Museum Quarterly

LSU Museum of Natural Science

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Letter from the Director...

Time is moving quickly, with another Mardi Gras and spring migration approaching rapidly. The winter here in Baton Rouge has been unusually cold, but I've managed to keep several winter hummingbirds in my yard content by bringing out warm feeders on the coldest of mornings. For those of you up North who are dealing with actual cold, I apologize. At our recent Holiday Party, we crowned **Dr. Andrés Cuervo** as 2013's Outstanding Graduate Student. This is always a difficult choice for the Curators because the Museum graduate students are all 'outstanding.' Andrés, who is now a postdoctoral fellow at Tulane University, distinguished himself by having an outstanding record of publications (28 peer-reviewed papers), grantsmanship (a prestigious NSF DDIG, an LSU Graduate School Dissertation Fellowship, and an LSU Huel Perkins Diversity Fellowship, plus many others), and service to the Museum. To collect samples for his dissertation, Andrés spent several months in the field conducting logistically challenging fieldwork in the Andes mountains of Colombia and in Venezuela. Through his dissertation work, Andrés amassed the largest genetic data set of Andean birds ever assembled, with DNA sequences from over 2000 individuals. Andrés' dissertation represents the largest scale comparative study of any Andean organism, and I expect the papers coming out of his work to be widely cited.

I hope you enjoy the newsletter. In a month or so we'll be sending out mailers for this year's Birdathon, so please keep an eye out for those.

2013's Outstanding Graduate Student **Andrés Cuervo** (left) with Museum Director, **Dr. Robb Brumfield** (right).

A new and un-stompable shrew

By Jake Esselstyn

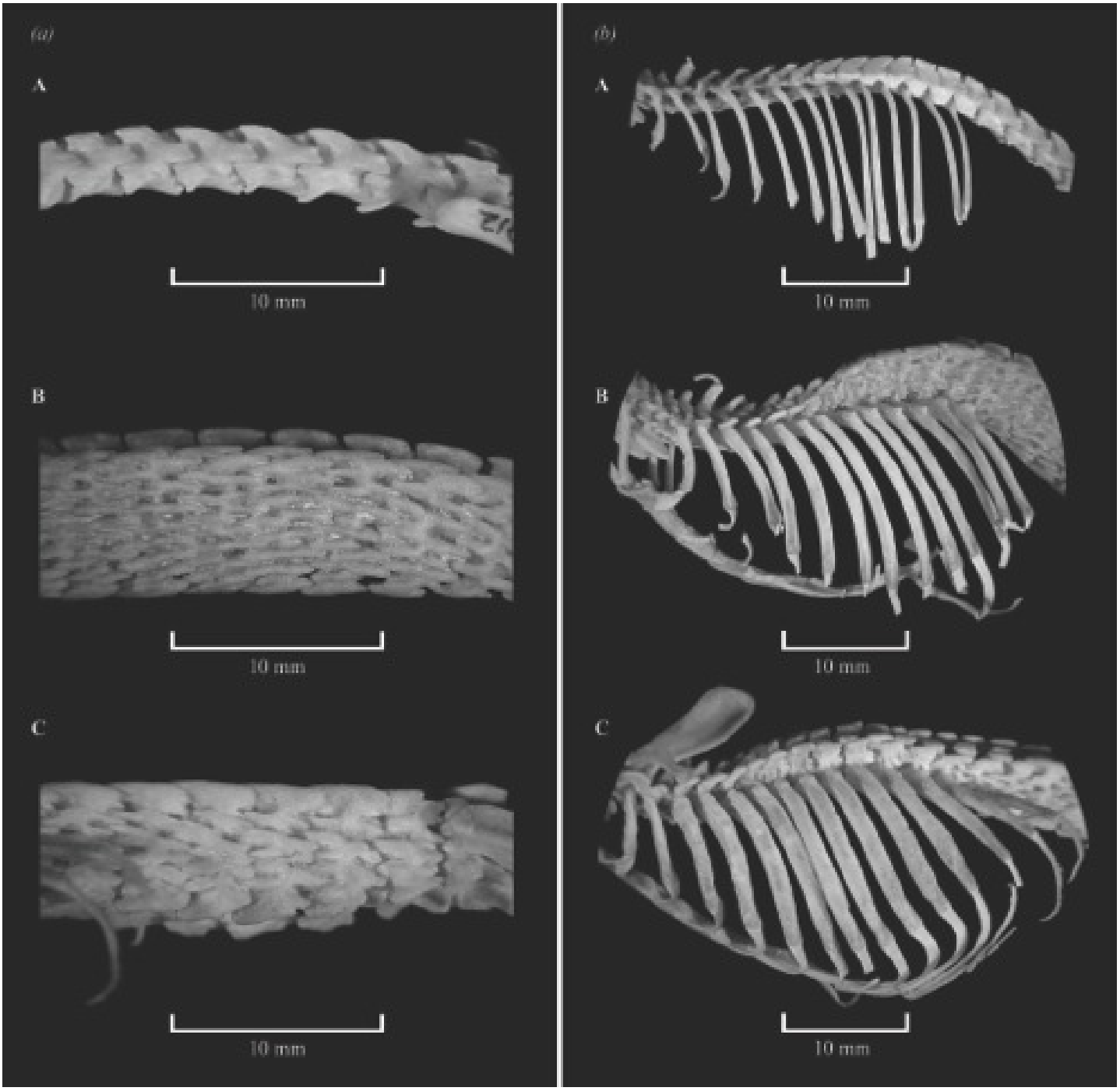
A pair of high profile mammal discoveries grabbed headlines in the last few weeks. Everyone has now heard of the photogenic olinguito, a new species of racoon first discovered in the Field Museum's collection by **Kris Helgen** (Smithsonian) and colleagues and more recently documented in the Andes Mountains of South America. A few weeks prior to the olinguito discovery, my colleagues at the Field Museum and I reported on our discovery of a new species of hero shrew from the Democratic Republic of the Congo. This was an exciting discovery for several reasons, first and foremost because the new species and its closest relative have a truly bizarre morphology that has defied adaptive evolutionary explanations for the past century.

