon was a major effort, since the boots full of water added 1.0-1.5 extra kilograms to each step. It was simply exhausting. At least three species of mosquitoes found us at every rest site: one was particularly beautiful, with silvery, bluish body and wings. Their bites were not particularly bad, and the welts they produced soon disappeared after a day or two.

We then crossed another bana, where we found a small, inconspicuous single plant of *Cleisthes*, about 14 inches high. The flower had opened earlier that morning, but by then it had been damaged by insects, although there was enough of it left to determine that it was a species we had never seen before. We looked for other plants of the same species but our efforts were unsuccessful.

Across the banas, we were clearing a path as we went along. Often we had to retrace our steps to find the right trail. It was hot and humid, and we were sweating copiously; we could not have made it without drinking large amounts of water loaded with electrolytes. We reached a small, clear, black-water creek by the early afternoon. After bathing, having lunch, and resting for a bit, we attempted to find the path to the mountains. We found a maze of old trails, some made by miners, others by tapirs. Since it was getting late, and we had not planned to stay overnight, we decided to return to base camp. By late afternoon, we returned to our base camp. After crossing the two banas and the flooded forest, we were exhausted. We had dinner (a fantastic fish soup), and most of us went to our hammocks soon after sundown.

This first day, including the *Cleisthes*, we recorded 28 species of Orchidaceae, mostly along the path across the two banas, growing as epiphytes on small trees and shrubs. Although few of the orchids bore flowers, we recognized them because all of them were species we had encountered in similar habitats close to Maroa. Perhaps the only rare orchid was *Vanilla palmarum* Lindl., some plants of which had fruits, a species we hardly ever encounter except clinging high up on the trunk of the majestic *Mauritia flexuosa* palm (coincidentally, in this case the epithet *palmarum* apparently was derived from a note from the collector of the type specimen, Philipp Salzmann [1781-1851], "... in *caudicibus palmarum*", meaning in Latin "on the trunks of palms"). In one of the banas we also collected a locally frequent and showy species of Rubiaceae (the coffee family), referable to the genus *Gleasonia* Standl., which is no doubt a new report for Venezuela and possibly a new species.

The next day, June 16, we left our base camp at around 7:30 a.m. This time our group was much smaller (Carlos and Oscar Gómez, Demetrio and José Aragua, and me), and we were equipped to spend the night away from the base camp. We hiked rapidly following the trail we had opened the day before; we were at the small creek by noon. Again, we bathed, had lunch, and rested a bit, and soon after started looking for the trail that seemed to be going in the right direction (using our compass, GPS, and a satellite image, we knew that the closest mountain was NE from our current position). It took José Aragua about a half hour to find it. By mid-afternoon, we encountered an abandoned miners' camp. There we found old shoes and empty food and motor oil cans. We also found old poles where some months ago perhaps 5-7 people had hung their hammocks. We pressed on and soon we could see the steep slopes of the southwestern-most mountain of the *serranía*. We started to climb it, and after about 50 minutes we were at the very top (at an altitude of approximately 210 meters)! The summit had scattered sandstone blocks and small trees, but only a few were in flower: *Laetia* sp. (Flacourtiaceae), *Protium* sp. (Burseraceae), and *Ternstroemia* sp. (Theaceae). We found two bromeliads growing among the sandstone blocks: *Navia* sp. and *Pitcairnia patentiflora* L. B. Smith. We did not find a single orchid!

After collecting botanical samples and taking photographs, we returned to the abandoned camp site we had found earlier. We set up our sleeping quarters, bathed using water left in little puddles around the camp, and had a light dinner (canned black beans and hotdogs mixed with mañoco and katara¹⁴), and were in our hammocks soon after sundown. It rained hard after midnight for 2-3 hours, but our tarps kept us dry and comfortable.

The following morning we awoke early and by 7:00 a.m., we had taken down our camp site and had had coffee and a light breakfast (oatmeal and soda crackers). Demetrio told us he had heard a waterfall in the distance when we had gotten drinking water the previous evening. We followed him and after about 20 minutes we all could hear the water fall: it took us but a few minutes to locate it. Water came down the mountain for about 50 meters, in between blocks of sandstone, where it then cascaded 4-5 meters and emptied into a small pool. It was very humid in the vicinity of the waterfall, and we found several orchids: *Bifrenaria longicornis* Lindl., *Braemia vittata* (Lindl.) Jenny, *Hylaeorchis petiolaris* (Schltr.) Carnevali & G. A. Romero, *Koellensteinia hyacinthoides* Schltr., *Octomeria erosilabia* C. Schweinf. (the only species found in flower), and *Paphinia lindeniana* Rchb.f. Soon we started our return to base camp and arrived in early afternoon. After crossing the two banas and the flooded forest, we were again exhausted. By then four of my toes were badly hurt (regular knee-high rubber boots provide wonderful protection for one's feet and lower legs, but give little protection for the toes, which can get badly bruised after a long walk). Later that afternoon we started packing for our return to Maroa. After eating another delicious fish soup for dinner, early in the evening, we retired to our hammocks.

