

May 2010

Volume 28, Issue 2

Letter from the Director...



H--The Horrible Heffalump

Sometimes on slow afternoons late in the week, when my energy is sapped, I gravitate to the Internet to check out the "H-Indexes" of my academic colleagues. "H" is the number of papers someone has published that have been cited at least H times. My H-index is 19—I have 19 papers that have been cited more than 19 times. I have a couple of papers that have been cited more than 100 times, but each of these contributes only once to my H-index. I have lots of papers that nobody ever cites; these contribute nothing to my H-index. (Let's face

it, if you write papers that no one reads, they probably don't advance science a whole lot.) A prolific and creative scientist might have an H-index of 40 or 50, and the number grows after he or she dies, provided folks keep citing the papers. (You can check H-indexes at http://hview.limsi.fr/.)

At LSU, some departments now use the H-index to help gauge faculty productivity. It is a reasonably good measure of the combined quantity and quality of a biologist's or geologist's output. However, there are some important caveats. If a professor writes books instead of papers, these are not included in many citation databases and, thus, yield no H-index credit. If a professor does not tack his or her name on every paper that leaves the lab, that professor's H-index will lag behind those of colleagues who do. If a professor cites his or her own work *ad nauseam*, the H-index is inflated. And so forth.

This brings me to the point. The Museum has several curators who have pretty good H-indexes, but their numbers do not come close to measuring the quality of their contributions to science. Take **Van Remsen**, Curator of Ornithology, for example. As far as the H-index goes, Van has been shooting himself in the foot for 30 years. He encourages his grad students to develop their own research projects and to publish copiously by themselves. As a result, his students are remarkably productive, independent, well trained biologists and in high demand on the job market, but the Remsen H-index has languished. He also has devoted a large portion of his career to checklists and books that are extremely important to ornithological infrastructure, but for which he receives little credit. Recently he wrote a 100 page chapter covering 236 species of Neotropical ovenbirds for the *Handbook of the Birds of the World*. Each of those 236 species accounts amounted to a separate essay. This huge contribution will undoubtedly be cited hundreds of times, but those citations will be sucked into the great database-void and never seen again. Everyone knows that professors must publish or perish, but when it comes to recognition it's not quite that simple.

Fred Sheldon

Museum of Natural Science Director and

Frederick H. Sheldon Director, George H. Lowery,

Curators

Jirector, George H. Lowery, Jr., Professor, and Curator of Genetic Resources

Christopher C. Austin Curator of Herpetology

> **Robb T. Brumfield** *Curator of Genetic Resources*

Prosanta Chakrabarty *Curator of Fishes*

Mark S. Hafner Alumni Professor and Curator of Mammals

J. V. Remsen John Stauffer McIlhenny Professor and Curator of Birds

> **Rebecca Saunders** *Curator of Archaeology*

> > Judith A. Schiebout Curator of Vertebrate Paleontology

Sophie Warny Assistant Professor of Palynology and Curator of Education



LSU Ornithology Expedition 2009: Tumbes, Peru

by Jacob Saucier

Ornithologists from the Museum of Natural Science spearheaded an expedition into the Tumbesian region of Northwestern Peru in the summer of 2009. This biogeographic region spans the dry forests of the Pacific coast from La Libertad, Peru, to just north of the Bay of Guayaquil in southwestern Ecuador. The region's characteristic mixture of habitats, seasonal climate, and biogeographic history make it one of the richest areas of bird endemism on the planet and a globally recognized area of high conservation concern. In addition, the region represents the only place where one can find many bird species native to Central America and northwestern South America, within the borders of Peru.