Shrews in general are difficult to work with because their morphology is conserved and identifying species is very difficult. Hero shrews, however, do not seem to fit this mold. They are an enigma because they possess what is best described as the strangest back bone in the mammalian family tree. Most mammals, you and I included, have 5 lumbar (those in the lower back) vertebrae, each with one dorsal and two lateral processes. But the original hero shrew, *Scutisorex somereni*, has 10-11 lumbar vertebrae, each with a multitude of processes. These protrusions interlock the adjacent vertebrae and biomechanical tests have shown that this strange backbone remains flexible, but gives the hero shrew 4X the strength of what a 'normal' mammal has, taking body size into account. However, before any biomechanical studies had been done, the first scientific reports of the hero shrew's unusual strength came from early 20th Century field biologists that reported observing grown men standing on top of live hero shrews, only to watch the shrews, which weigh a mere 60 grams or so, run away unharmed. Given these stories, it's not surprising that some ethnic groups in tropical Africa use hero shrews as talismans, believing that wearing a part of the animal bestows invincibility.

Since its initial discovery by scientists, the hero shrew has also puzzled evolutionary biologists. Its backbone is so different from any other known mammal, that it has been cited as a case supporting such controversial ideas as evolution by punctuated equilibria and **Stephen Jay Gould**'s famous Spandrels of San Marco hypothesis, in which complex morphological structures arise as a mere byproduct of architectural constraints.

In the new publication, we describe the new species of hero shrew, noting that it possesses 8 lumbar vertebrae, with fewer interlocking processes than the original hero shrew. Thus the new species has intermediate characteristics that lie between the original hero shrew and what we can only call more 'normal' shrews. Taken together, these animals' morphology and their phylogenetic relationships suggest the evolution of the hero shrew's strange backbone happened through incremental processes rather than punctuated processes.

We also offer a novel hypothesis that potentially explains the hero shrew's unusual morphology. We proposed that the shrew's incredible strength evolved in response to an abundance of invertebrate animals living under heavy or compressive objects. Specifically, we suggested that the hero shrew's backbone and associated muscles allow the animal to lift or pry objects apart, giving the



animals access to otherwise inaccessible resources. This hypothesis derives from field biologists' observations of local people in the Congo Basin, who regularly capture hero shrews between the trunks and leaf bases of palm trees. Although our hypothesis remains untested, it provides an adaptive explanation as an alternative to the previously proposed spandrels explanation.

As public interest in the olinguito and hero shrew has demonstrated, it's an exciting time to be a museum scientist, where the current age of discovery is just as compelling as any from the past.

Link to the article:
http://rsbl.royalsocietypublishing.org/content/9/5/20130486.abstract

Photos: Left: hero shrew. Above: Vertebrae of the hero shrew.

Return to Guatemala & El Salvador

By: Caleb McMahan

In early November I attended the Latin American Ichthyology Congress in Antigua, Guatemala. This was a great meeting and I enjoyed catching up with my collaborators and colleagues in Mexico and Central America – many of which I had not seen in a few years. There were great presentations with new collaborations forged for future projects.

After the conference I spent a few days traveling around Guatemala and El Salvador with the goal of collecting a few target species for completing a couple of ongoing projects. I was joined by **Wilfredo Matamoros** (University of Southern Mississippi and former LSUMNS Ichthyology post-doc), **Kyle Piller** (Southeastern Louisiana University and my Master's advisor), and **Tim Sosa** (PhD student at the University of Chicago and The Field Museum).