Early the next morning, it rained; however, the sun was shining by 7 a. m., and by 8 a.m., we had packed all of our gear into the dugout canoe. We departed soon after making sure we had not left anything in our base camp (it is our policy to take with us everything that is not biodegradable). Going downstream, we decided not to use our outboard motor, and to use our paddles instead, so that we could carefully examine the vegetation along the river. Not long after our departure we were rewarded: we found a plant of a *Galeandra* with perfect flowers we had never seen before, in fact, a *Galeandra* species that had never been collected before in Venezuela: *G. pubicentrum* C. Schweinf. Along the upper Mee we found 11 additional orchid species, including *Catasetum longifolium* Lindl., several plants of *Coryanthes* with erect inflorescences (probably a new report or possibly a new species), *Pleurothallis (Acienthera) omissa* Luer¹⁵, *Zygosepalum lindeniae* (Rolfe) Garay & Dunsterv. and, in full flower, the spectacular *Paphinia dunstervillei* Dodson & G. A. Romero.

After spending one night each in Bolívar and Tinaja, in early afternoon on June 20, we reached Maroa. However, while navigating up the Guainía between its confluence with the San Miguel and Maroa, we found *Galeandra minax* Rchb.f. in flower. This species had been reported previously in our study area as *G. baueri* Lindl. var. *piloso-columna* C. Schweinf., based on a specimen collected in the same area where we found our plant.¹⁶

It is amazing how isolated we had been: we did not encounter any other people for eight days. We did see an incredible variety of birds, including noisy macaws (2-3 species, including groups of up to 30 or more individuals, some clearly couples accompanied by one or two hatchlings, but usually in smaller groups of four to six individuals), parrots (which we also could hear in the early morning and late afternoon), and parakeets (macaws, parrots, and parakeets are Psittacidae), as well as egrets, herons, and ibises (at least seven species in several genera of Ardeidae and Threskiornithidae), ducks (Anatidae, at least two species), kingfishers (Alcedinidae) and the usual spectrum of orioles (Ictaridae), hummingbirds (Trochilidae), and tyrants (Tyrannidae). As in previous trips, very early in the morning, we could hear the low, guttural call of male Curassows (several possible species and genera, Cracidae) and of course encountered several guans as we travelled along the upper Mee (*Penelope* spp., Cracidae). We also heard and/or saw several monkey species, including a nocturnal species, and another evening, in Bolívar, our camp was visited by two tapirs, the tracks of which we found the next day. It is refreshing to know that there are still places on our planet where wildlife can live largely isolated from the usual negative action of mankind.

Carlos Gómez and I flew from Maroa to Puerto Ayacucho on June 21, and I left for Caracas the afternoon of June 24 (I was scheduled to leave the day before, but the commercial flight was cancelled). The next day, June 25, I traveled by road from Caracas to Guanare, the capital of Portuguesa state and the location of one of the campuses of *Universidad Nacional Experimental de Los Llanos Ezequiel Zamora* (UNELLEZ), one of Venezuela's main agricultural universities and where the herbarium PORT is located. At PORT I wanted to study the Orchidaceae collections to locate specimens of *Cleistes moritzii* (Rchb.f.) Garay & Dunsterv., an enigmatic species known from very few collections. I also wanted to visit my colleagues Nidia Cuello and Gerardo Salazar, with whom I was to travel to Mérida, the capital of the state of Mérida, where Gerardo and I planned to work at two additional herbaria (MER and MERF, at the Faculties of Forestry and Pharmacy of *Universidad de los Andes*, respectively).

I worked at herbarium PORT Friday, June 26, and the next day Gerardo and I, as planned, traveled to Mérida. We had previously arranged with the curatorial staff of MERF to work in the herbarium that Saturday afternoon, and we spent 2-3 hours identifying miscellaneous plants. On Sunday, June 27, we travelled towards la Azulita, NW of Mérida. We hoped to find *Cleistes moritzii* growing in the savanna vegetation along the road, but by mid-afternoon, we had not been able to find it (most of the original vegetation has been converted to grass land for cattle), and we returned to Mérida to spend the night. Early on Monday we went to herbarium MER, where we worked most of the morning. We left Mérida around noon and arrived in Guanare in the late afternoon. I flew to Caracas early the next day¹⁷ and to Boston July 2.