The 2009 LSUMNS expedition focused primarily on the area within the borders of the Tumbes Department of Peru. César Sánchez, a Costa Rican native and one of the museum's newest Ph.D. students, was chosen to lead the expedition team. Dr. Thomas Valqui, founder and director of the Centro de Ornitologia y Conservación (CORBIDI) in Lima and an LSU Ph.D. graduate, shared many of the responsibilities of leading, planning and scouting, which made the trip possible. Other team members included LSU undergraduate alumni Phred Benham and Jacob Saucier; Smithsonian field biologists Brian Schmidt and Chris Milensky; long time collaborators Gregory, Donna, and Jonathan Schmitt of New Mexico; and several experienced Peruvian field hands (Abraham Urbay, Walter Vargas). Also, COR-BIDI's Peruvian contribution made up a formidable contingent consisting of a host of talented and enthusiastic Peruvian biologists and students (Diego Garcia Olaechea, Sheila Figueroa, and others) along with several mammalogists and herpetologists.

The expedition spanned the summer months, from late May to late July. The team arrived in the Tumbes Department at the end of the region's wet season and the beginning of its dry season. As a result, many of the rivers and streams in the area were still swollen, and many trees, such as the exotic looking *Ceiba trichistandra*, were still almost fully foliated. These conditions would change slowly but noticeably throughout the summer. **Dr. Valqui** had done a fine job of setting up the team with a small beachside camp next to the town of Zorritos. This site would also serve as the expedition's base of operations from where excursions would be launched into the surrounding areas. These excursions ranged from on-foot treks of the surrounding coastal habitat, to daylong forays into the outlying valleys and foothills. More ambitious multi-day and multi-week satellite expeditions were launched into farther and more geographically challenging sites in the surrounding Amotape mountain range. These sites included El Caucho Biological Station, the Campo Verde border outpost, and the El Barco mountain area; all within the Cerros de Amotape National Park, which constituted mini-expeditions within themselves.

Tumbes' diverse range of habitats (deciduous forests, arid coastal scrub, dry foothills, coastal mangroves, and montane humid forest) resulted in an exciting and everchanging aspect to the expedition. Once established, the expedition team was eager to go about recording and collecting representatives from the local avifauna. The area had an impressive bird roster that included a substantial component of endemic specific and subspecific taxa, such as the Rufous Flycatcher (Myiarchus rufus) and Collared Antshrike (Thamnophilus bernardi) of the drier foothills, and mangrove specialties such as the distinct Tumbes form of the Clapper Rail (Rallus longirostris) and Rufous-necked Wood-Rail (Aramides axillaris). The more humid deciduous forests of the Amotape Mountains were home to other feathered gems such as the Gray-and-Gold Warbler (Basileuterus fraseri), Henna-hooded Foliage-Gleaner (Hylocryptus



LSU alumni **Jacob Saucier**, **Phred Benham**, and Sheila Figueroa from CORBIDI hike the trail to Cerro El Platano camp.



erythrocephalus), and the Ochraceous Attila (*Attila torridus*), just to name a few. A great deal of time was spent exploring these montane forests due to their relative species richness and the exciting prospect of documenting range extensions for birds from nearby Ecuador.

Over the summer the expedition team collected more than 2,000 bird specimens, making it one of the most prolific expeditions in LSU history. Furthermore for several species no recent specimens were available. Indeed the expedition succeeded in making significant changes to the known bird distribution of the area. A total of 242 species of birds were either collected or recorded in the Department of Tumbes during the expedition. Of these, 26 provided the first documentation of species previously observed but not collected in Tumbes, and nine represented the first documentation of species previously observed but not collected in Peru. Moreover, one species collected was a new addition to the known avifauna for the country: the Rufous-tailed Hummingbird (*Amazilia tzacatl*). The specimens themselves have been divided evenly and will be housed at CORBIDI in Peru and LSUMNS here in the United States. Specimens from such an endemic-rich area will be a solid contribution to the diversity of taxa represented in ornithological collections. The findings of the expedition are also an invaluable asset in emphasizing the importance of conserving such unique ecosystems as those found in Tumbes. The expedition was also a great adventure for its participants, veteran and novice alike, who were filled with priceless experiences and memories that will last a lifetime, from a truly unique place in tropical South America.