After the conference, Diego Elias joined us for a few days of fieldwork in Lago Atitlan and nearby rivers. Diego joined us on our expedition to Guatemala earlier in 2013 and also later visited the LSUMNS to help sort Guatemala specimens, as well as work on a project studying variation and eco-morphology of a cichlid from the Caribbean slope of Guatemala. I was specifically after a species of cichlid I have been studying, *Paraneetroplus guttulatus*. Along with collaborators, I am studying geographic variation in this species, as well as its sister species. There is a possibility that more lineages exist within this species than currently recognized. We are using genetic and morphological data to study differences between the two species, as well as differences throughout the distribution of the two species. I had specimens from several localities in Mexico, but lacked recent specimens with tissue samples for genetic work from Guatemala or El Salvador. Unfortunately we were unsuccessful in capturing this fish in Guatemala. I have no doubt the fish still occurs throughout rivers along the Pacific slope there; however, we only had a couple of days that we could spend there. We hope to be able to return to devote more time to collecting this cichlid.

Interestingly, there is one locality in El Salvador where this species has been collected – Lago Coatepeque in the interior highlands of western El Salvador. I have previously collected here (in 2011) but only collected one small juvenile specimen of *P. guttulatus*. Specimens from this locality are not well represented in collections, thus we traveled from Guatemala to El Salvador for a few days of fieldwork. After arriving to the capital of San Salvador, we picked up **Samuel Alvarez-Calderon**, a biologist in the country who has collaborated with us on projects and helped with our field expeditions in El

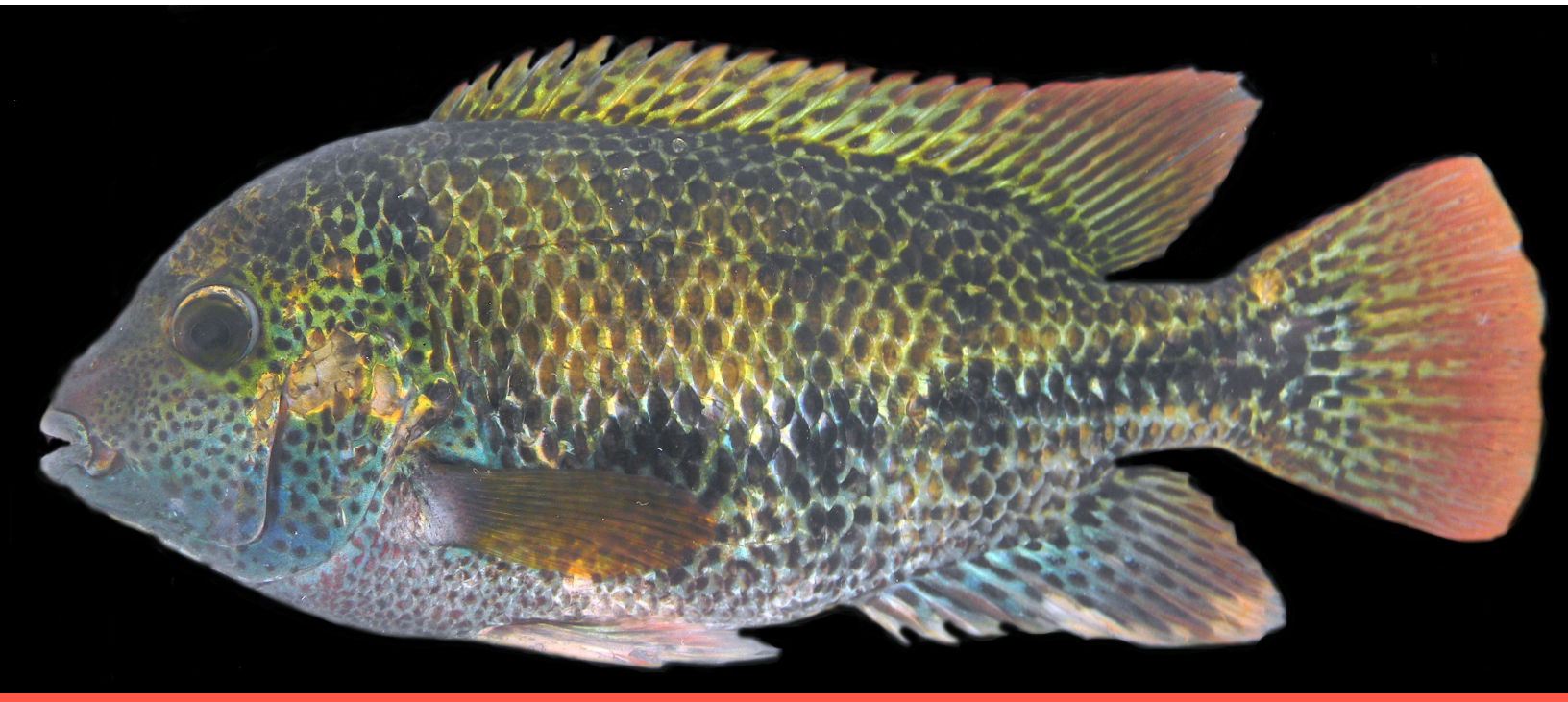
Salvador. We then set out for Lago Coatepeque, only a short drive (little over an hour) from San Salvador. We spent most of the day at the lake, and fortunately we were able to collect a nice series of specimens of *P. guttulatus* (see image below). I was particularly interested in obtaining live photos of these cichlids. Coloration can be an important systematic or taxonomic character for cichlids; however, we often do not have the diversity of number of photos necessary to assess coloration. We were able to take nice live photos of the individuals we collected, and we can compare these to those specimens we have from Mexico.