We added seven new records to our checklist of Orchidaceae during the two expeditions to *Serranía de Cariche*, including 2--3 possible new species (*Bulbophyllum* sp., the small *Cleistes* sp., and the *Coryanthes* sp. with the erect inflorescences) and a new report for Venezuela (*Galeandra pubicentrum*). I did not find *Cleistes moritzii* in the field, but I did locate a well preserved specimen of the species in herbarium PORT, which will soon be drawn by Bobbi. I also should mention that one of the plants of *Coryanthes* we brought from Caño Chimita (see *The Arizona Orchidist* 42, 5: 4-7, May 2006) flowered in cultivation in Puerto Ayacucho and it turned out to be *C. cataniapoënsis* G. A. Romero & Carnevali, another new record for our checklist. I also finally got a name for the diabolical bambu that I have mentioned in previous essays (*Atractantha amazonica* Judz. & L. G. Clark: its stems are abrasive and can produce painful cuts). Together with the palm *Desmoncus polyachanthos* Mart., this bambu constitutes one of the greatest obstacles we encounter when navigating the intricate and maze-like navigation channels we find in several sections of the Mee river. In fact, this portion of the river is called *Rebalse de Macavacape*, from the Spanish *rebalse*, meaning pool or puddle, or a body of stagnant water, and the word in Guarekena *Macavacape*, *cerradal* in Spanish, which refers to a section of a river difficult to navigate because of the intricate vegetation). Perhaps most important of all, we did explore, geo-referenced, and mapped the southern most portion of *Serranía de Cariche*, which will greatly facilitate our next expedition to the same region when, no doubt, we will continue to find new reports for the flora of Venezuela.

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

Notes

¹ The geological literature on the Roraima formation is extensive. See O. Huber, geographical and physical features [of the Venezuelan Guayana], in P. E. Berry et al. (eds.), *Flora of the Venezuelan Guayana* 1: 1-61 (1995) for a review, from where the information presented above was extracted. See also Santos et al., age, source, and regional stratigraphy of the Roraima Supergroup and Roraima-like outliers in northern South America based on U-Pb geochronology, *Geological Society of America Bulletin* 115: 331-348 (2003) for a more recent report and references.

² To San Miguel and Pimichín, see *The Arizona Orchidist* volume 4 number 1: 4-9, (January 2008) and volume 44 number 9: 5-10 (September 2008).

³ Emiro's last name was incorrectly given as "Cayupare" on page 4 of *The Arizona Orchidist* volume 4 number 1 (January 2008).

⁴ Carlos Gómez is the chief of logistics and medic (he is a certified nurse and a reputable, respected and sometimes feared witch doctor): he is in charge of buying and dispensing food and other supplies, keeping our camping sites harmonious, clean, and organized, and taking care of minor pains and injuries. He is also in charge of keeping the orchids we collect alive and he assists me when preparing herbarium specimens.

He has keen eyes and is able to detect orchids that most of us are unable to spot.

He is 68 years old. José Miguel Aragua is a *motorista* (he operates the outboard motor), a dedicated hunter and fisherman, and a faithful and tireless field companion. Lately he has become an excellent orchid spotter.

He is 71 years old. Emiro Yuriyuri was in the 1950s a crocodile, river otter, and jaguar hunter (he was paid for their skins) and then a *motorista* and river guide. Lately he gets a retirement pension but he still works for the local municipality doing odd jobs. Emiro does not know exactly how old he is, but he suspects he is in his late seventies. Demetrio, Oscar, and Pascual are all in the late twenties or early thirties, are avid hunters and fishermen, and they help tremendously handling our craft when navigating rough spots, preparing camp sites, clearing paths, climbing trees, and carrying loads during our often long walks. Either Demetrio or Oscar can be substitute *motoristas* when José wants to take a break.

⁵ As explained in the *The Arizona Orchidist* volume 4 number 1: 4-9 (January 2008) essay, the toponymy of the waterways in this part of Venezuela can be confusing. The main river we navigate is called San Miguel or Conoroquite up to its confluence with the Ekeweni o Ikiwini at approximately 2° 43' 10" N 66° 48' 06" W. Upstream it is called the Mee river. At approximately 2° 41' 29" N 66° 22' 25" W, a narrow channel branches off the Mee to the south-east towards the Casiquiare called "Caño Desecho", which was described in *The Arizona Orchidist* volume 4 number 1: 4-9 (January 2008).

⁶ Tinaja is a small, abandoned town at approximately 2° 44' 13" N 66° 47' 43" W on the western shore of the Ekeweni. There is a beautiful Amazonian savanna some 200 m south from the point where the houses were located (now there are only a few standing poles). When we visited the savanna in September 2007 we found a few orchids and many species of Araceae, Bromeliaceae, Gentianaceae, Rapateaceae, and Xyridaceae in flower, but in August 2008 it was evident that the savanna had been burned not long ago, and we found no plants in flower. When we explored in June 2009 the savanna still had not recovered and we only found in flower one species of Gentianaceae and *Pitcairnia juncooides* L. B. Smith (Bromeliaceae).