The west-slope form of the White-backed Fire-eye (*Pyriglena leuconota*). The western populations of certain species are poorly represented in museums.



The great singer Spotted Nightingale-Thrush (*Catharus dryas*), was restricted to the more humid areas of the Tumbes department.

Peru Expedition Report from New LSU MNS Graduate Students

By Michael Harvey

The family of Ashéninka villagers, returning over the mountains from a fishing trip to the Ucayali River, must have been entirely baffled by the hysterical screams erupting from down-slope. Sprinting uphill past them to get back to camp, I couldn't resist the temptation to stop and show the bewildered faces the object of our revelry. As I dusted away some of the sawdust coating the bird's feathers, I again felt a burst of exhilaration as the red cap, red breast band, and black-and-white plumage of a handsome little barbet (a Neotropical bird related to the toucans) were revealed.

This barbet closely resembled the Scarlet-banded Barbet (*Capito wallacei*), spectacularly discovered in the Cordillera Azul in 1996 by a team from the LSU Museum of Natural Science. Even in the field, however, plumage



Mike Harvey, Ben Winger and **Glenn Seeholzer** (from left to right) in the Gran Pajonal of Peru.

differences were evident that readily distinguished the bird we had just found from the Scarlet-banded of the Azul. This exciting discovery was just one of many interesting finds during a three-month expedition to the Gran Pajonal and southern Cerros del Sira, a highland region east of the Andes in central Peru.

Ben Winger, **Glenn Seeholzer**, and I had spent much of our last two years as undergraduate students at Cornell University planning and fundraising for this trip. We teamed up with Daniel Cáceres, a Peruvian student, with the goal of conducting a thorough ornithological inventory of all habitats in the region. Between August and November of 2008, we intensively surveyed birds at five field camps using observational surveys, audio recording, mist netting, and the collection of voucher specimens and tissues.

In the isolated savannas of the Gran Pajonal, we found a unique community of grassland birds that included some species isolated from their nearest known populations by almost 400 miles. The cloud forest of the Cerros del Sira harbored a surprising diversity of Andean birds, including a number of rare and poorly-known



A new taxon of Capito barbet discovered by the team in the Cerros del Sira of Peru.

species. For instance, we were only the third party of ornithologists to have set eyes on the localized Sira Tanager (*Tangara phillipsi*), and we gathered valuable data on this and many other species in the region.

Even though **Glenn** and I had not yet laid foot on the steps of Foster Hall, the home of the LSU Museum of Natural Science, we were all inspired to conduct this expedition in large part by the decades of ground-breaking field work conducted by the museum in remote parts of Peru. As beginning graduate students in the Museum of Natural Science, Glenn and I both hope to continue to pursue pioneering field work while conducting research on the evolution of Neotropical birds. Keep an eye out for additional forthcoming popular and scientific articles chronicling the results of our 2008 Peru expedition.

Book Donation in Honor of John Gee





A large collection of ornithology and botany books were recently donated to the museum in honor of **John Gee**, by his wife, Carol Edwards. This donation included autographed, first editions of "Birds of California," "Birds of Old Cape May" and many volumes on Africa, India and Pakistan. **John** collected birds for the museum and worked as a field man for LSU when he could. He thought very highly of his early days in Louisiana and of **Dr. George Lowery**, founder of the

museum and a renowned ornithologist. **John** considered himself a bird watcher since he was 10 or 12 years old, but credited **Dr. Lowery** for turning him from a casual birder into a real ornithologist.

John graduated from Princeton with a degree from the Woodrow Wilson School of Diplomacy. He worked in south Louisiana as a landman for Texaco in the mid-1950s until the early '60s. When John and his family moved to Louisiana, people suggested he introduce himself to Dr. Lowery, but he was too shy. They later met while out birding and Dr. Lowery became like a second father to John. Dr. Lowery convinced John to write detailed reports and collect the birds he cherished, which he continued to do all his life.