After a successful day at Lago Coatepeque we travelled around to various rivers to inventory species for gaps in our sampling from our 2011 trip, but also for specimens of *'Cichlasoma' trimaculatum* and a couple of other species I was interested in for future project (see image to the left). We then returned to San Salvador for the evening and were able to meet up with **Enrique Barraza**, collaborator in El Salvador and biologist at the environmental ministry for the country.

Overall it was a successful trip – a great conference and productive field trip. The specimens collected will be incredibly useful and we have already started taking data to incorporate them into analyses.

Photos:

Above: Lago Coatepeque
Page 4: *Cichlasoma trimaculatum*
Bottom of the page: *Paraneetrplus guttulatus*



Expedition to the Cotacajes Valley in Bolivia

By Glenn Seeholzer

The world had shrunk, or so it seemed when I was scouting localities to visit in Bolivia using Google Earth this past fall. My goal was to find a way into the remote inter-Andean valley of the Río Cotacajes and it didn't seem all that difficult from the comfort of my office desk. Just a few inches away from Cochabamba, I thought, a few hours at most. Two months later, after 8 hours on rough dirt roads, LSU postdoctoral researcher **Brian Smith**, fellow graduate student **Michael G. Harvey**, Bolivian ornithologist **Miguel (Micky) Angel Aponte Justiniano**, our driver **Herman Lijeron** and I were looking down on the Rio Cotacajes valley from over 4,000 m above sea level contemplating the immense distance and depth on display before us. The valley floor, some 3,000 m below us (more elevational relief than can be found in most of the United States) was not even visible, clearly the world had not shrunk.

Bolivian Spinetail (*Cranioleuca henricae*), an endemic of the upper Río Cotacajes Valley.

In the Andes, rain shadow valleys occur where north-south oriented mountain ranges block humid air arriving from the Amazon, creating arid conditions in valleys to their west. Such valleys have been gold mines for recent ornithological discovery and the Rio Cotacajes is no exception. In the 1990's, expeditions conducted by the Natural History Museum of Denmark to the Río Cotacajes valley discovered a new species of arboreal spinetail (*Cranioleuca henricae*) as well as a new subspecies of parakeet (*Pyrrhura molinae flavoptera*). Very few museum specimens were collected despite many intriguing records. In collaboration with the Museo de Historia Natural Noel Kempff Mercado (Santa Cruz, Bolivia), our goal was to make the first collection of birds from the valley and complete an elevational transect of the previously inaccessible west bank in Departamento La Paz from the valley floor (1300 m) to tree line (3000 m). If working in some of the most rugged terrain in the world was not enough, we were repeatedly warned to be extremely careful in this region due to the recent rise of narco-trafficking and resulting government crackdowns. On November 6th, 2013, after 8 hours on dirt roads, we dropped into the valley with an abundance of caution, fully expecting to enter a war zone.

We arrived in the village of Cotacajes (-16.7°, -66.7°) in the early afternoon and met with the local leader, **Octavio Condoni**, in his bean field. We explained the reason for our visit and within minutes he was cracking jokes, greatly relieving our anxieties about working in the valley. The next day we set up our camp a kilometer up the road (-16.7°, -66.7°). From November 7th to the 13th we collected in a matrix of degraded dry forest and chacras in the valley floor with forays into beautiful, tall dry forest on the slopes above the camp (-16.7° -66.7°) up to 1800 m. Recent rains had resulted in a surprisingly green dry forest. Typical birds were Mitred Parakeet (*Psittacara mitratus*), Rufous-browed Peppershrike (*Cyclarhis gujanensis*), Sooty-fronted Spinetail (*Synallaxis frontalis*), Red Pileated Finch (*Coryphospingus cucullatus*), Creamy-bellied Thrush (*Turdus amaurochalinus*), Mouse-colored Tyrannulet (*Phaeomyias murina*), Pearly-vented Tody-Tyrant (*Hemitriccus margaritaceiventer*), White-bellied Hummingbird (*Amazilia chionogaster*), with some goodies like White-eared Puffbird (*Nystalus chacuru*), a first departamental record for Cochabamba; Rufous Nightjar (*Caprimulgus rufus*); and Bolivian spinetail (*Cranioleuca henricae*), endemic to the Cotacajes Valley. The taller dry forest had almost a North American temperate forest feel with the highest densities of breeding Red-eyed Vireo (*Vireo olivaceus*) and Tropical Parula (*Parula pitiayumi*) any of us have ever encountered in the tropics. Additionally, wintering Swainson's Thrush (*Catharus*

Expedition members at final locality, Piedras Blancas. From left to right: local landowner, daughter donkey, Herman Lijeron, **Brian T. Smith, Glenn F. Seeholder** with monther donkey, Miguel 'Mickey' Angel Aponte Justiniano, and **Michael G. Harvey**.

ustulatus) were abundant. The birds of the taller forest appeared to be a mixture of the dry forest birds mentioned above with additions like Green-cheeked Parakeet (*Pyrrhura molinae molinae*), Saffron-billed Sparrow (*Arremon flavirostris*) and birds more typical of humid forest like Streaked Xenops (*Xenops rutilans*), Strong-billed Woodcreeper (*Xiphocolaptes promeropirhynchus*), Variable Antshrike (*Thamnophilus caerulescens*) and Guira Tanager (*Hemithraupis guira*).

