Museum Quarterly

LSU Museum of Natural Science

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Letter from the Director...

A NEW TROPHY FOR LSU

About a week ago, an editorial appeared in the Baton Rouge *Advocate* extolling LSU's dramatic victory in the Birding Rally Challenge Peru - 2012, a highly prestigious international bird watching competition. (Details about the Challenge appear later in the Newsletter.) The editorial also described the trophy won by LSU in the competition. Normally, such a description would not make very interesting reading, but this is a special case.

The trophy, the first of its kind, is known as "The O'Neill Trophy". It is named after legendary LSU ornithologist **John P. O'Neill**, who has led expeditions to Peru since the early 1960s and has discovered an impressive number of new species. Dr. O'Neill obtained his Ph.D. at LSU under Boyd Professor **George H. Lowery, Jr.**, and served as a curator and the director of the Museum of Natural Science. He is also an author of the monumental field guide, *Birds of Peru*. Most importantly for this story, Dr. O'Neill discovered the bird depicted by the trophy, which he and Dr. Lowery named (in 1966) the Black-faced Cotinga (*Conioptilon mcilhennyi*).

Now, if you are paying close attention, you will notice some interesting things about the bird's scientific name. Not only is it a new genus, *Conioptilon* (I am sure everyone noticed that!), but it also includes the familiar Louisiana name *mcilhennyi*, as in the McIlhenny family of Avery Island of Tabasco sauce fame. More specifically, the bird is named for Mr. **John ("Jack") S. McIlhenny**, the much beloved philanthropist, who was a tremendous supporter of LSU expeditions. He loved nothing better than helping students head to the wilds and discover new things.

Thus, the trophy is a fitting tribute to some of the men who founded the Museum's remarkable ornithology program. Winning the first such trophy was especially important for LSU, and we commend our team: **Mike Harvey, Glenn Seeholzer, Ryan Terrill,** and **Paul van Els.**

Fred Sheldon

Left to Right: Mr. Jack McIlhenny; *Conioptilon mcilhennyi* (trophy); John O'Neill (back in the good old days)

The BIG Year

So it's 5:30 in the morning, but you have to stay sharp to find that elusive black-faced continga. Or as it is not as well-known, *Conioptilon mcilhennyi*.

If the latter name rings a bell, it is because the bird in the South American jungle is named for the McIlhenny family of Avery Island. The family has supported LSU research into birds for many years.

Four LSU graduate students recently won the grand prize in a birding contest in Peru. They identified 493 species in the competition, for which the prize trophy depicts the black-faced continga. It was first discovered in Peru by an LSU museum curator in the 1960s, part of a long tradition of LSU's work in this field.

The four graduate students — **Glenn Seeholzer, Michael Harvey, Ryan Terrill** and **Paul van Els** — competed with a U.S. team from Cornell University in New York, and other teams from around the world. The Amazon basin and the Andes mountains are particularly rich in species for birds.

The competition — in nice and plush conditions, Seeholzer said, because of its sponsorship by the Peruvian government — is part of an effort by Peru to encourage eco-tourism. As the McIlhenny reference indicates, Louisiana is also a significant destination for birdwatchers from around the United States and the world. It is a significant niche in the world tourism market.

The trophy is a reminder that LSU's role in Louisiana is only part of what a great university should be. Its classrooms should be the entire world. These students are carrying on in a great tradition for LSU.

The winning team: **Mike Harvey** holding *Conioptilon mcilhennyi;* **Ryan Terrill; Paul van Els; Glenn Seeholzer**

A Summer of Leeches

By Clare Brown and Vivien Chua

In May of 2012 our intrepid team (**Vivien Chua, Clare Brown** and **Fred Sheldon**) fled the Louisiana heat for the cooler equatorial climes of Malaysian Borneo. After a few hectic days gathering supplies in Kuching, the capital of the state of Sarawak, we drove to our first site in "the backbone of Borneo," a mountain chain that runs down the center of the island. The reason for our expedition was to obtain bird specimens to be used in biogeographic studies of birds in Borneo's montane forest. The avifauna of mountains is distinct from that of the lowland forest, and significant intraspecific genetic divergence may occur among birds on different mountains. Such divergence is likely a result of the isolation of mountain peaks from one another, with the mountain tops acting as biogeographic islands. During glacial cycles, however, changes in climate and sea level and the corresponding changes in the elevation of montane forest likely allowed at least some montane birds to move more freely among mountain regions. Fred and his former graduate student **Rob Moyle**, who is now an associate professor at the University of Kansas, have been studying the evolution of Bornean mountain birds since the late 1990s.