Later **John** transferred to the international scene where he represented a group of oil companies and negotiated with foreign governments for the right to drill for oil. He lived in Australia, Holland, Nigeria and Mauritania from the early '60s until 1974 and was able to bird in various countries. While making his rounds of potential oil lands or meeting with rural families for drilling rights, **John** always carried binoculars.

John collected birds for the museum during his time in Africa and also used a two week Texaco vacation to go to the Yucatan to shoot birds. He found it frustrating that there were not proper field guides with pictures for Africa. He used Bannerman's books on various parts of Africa and Dekeysr's bird books to help him identify birds. Both of these sets have been graciously donated to LSU. **John** had a passion for collecting ornithology and botany books as well as other types of books and held on to these forever. In his later years, **John** and Carol went on two to four birding trips per year. He finally saw 75 percent of the birds in the world, many he found and identified on his own.



Above: Carol and **John** in 2005. Left Picture: **John** allowed wildlife rescue to release animals on his rural property with permanent water in the Hill Country of Texas.



On Saturday, April 24, LSU will open its doors to the public for LSU Day, a free, fun-filled day of exploration and discovery, highlighted by performing arts showcases, tours and exhibitions showing off LSU's rich history. LSU Day is one of the many signature events taking place during 2010 as part of the University's Sesquicentennial Celebration, recognizing LSU's 150 years of service in the realms of education, research and community service.

The day's events will begin with an opening ceremony at 11 a.m. on the main stage, located on the LSU Parade Ground, and conclude at 4 p.m. Centered in the heart of the LSU campus — including the LSU Quadrangle, Parade Grounds and numerous colleges — LSU Day events will highlight the University's achievements in athletics, research, the arts, academics and community outreach, and will also provide a sneak peek of what this world-class institution has to come.

The LSU Museum of Natural Science will be participating in LSU Day, offering visitors a chance to explore the treasures of the Museum in Foster Hall! Visitors can search for animals and artifacts in our displays, visit the first Mike the Tiger, and participate in hands-on activities.



Tentative proposed activities:





Pollen Grains

Pollen is everywhere, but does anyone know what it looks like? We'll explore what pollen grains do and why it is important.

Volcanoes

We will demonstrate how lava flow works and show the types of rocks that are formed after volcanic eruptions.

Birds' Feathers

Why do birds have feathers? We'll look at a wide variety of birds' feathers and try to understand what is their primarily use on the basis of morphology.

Amazing Fish

Have you ever seen a shark up close? We will explore the skin of a shark.

Louisiana Archaeology

Learn about the Native Americans of Louisiana and their pottery.

For more information on LSU Day and other events taking place as part of LSU's Sesquicentennial Celebration, visit www.lsu150.com.

LSU's Borneo Research Receives a National Geographic Society Grant

The Museum's research on Bornean bird evolution got a great boost from the National Geographic Society with a generous grant for field work on forest bird hybridization. The money will help students and staff from LSU and the Universiti Malaysia Sarawak collect forest bird species that differ between the Malaysian states of Sarawak and Sabah in north Borneo. A classic example of the difference is the beautiful White-rumped Shama (*Copsychus malabaricus*) in western and southern Borneo and the White-crowned Shama (*C. stricklandii*) in northernmost Borneo (see attached map). The location of the contact zone between these taxa is not well known, nor is the degree of hybridization between them. It will be our job to locate the contact zone, determine the extent of hybridization for these two species and several others, and use this information to help reconstruct the evolutionary history of Bornean forest birds.



Middle: Map of Borneo depicting the contact zone between Sabah's forest birds and other birds on Borneo. Top Left Picture: A White-rumped Shama. Photo by Doug Wechsler of VIREO Top Right Picture: A White-crowned Shama. Photo by Doug Wechsler of VIREO Bottom Left Picture: **Fred Sheldon** and students and staff from the University Malaysia Sarawak. It was taken in January 2010 at the camp site. Bottom Right Picture: Camp site at Mt. Pueh, Sarawak.