Lured by reports of an undescribed, all-black flowerpiercer (*Diglossa*) in the high elevation humid forest, we next made camp on an isolated massif which formed the west wall of the Río Cotacajes valley (2900 m, -16.7°, -66.8°). Despite six days of fieldwork there, the darkest flowerpiercers we found

The Río Cotacajes Valley, an arid inter-Andean rain shadow valley.

were juvenile masked flowerpiercer (*Diglossa cyanea*). Regardless, the birds were still great. Rare birds like Hooded Mountain-Toucan (*Andigena cucullata*), Rufous-faced Antpitta (*Grallaria erythrotis*), and Barred Parakeet (*Bolborhynchus lineola*) were common. Other goodies included Black-and-chestnut Eagle (*Spizaetus isidori*), Black-winged Parrot (*Hapalopsittaca melanotis*), Chestnut-crested Cotinga (*Ampelion rufaxilla*) and Slaty Finch (*Haplospiza rustica*). We found many of the expected high elevation birds but also we encountered a few exceptional high altitudinal records of Amazonian species. We were particularly struck by the relative low species richness of the site. This may be due to our limited mobility, moderate habitat degradation, and/or isolation from the avian community of the east slope of the Andes proper.

White-eared Puffbird (*Nystalus chacuru*), an uncommon resident of arid inter-Andean valleys.

After six days shivering in the prep tent, we were ready for some sun. The final gap of the transect was the 2000 - 2500 m elevation band, corresponding to the ecotone from tropical deciduous forest to montane evergreen forest. We packed up camp on the 21st and after almost driving off a cliff trying to jump-start the car (epic near disaster) we arrived at our final site, Piedras Blancas (-16.8°, -66.8°). Expecting a mixture of dry and humid forest birds with only few new additions, we were pleasantly surprised with the number of new species for the transect we found. Here, the humid forest descended low along the shaded valleys with the adjacent slopes transitioning to deciduous forest and then to arid montane scrub. There was some overlap with the previous two sites but new birds at this site included Green-barred Woodpecker (*Colaptes melanocholoros*), Rufous-capped Antshrike (*Thamnophilus ruficapillus*) and White-throated Antpitta (*Grallaria albigula*, replacing *G. erythrotis*), among others. The Green-cheeked Parakeets (*Pyrrhura molinae*) in the area all appeared to be the nominate subspecies yet one individual of the flavoptera subspecies was observed in a flock of nominate. At this point, energy, food and, most importantly, diesel were running low, so we decided to return to Cochabamba. From Cochabamba we continued to collect for another week at various sites along the old Santa Cruz – Cochabamba highway obtaining some important specimens of Blue-capped Puffleg (*Eriocnemis glaucopoides*), Speckle-breasted Thornbird (*Phacellodomus maculipectus*) and Giant Antshrike (*Batara cinerea*).

From the Cotacajes valley we collected over 450 specimens representing 144 species, with a number of new taxa for the LSU collection. Overall we observed over 230 species during our short time in the valley and documented a large number of new records for the region. I can also re-confirm that despite what Google Earth might convey, the world has not shrunk and scouting a 3000 m deep valley on Google Earth does not prepare you for actually going to a 3000 m deep valley. Few places in the world are as special, ornithologically complex and rugged as the east slope of the Andes. With so much more to discover, I've already been scouting out new valleys, saying to myself, 'it can't be that far…'

Fifth Annual Yellow Rails and Rice Festival

Donna L. Dittmann & Steven W. Cardiff

The Fifth Annual Yellow Rails and Rice Festival (YRARF) was held 23-27 October 2013. Based in Jennings, Jefferson Davis Parish, LA, in the heart of the state's southwestern rice-growing region, the festival provides a unique combination of "agritourism" and "ecotourism" experiences and showcases the abundance of birds found in our state's "working wetlands." Participants, drawn to Louisiana from far and wide for the opportunity to see a Yellow Rail, also have the opportunity to meet with representatives of Louisiana's ornithological, university, birding, conservation, agriculture, and tourism communities and enjoy Louisiana's culture, cuisine, and hospitality.

T-shirt design by Donna L. Dittmann for YRARF 2013 highlights Louisiana phrase Laissez les bons temps rouler. And, considering that activities revolve around a harvesting rice combine, the festival literally invites "let the good times roll."

As in the past, registration was capped and pre-registration was required. Including two post-festival tour groups, YRARF 2013 hosted 140 participants representing 27 US states and DC, plus Australia, Canada, and Peru. Taking into account our superb corps of dozens of volunteers, over 200 persons were involved in the 2013 event! This year's invited guest was EPA Deputy Administrator Bob Perciasepe, who welcomed YRARF participants during the festival's opening reception at Thornwell on Thursday morning, and spoke briefly about links between birds, working wetlands, and the EPA before he headed off to catch a ride on a combine and look for Yellow Rails. Other EPA guests from their Washington DC Office included Sarah Bittlemann and Kevin Samy.