⁷ Bolívar is another abandoned town at approximately 2° 42' 02" N and 66° 25' 49" W, along the northern shore of the Mee. It apparently was much larger than Tinaja (given the area where the houses were located). It is one of our favorites places because it has plenty of trees and tall poles to hang our hammocks and open places to dry our clothes.

⁸ Our basic sleeping setup is a hammock, usually made from some man-made fiber (cotton never dries or takes too long to dry in high humidity environments), placed inside an all-enclosing, insect-proof net. The net is a must-have item, because it keeps out not only mosquitoes and blackflies, but also other nasty insects such as cockroaches, of which we have encountered multiple "models", and kissing bugs, the transmitters of Chagas disease. A plastic or nylon tarp keeps the rain out. These three components weight little and do not occupy much space, and can be set up in 10 minutes or less. The tarp is usually large enough to provide some working room to eat or to photograph or press plants, except when it is raining extremely hard.

⁹ The bridges along the Yavita-Pimichín and Yavita-Maroa roads are made from the trunks of this magnificent tree, and most are in perfect shape even after 30 years.

¹⁰ At approximately 3° 01' 19" N and 67° 27' 14" W.

¹¹ The plants of *Catasetum pileatum* we collected along the San Miguel or Coronochite in 2007, which had small, roundish leaves and bore 1--2 flowers, are now happily growing in Carlos Gómez' house in Puerto Ayacucho. Surprisingly, they now have long leaves and bear many flowers, just like the larger plants of the species that grow in the forests around this town!

¹² *Acacallis cyanea* and *Dichaea ancoraelabia* are at least two of the species that grow next to rivers and that apparently survive large periods (usually several months) of immersion in water with low levels of oxygen. At least in the case of *Acacallis cyanea*, the plants put out a vegetative shoot and soon flower as soon as they are above water.

¹³ New reports for our checklist.

¹⁴ *Mañoco* (or *Mañoko*) and *Catara* (or *Katara*) are two products obtained from the roots of cassava (*Manihot* spp., Euphorbiaceae, primarily *M. esculenta* Crantz). *Mañoco* is a coarse flour obtained after grinding and baking the root (the processing of the root is much more complicated, but it is beyond the scope of this essay). It will remain edible for many months if kept dry. It does not contain many nutrients but it does have carbohydrates and fiber, and it is the daily bread of most of the population of the lower Amazon river basin (including the Rio Negro). *Catara* is the processed liquid extracted from the ground, bitter cassava root. It is at first highly poisonous (it contains Lynamarin, a cyanogenic glycoside that is hydrolyzed to cyanide), but it is comestible after boiling for several hours. The native Indians of the upper Orinoco and Rio Negro add to this liquid whole hot peppers (*Capsicum* spp., Solanaceae) and the heads of the soldier cast of one particular species of leaf-cutter ants (*Atta* sp., Formicidae, Hymenoptera). The heads of these ants contained a complex mixture of chemicals that have a peculiar flavor that reminds me of lemon and orange rind, with a touch of apple, and they add an unusual bouquet to the mixture, which is by then called *catara*. It is used as a spicy souse for soups and other dishes.

¹⁵ Reported as "*Pleurothallis (Acianthera)* sp. (on ant nests)" above.

¹⁶ Venezuela. Amazonas: [Municipio Autónomo Maroa], along Río Guainía, between Caño San Miguel and Maroa, 125 m, occasional epiphyte, "tepals yellow-brown; lip white with pink-blotched lip, the spur pale yellow", 30 June 1959, J. J. Wurdack & L. S. Adderley 43278, NY). The only flower of this specimen is in rather poor condition and it is practically impossible to confirm the identification provided by Charles Schweinfurth (see Orchidaceae of the Guayana Highlands, *Memoirs of the New York Botanical Garden* 14, 3: 160, 1967).

¹⁷ This time from the town of Barinas (at approximately 8° 37' N 70° 13' and 200 m), the capital of the state of Barinas, because there are no flights to Caracas from the Guanare airport.

OSA November 2009 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 <i>GROWER ON CALL</i> <i>Keith Mead</i>	2 OSA Meeting 7:00 PM	3	4	5	6 <i>Demitris Sagias</i> 	7 Show Time Hats off to Orchids
8 Show Time Hats off to Orchids	9	10	11 <i>Jo Anne Waddoups</i> 	12	13	14
15	16	17	18	19	20	21
22	23	24 <i>Madeleine Heberling</i> 	25	26 <i>Thanksgiving</i>	27	28
29	30 <i>John Atwood</i> 					



Orchid Society of Arizona
 c/o Keith Mead
 5425 Thomas Drive NE
 Albuquerque, NM 87111

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