Collecting Fishes In Vietnam by Prosanta Chakrabarty and Matt Davis



In late January to early February of this year, my postdoc Matt Davis and I traveled to Vietnam to collect some marine fishes from markets. Every year I try to make a trip to Asia to collect rare fishes for the LSU fish collection and for phylogenetic study. The large open markets of Asia allow us to collect a diverse number of species in a relatively short amount of time. Instead of hiring a trawler (upwards of \$10K a day) it's easier to hang out on the docks to grab some freebies off the boats. Typically we collect early in the morning and spend the rest of the day processing the fish (voucher, label, tissue sample, preserve, etc.). Because of the great quantity of fish that we were dealing with it really did take nearly the entire day to process the specimens from each morning's haul. On this trip we collected roughly 400 different marine species and more than 2,000 specimens in two weeks. We also had a couple of days to do some fresh/ brackish water collecting on the Mekong Delta. The Mekong is one of the world's oldest and oddest rivers and is home to car-sized catfish, giant stingrays, and other behemoths of the fish world.

Vietnam is a long narrow country that spans several biotic regions including the Mekong Delta, South China Sea, and Gulf of Thailand. We saw long stretches of amazing beaches, and miles of huge inland sand dunes directly abutting verdant green rainforest. It is also culturally diverse. We saw signs of socialist pride (the old Soviet hammer and sickle

was ubiquitous) and French imperialism (baguettes and wrought iron abound), mixed with an Indo-Thai-Chinese culture found nowhere else. The people were extremely courteous and amiable, sometimes too much so, making for a fun cultural experience. Matt in particular was gawked at constantly for being a giant white man with funny colored straight hair.

Matt and I traveled with four Taiwanese colleagues that had previous experience collecting in Vietnam. It was my first time traveling in Asia without locals to help translate (as the Taiwanese spoke no Vietnamese). This made for some funny and frustrating situations.

During our trip we traveled to Ho Chi Minh City (Saigon), and the beautiful beach towns of Mui Ne and Nha Trang. The first two things that stood out about Ho Chi Minh City included the amazing diversity of food and the incredible numbers of scooters - the many, many scooters. These scooters zoomed past and parted around you like a school of fish. For the most part there were no traffic signals or even traffic patterns, just a free for all of scooters, taxis, and buses. Many large cities in Asia have similar numbers of scooters on the streets, but they all had some semblance of organization. Our Taiwanese colleagues, who ride scooters in Taiwan guite often, would not rent scooters in Ho Chi Minh, and often remarked how "they drive crazy here." To cross a street in Vietnam you have to walk deliberately into the non-stop flow



of traffic keeping a steady pace so that the traffic will move around you. Amazingly it works, although I thought each time that I would be maimed. When we left Ho Chi Minh we ended up on scooters ourselves to travel between fishing ports. Even in these less populated areas weaving in-and-out of traffic and speeding on the "wrong side" was still a common occurrence.

After a while you get used to it, and even I went out on my own a few times with my little rented "motobike" to relax and blow the smell of fish out of my clothes.

The markets we visited (more than 20 in all) were mostly small artisanal fisheries from local fisherman collecting on the South China Sea. The fishes that we were collecting were not always being sold at the market but were often part of the rubbage pile of bycatch. As in most cases the bycatch piles are chock full of strange fishes that no one would purchase for their dinner. It was in these piles that we collected odd silvery eels, fatheaded jawfishes, fleshy dark deepsea fishes, and numerous other oddities that we ichthyologists crave. The markets themselves were also remarkably diverse matching the diets of the locals. You know if the Vietnamese weren't eating them that the fish must look very strange. **Matt**, who the Taiwanese referred to as "Max" the entire trip, was after some of the fish he studied during his dissertation, in particular the lizardfishes. Lizardfishes include cigar-shaped predatory fishes that dwell along the bottom of the continental slope

to depths of around 200 meters. Of particular note were specimens collected of the only mesopelagic lizardfish genus *Harpadon*, commonly known as the "Bombay Duck" and found only in the Indo-Pacific.