LSUMNS Graduate Student Vivien Chua (green vest) acting as a facilitator positioned on the outside of the combine.

Of course, the festival's prime objective is to show visitors the festival's mascot, the Yellow Rail (*Coturnicops noveboracensis*), during harvest of the year's second rice crop. Yellow Rail numbers were somewhat better this year than in 2012, with an estimated 100 individuals combined on seven different observation days 23 October-2 November, and all participants were able to see the coveted "target species." Participants also had opportunities to ride onboard the massive rice harvester - for some, riding on a combine was just as exciting as viewing the elusive Yellow Rail! Each year the festival is tweaked to provide the best experience at the rice field harvest sites as well as during additional field trips through rice country, to the coast of Cameron Parish, and to the longleaf pineywoods of the Kisatchie National Forest in Vernon Parish. By covering a diversity of habitats, participants have a chance to see about 200 bird species. As in previous years, visiting participants enjoyed Louisiana's spectacular abundance and diversity of birds, and many participants vowed to return next year and bring their friends.

Participants traverse a rice field aboard a "hayride" behind the combine.

LSUMNS has an underlying role in the festival: two of the original four founders of YRARF are LSUMNS collection managers

EPA Deputy Administrator Bob Perciasepe welcomes participants and facilitators to YRARF 2013 at the historic St. Francis of Assisi Catholic Church in Thornwell.

Gathering of participants and facilitators (green vests) at the bird banding station while the banding crew repositions nets. A 3-day bird banding workshop was offered separate from the festival registration, with some of the banding activities occurring at harvest sites where all participants could observe the process, including seeing Yellow Rails and other species "up close and personal" in the hand.

Donna Dittmann and Steve Cardiff (both also current festival coordinators). LSUMNS is an official sponsor of the festival, and each year LSUMNS staff and graduate and undergraduate students assist as volunteer field trip leaders and/or rail field "facilitators." Representatives of LSUMNS are thus able to share with festival participants their enthusiasm and knowledge of Louisiana's birds as well as information on their research activities farther afield. This year LSUMNS volunteers included: Curator **Dr. Frederick H. Sheldon**; graduate students **Matt Brady, Clare Brown, Ryan Burner, Vivien Chua, Mike Harvey, Glenn Seeholzer, Ryan Terrill, and Paul van Els**; and undergraduate student **James Klarevas-Irby**. Also featured is a pre-festival tour of the LSUMNS bird collection hosted by Curator **Dr. J. V. Remsen**. We welcome Acadia Birding Festival (ABF) as YRARF's official sister festival – the historical human link between Acadia and Acadiana aside, it provides another way to emphasize the importance of interconnectivity not only for birders, but for birds, bird migration, and conservation of our shared resources. Plans are in progress for YRARF 2014 – if you would like to be on the festival email list contact: yellowrailsandrice@gmail.com. Also, keep an eye on the website for information updates about this year's event: http://www.snowyegretenterprises.com/Snowy_Egret_Enterprises/Yellow_Rails_%26_Rice_Festival.html

Pre-registration will probably commence 1 July 2014 and spaces fill quickly! If you'd like to migrate north with the birds this spring, then visit our sister festival in Maine- ABF website: http://www.acadiabirdingfestival.com/; their 2014 edition is 29 May-1 June and based in scenic Bar Harbor, ME.

Photos: Donna L. Dittmann

The Latest Scoop

The 2013 William Brewster Memorial Award is presented to **Dr. J.V. ("Van") Remsen, Jr.,** John Stauffer McIlhenny Distinguished Professor of Natural Science and Curator of Birds, Museum of Natural Science, and Professor, Department of Biological Sciences, Louisiana State University, Baton Rouge, LA.

Van, a boyhood birder from Lakewood, Colorado, began his professional training as a summer employee at the Denver Wildlife Research Center in 1968. He attended Stanford University, graduating with both a B.A. and M.A. in 1971. He then moved on to a Ph.D. at Berkeley under Frank Pitelka, graduating in 1978. While at Berkeley, he wrote a seminal paper, "On Taking Field Notes" for *American Birds* (1977), that greatly influenced field observers for decades. Although deeply immersed in the ornithology of the western U.S. through birding and a variety of part-time jobs, Van discovered his ultimate research passion—Neotropical birds--while working on kingfisher ecology in Colombia and Bolivia for his dissertation. Upon graduation from Berkeley, Van accepted a job as Curator of Birds at the LSU Museum of Natural Science, and has been there ever since.