Our first destination, Gunung (Mount) Penrissen (approx. 1300 meters above sea level), is an isolated peak on the Malaysia-Indonesia border in the western part of Borneo. Prior to our trip, there had been no modern collection of birds on Penrissen, so sampling there would allow us to fill in gaps in our understanding of the processes underlying montane bird diversity in Borneo. Field work on Penrissen, however, is complicated by a lack of road access. The only road to the mountain itself is controlled by the Borneo Highlands Resort, a golf club perched at about 800 meters on the mountain side. In order to work on Penrissen, we had to stay at the resort, which we did by setting up "camp" in one of its cabins. This made for an interesting field experience. Every morning after we opened our mist nets, the resort staff picked us up and took us to the lodge for the breakfast that was included with our cabin. After this civilized beginning to every day, our daily routine consisted of checking, setting, and moving mist nets along the rugged trails through the secondary forest surrounding the resort, and preparing bird specimens in the cabin. Unfortunately, we weren't able to reach higher elevations, and the montane birds largely eluded us, but we produced a nice collection of sub-montane and lowland species, including LSUMNS's first specimen of Banded Broadbill (*Eurylaimus javanicus*) (see page 5). A highlight of the trip was the pair of Black-thighed Falconets (*Microhierax fringillarius*) that kept us company in a snag behind the cabin. In addition to birds, we had encounters with invertebrates including giant pill bugs, enormous rhinoceros beetles, and vividly colored cicadas that shrieked while we untangled them from our nets. We were also lucky to see a couple of Borneo's famous flying vertebrates - flying geckos (see page 5) were attracted to the insects swarming our lights at night, and a flying lizard landed in one of our mist nets. We spend 12 days at this site, and then headed back to Kuching to prepare for the next leg.

Gunung Pueh (approx 1200 meters above sea level) is another isolated mountain, and is the westernmost peak in

Photo: The "camp" at Borneo Highlands Resort

Borneo. While Fred had previously collected there at lower elevations, he wanted to return to sample birds higher on the mountain. After another whirlwind couple of days replenishing supplies in Kuching, we headed to a village called Kampung Sebako, slightly above sea level at the foot of Mount Pueh. We camped and collected birds in the secondary forest near the village. This camp had none of the comforts of Borneo Highlands, but it more than made up for it with a beautiful stream running by our campsite, and with a forest filled with the otherworldly calls of Black Magpies (*Platysmurus alterrimus*). After only a few days at this site Fred climbed up the mountain to collect at higher elevations with local guides and students from the Universiti Malaysia Sarawak, while we returned to Kuching to join another of Fred's students, Dency Gawin. We spent a couple of weeks helping Dency collect samples in a hybrid zone for her dissertation in northern Sarawak. We worked mostly in agricultural habitat in and around kampungs (small villages), which allowed us to spend more time interacting with the local people than we are normally able to do on an expedition.

Meanwhile, David Winkler, a professor at Cornell University and one of Fred's longtime collaborators, had spent the previous year organizing an undergraduate expedition to Tawau Hills Park in the southern part of the state of Sabah. Vivien and Fred had provided substantial organizational help to the Cornell group, and Dr. Winkler extended an invitation to us to join the trip while we were in Borneo. We reunited with Fred in Kota Kinabalu, the capital of Sabah, and headed for Tawau Hills to meet the Cornell folks. One of the major aims of the Cornell trip was to study the natural history of broadbills, one of the oldest and most bizarre families of passerines. This dovetailed nicely with Fred's need for a specimen of Dusky Broadbill (*Corydon sumatranus*), an enigmatic colonially nesting species. Fred and LSUMNS professor **Robb Brumfield**, along with a number of LSU alumns now at other institutions, were recently awarded an NSF grant to study the evolutionary relationships of the suboscine passerines, including broadbills. Prior to

Top: Fred and Clare at our camp-side stream at the foot of Gunung Pueh
Bottom: Clare (blue shirt) with the Cornell group, learning to radio telemetry techniques

our trip, no modern samples of Dusky Broadbill existed, and the likely basal relationship of this species to the other suboscines made the acquisition of a specimen a major priority.

Tawau Hills was the first time that either of us had been in Bornean primary lowland forest, and it was amazing. The jungle was full of cackling and hooting hornbills, gibbon choruses, mournful babblers and incessantly calling barbets. This forest is also home to elephants, orangutans, slow lorises, mouse-deer, and monkeys, among many other wonderful creatures. Unfortunately, the rich mammal diversity is much appreciated by leeches (see below), the notorious scourge of Southeast Asian jungles. For us, Tawau Hills was where the leeches, apparently unsated by their ready access to non-human mammals, came into their own. A leech attaches undected, sucks blood until engorged, and then drops off and creeps away, leaving a wound that continues to bleed for hours due the anticoagulants the leech secretes. With fourteen people spending most of their time out of the jungle in one house, our living environment was a veritable bloodbath. After a few days at Tawau Hills, Fred returned home to Louisiana, leaving us with the Cornellians. We stayed at a lodge in the park for a few weeks. Here we spent our days exploring the forest, birdwatching, and capturing and banding birds, which was a nice change of pace from the daily grind of collecting and preparing specimens. We were able to take part in radio tracking, tree climbing up to 50 meters into the canopy, and helped the students learn mist netting and bird handling skills. It was great fun to be around a bunch of such enthusiastic and bright undergraduates. The undoubted highlight of the trip, however, was the successful capture of three Dusky Broadbill individuals! We prepared one of the individuals as a fluid specimen with tissue samples (both were firsts for science), and banded and radio tagged the other two, in hopes of tracking the flock to a nest. Having secured a tissue sample of this species for LSUMNS allowed us to leave Tawau Hills with the feeling of a mission accomplished!