(The nickname comes from Indian restaurateurs trying to make the fish sound more appetizing to British diners.) Dried *Harpadon* is considered a delicacy in parts of Asia, and indeed we often spotted hundreds of dried out specimens lying on the street, a sight that would make **Matt** cringe each time. In the end we managed to procure quite a few fresh specimens, including a potentially new species that exhibits sexual dimorphism.

Near the end of the trip we went out collecting on the Mekong Delta. It took some work getting to the Mekong and hiring a boat but once aboard we would ask our driver (ask as in --point to a boat and to a picture of a fish) to take us toward the small fishing boats trawling the Mekong. It was by trading with boatman that we collected some of the most interesting freshwater and brackish water specimens. Nearly every specimen collected is new to the LSU collection, and some are certainly new to science. The products of the trip will be additional materials for our on going projects on the family level phylogenies of some notable deepsea, bioluminescent, and otherwise poorly studied Western Indo-Pacific taxa.





Matt with Harpadon.

Special Saturdays



Bird Adaptations

The Museum of Natural Science held a Special Saturday event on Jan. 30 that featured special guest **Gustavo Bravo**. **Gustavo** is a Ph.D. candidate from the LSU department of Biological Sciences, who is currently conducting research on evolution, systematics, and ecology of neotropical birds. The young scholars learned that birds have different body structures tailored to fit their lifestyles and environments. Gustavo explained how to identify what a bird eats and where it lives just by looking at its body. The children used the concepts they had learned to create bird hand puppets with different shapes and sizes of beaks and wings depending on its various uses.

Sandwich Formations

Another Special Saturday event was held on Feb. 27 with special guest **Ruben Cisneros**. **Ruben** is a M.S. candidate from the LSU department of Geology and Geophysics. His research is focused on determining the origin and provenance of beach ridge and modern beach sands from western Mexico. **Ruben** educated the children about how sedimentary rocks are formed due to weathering/erosion, transport and diagenesis. They were able to see how sedimentary rock formations resemble the stacking pattern of a sandwich; where the rock layers' age increases from bottom to top. The children constructed their own sedimentary sequence using white bread (as limestone), wheat bread (as sandstone), jelly (as shale) and gummy worms/ chocolate chips (as fossils).

Rocks Tell a Story

Continuing with the geology theme, another Special Saturday event was held on March 27 that featured special guest **Lee Foersterling**. Lee is a M.S. candidate from the LSU department of Geology and Geophysics and currently conducting research on Antarctic biostratigraphy. **Lee** took the children back in time to imagine what the earth looked like millions of years ago. They learned the principles of plate tectonics and the formation of igneous and metamorphic rock. The children looked at and examined rocks of igneous and metamorphic origin. The children built clay volcanoes and made them erupt by mixing baking soda and vinegar. The mixture produced a chemical reaction that resembled lava flow.



Welcome Matt!

Matthew Davis is a new postdoctoral fellow in the MNS and Ichthyology division working with **Prosanta Chakrabarty**. He began in January 2010, and received his Ph.D. from the University of Kansas. **Matt's** primary research focuses on exploring the evolutionary relationships of teleostean fishes, including speciation and diversification in the deep sea. He is currently working on the systematics of lizardfishes, including the evolution of simultaneous hermaphroditism as a reproductive strategy and the timing of habitat shifts among the deep-sea members of this clade. His additional work on deep-sea fishes includes studying the evolution of bioluminescent photophore patterns in the lanternfishes.



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The LSU Museum of Natural Science Education Office 119 Foster Hall Baton Rouge, LA 70803

Printing of this publication is sponsored by the Friends of the Museum of Natural Science. Layout design and editing by Mary McNeely.

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