As a result of 40 years of research and teaching, Van is the world's premier authority on Neotropical ornithology. Among his early, and now classic, papers are his 1984 description of leapfrog evolutionary patterns in the Andes, his 1988 classification scheme of foraging behavior with Scott Robinson, and his 1983 paper on the importance of river-habitats to species richness in South America with Ted Parker. Indeed, the Remsen/Parker duo produced a series of papers from 1980 through the early 1990s that are landmarks in Neotropical ornithology. In addition to research, Van's graduate teaching has continuously emphasized Neotropical ornithology, with 18 of 20 Ph.D., and 10 of 15 M.S., students writing theses on the Neotropics. Although intimately guiding these students, Van rarely put his name on their dissertation publications. Thus, he is responsible for huge advances in Neotropical biology for which he gets little recognition. His students, however, have long understood his important contributions, and they named one of the more iconic Andean species, the Chestnut-bellied Cotinga (*Doliornis remseni*), in his honor in 1994. Most recently Van has contributed literally thousands of species accounts on Neotropical birds to the *Howard & Moore* checklists (2003, 2013, and up-coming) and *The Handbook of the Birds of the World*.

Van has also contributed extensively to the infrastructure of ornithological research in the Western Hemisphere. Under his guidance, the LSU Museum of Natural Science has added 100,000 specimens to its collection, including several thousand of his own, and is now the most active university collection of birds in the world. He has been an integral force in the AOU Check-list Committee for 30 years, helping to produce the 1998 edition and dozens of supplements. He is also the founder and chair of the South American Classification Committee, and the taxonomic and nomenclatural footnotes he has provided on its website are encyclopedic. He also oversees four list services for ornithologists. Finally,

his students hold a remarkable number of academic positions in museums and universities in both North and South America.

The AOU honors Van Remsen for his outstanding body of work on the ecology, systematics, and evolution of Neotropical birds. He has inspired generations of students and colleagues interested in tropical bird biology, and he has been a constant advocate for the value of museum collections to modern research in ornithology. His positive influence and energy pervade Neotropical ornithology and the museum community. We are proud to recognize a research scientist and teacher who has contributed so much to so many in the world of birds.

Award criteria.—The William Brewster Memorial Award consists of a medal and an honorarium provided through the endowed William Brewster Memorial Award of the American Ornithologists' Union. It is given to the author or coauthors (not previously so honored) of the most meritorious body of work on birds of the Western Hemisphere published during the 10 calendar years preceding a given AOU meeting.

News from Ichthyology

In late October, Tim Sosa (PhD student at the University of Chicago and The Field Museum) visited the fish collection to examine specimens for his dissertation research.

LSUMNS Ichthyology Undergraduate researcher **Yue Li**, in addition to her research project, has been helping us catalog and incorporate a series of Louisiana fishes in backlog into the collection. She has already made it through nearly half of the specimens(!) and we hope to complete this in early spring.

November 4-7, **Caleb McMahan** (PhD student, LSUMN Ichthyology) was invited to give a keynote address at the Latin American Ichthyology Congress in Antigua, Guatemala. His talk was titled "Diversification and Biogeography of Neotropical Fishes." Many thanks to Dr. Ferreyra and the College of Science Dean's office for their support for this travel to this conference.

Ancient Mounds and Artifacts

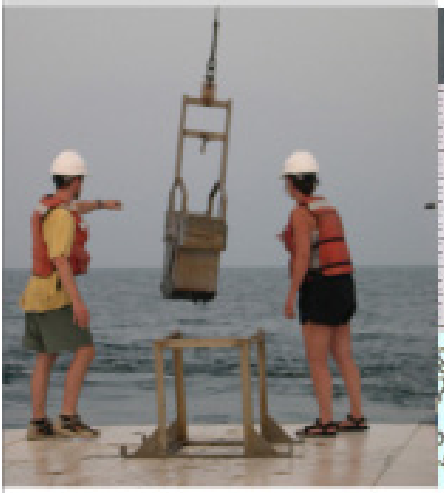
On October 18 and 25, 2013, **Dr. Rebecca Saunders** talked to 108 5th graders and two groups of 55 6th graders (respectively) about the LSU Mounds. Topics included: when the mounds were built, what the societies that built the mounds were like, what the mounds were used for, and how important it is to take steps to preserve the mounds for the future.

Photos: **Dr. Saunders** teaching 5th and 6th graders about "durable reflecions of transitory societies."

MINI-CURSO

Ecology and Geology of Foraminifera

Prof. Dr. Barun Sengupta (Louisiana State Univ., EUA)



Vagas limitadas !

18 a 20 de Junho de 2013

Com certificado!

Pós Graduação em Geodinâmica e Geofísica (PPGG/UFRN)

INSCRIÇÕES: geofis@ccet.ufrn.br

Lecture 1. Introduction to Foraminifera. Why do we study them? What are the various kinds?

Lecture 2. Environmental controls on populations. Tolerance to oxygen stress. Monitoring hypoxia.

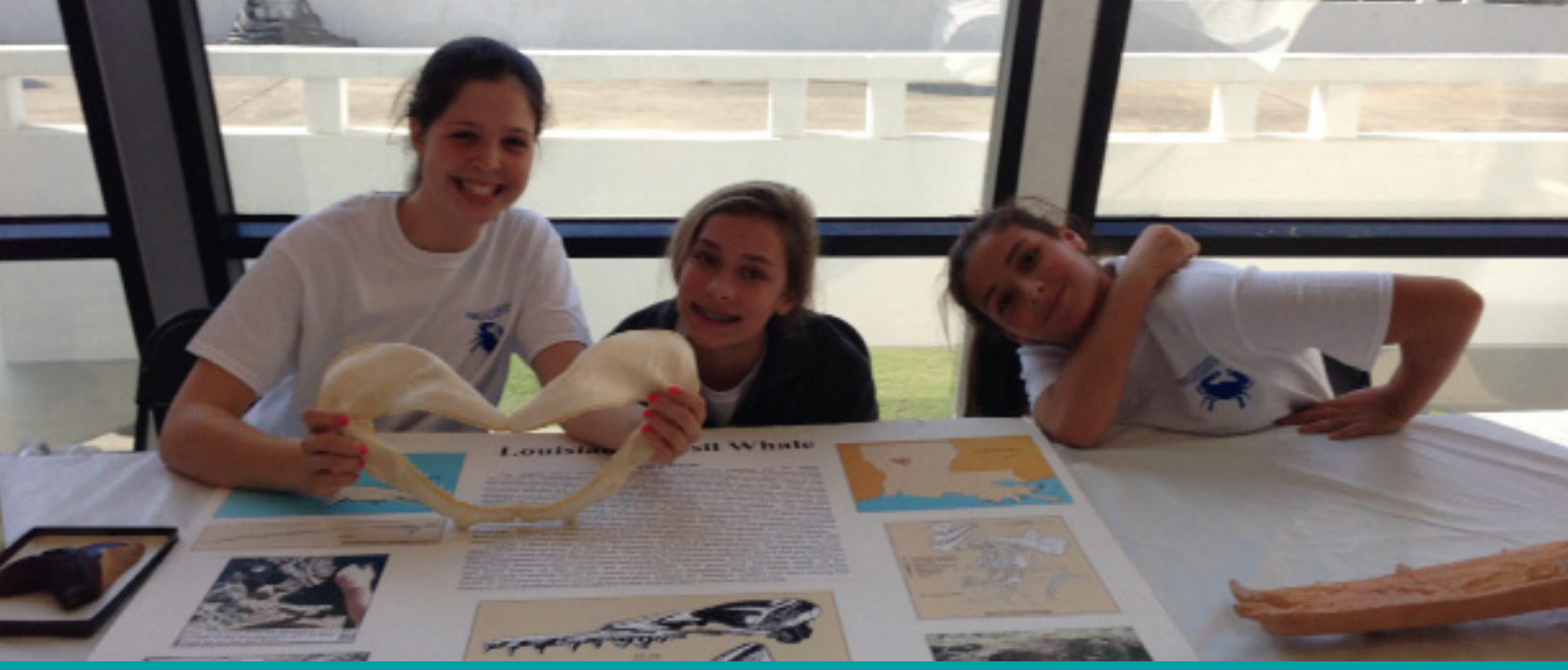
Lecture 3. Geological history. Use of Foraminifera in Petroleum exploration.

Barun Sen Gupta, Professor Emeritus and retired Adjunct Curator of Fossil Protists and Invertebrate Paleontology, was invited to teach at Universidade Federal Do Rio Grande Do Norte in Natal, Brazil, in summer 2013. He taught the short course Ecology and Geology of Foraminifera.

Photos:
Above: Barun Sen Gupta and participants in foraminifera short course, Natal, Brazil.
Page 14: Advertisement of Barun's short course posted by UFRN.
Below: Fieldwork off the coast of Brazil.

OCEAN COMMOTION

The Louisiana Sea Grant College Program proudly hosted their annual Ocean Commotion which took place October 22, 2013 at the Pete Maravich Assembly Center. A grand total of 1710 students attended this year along with 354 teachers and chaperones. Exhibits are provided by LSU researchers and public and private organizations. The Primary purpose of Ocean Commotion is to give students the chance to learn about and touch the products and inhabitants of Louisiana's coastal waters.



Photos from Ocean Commotion:
Page 16 top Left: **Valerie Derouen, Prosanta Chakrabarty**, and **Bill Ludt** show students fish samples.
Page 16 bottom Left: **Valerie Derouen** talks to students about marine life.
Above: Cathryn Coulter, Zoe Bart, and Manon Bart (LSU Laboratory School) volunteered at the event to teach children about sharks and whales, including this *Basilosaurus* whale found near Shreveport, LA.

DEAN'S CIRCLE

Photo taken at the Dean's Circle Dinner at Juban's. **Dr. Fred Sheldon** (Left) attended as a member of the Dean's Circle; **Dr. Robb Brumfield** (Center) represented the Museum as Director; **Dr. Prostanta Chakrabarty** (Right) gave the guest lecture.

Making a Big Splash...
...with Louisiana Fishes

New exhibit NOW OPEN!
Thank you to the LA BoR and for your support!

Giving Form to Support the Museum of Natural Science

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