Top Left to Bottom Right: LSUMNS's first Banded Broadbill (*Eurylaimus javanicus)*; Vivien with a radio-tagged Dusky Broadbill (*Corydon sumatranus)*; Tiger leeches at Tawau Hills Park; A baby flying gecko at Mount Penrissen

C.S.I. BATON ROUGE

CENEX palynology class discuss the use of pollen at crime scene with New York forensic expert

By Sophie Warny, Assistant Professor of Palynology and Curator (LSU)

The LSU GEOL 4012 class includes lectures, field work, and small research projects on the main types of microfossils. Although the primary focus is on palynomorphs, we also review nannofossils, diatoms, radiolarians and foraminifers. For each microfossil type, we review the value of the fossils in biostratigraphy and in environmental studies. But one class focusses on the use of palynology in forensic. Thanks to Dr. Vaughn Bryant who shared some of his real case studies with me, this class is one of the students' favorites.

This year, in addition to the lecture, we had the chance to have the visit of two forensic experts. First, Andy Lawrence, a PhD student working with Vaughn Bryant at Texas A&M. Andy is also an employee of the Department of Homeland Security in D.C. And in December, the class ended on a high note when Mr. Edward W. Wallace Jr. flew from New York to meet the students and teach them some best practices when collecting samples at crime scenes. The visit was funded by the LSU Stephenson National Center for Security Research and Training (SNCSRT), a leader in providing training on anti-terrorism and counter-terrorism techniques. They regularly supports projects initiated by state and federal law enforcement agencies.

Ed Wallace has served the NYPD for over 20 years and retired April of 2004. During his tenure with the NYPD Mr. Wallace performed various law enforcement duties including, Unformed Patrol, Plain Clothes Patrol, Training Officer, Crime Scene Investigator, and finally Counter Terrorism Investigator. Mr. Wallace held the coveted NYPD rank of Detective First Grade. Mr. Wallace spent 15 years in Crime Scene Investigations and investigated 2649 crimes scenes including both World Trade Center Attacks, the October 2001 Anthrax Attack, and has given testimony as a forensic expert in 393 trials. Mr. Wallace holds certifications in teaching, hazardous materials/weapons of mass destruction, fire investigations, post blast investigations, crime scene investigations, and homeland security. Mr. Wallace has over 26 years of experience as an instructor and has performed numerous training lectures, nationally and internationally, on arson investigations, post blast investigations, crime scene investigations, DNA/biological evidence recovery, WMD/Haz-Mat, and latent fingerprints. Mr. Wallace finished his career with the NYPD as a member of the Counter Terrorism Bureau and upon his retirement from the NYPD, Mr. Wallace became the President of Finest Forensic Consultants, L.L.C., a company that provides expert consultations for forensic investigations and counter terrorism investigations. He has also co-authored two text books on crime scene investigations titled, Crime Scene Investigation, published by Lexis-Nexis Andersen and Practical Crime Scene Investigations for Hot Zones, published by CRC Press.

CENEX students want to thank Mr. Wallace and the Stephenson center for taking the time to share their expertise with the class and teaching them how to follow protocol when collecting pollen and other trace evidence at crime scenes.

Group picture: (second row) Marie Thomas, Kate Griener, Madison Kymes, Sophie Warny, Jason Krause, Jill Bambricks, David Pipkin, and Edward Wallace. (first row): Melissa Auburn, Tara Jonell, Eric Orphys and Corey Shircliff.
Top picture: CSI equipment reviewed during the class (photo: M. Thomas).

Collecting Fishes for a Biodiversity Workshop in Singapore

By Prosanta Chakrabarty

From October 15th to November 2nd last year my PhD student **Bill Ludt** and I traveled to be part of the Singapore Jahore Strait Marine Biodiversity Workshop. I had traveled to Singapore in 2007 to collect but mainly spent all my time at markets where I purchased fish that were being sold. (Market collecting can barely be considered fieldwork, the fish are brought to you after all; however, it is an excellent way to get a lot of diversity quickly and cheaply.) In my previous trip to Singapore I had assumed that this tiny island nation was essentially a giant city with little wildlife or remaining forest. That is why I was pleasantly surprised when I discovered that the workshop would take place on Pulau Ubin, a small island off the northern coast of "mainland" Singapore. Pulau Ubin is almost completely forested except for a few residents, bike paths for ecotourists, and an OBS (Outward Bound School) camp where we stayed most of the time. The island is only 10sq km (about an 1/6 the size of Manhattan) but it is so densely forested that it sustains a large wild boar population that we saw frequently.

This small island is also the location of the last reported tiger sighting (in the 1980s) on Singapore. (A tiger was famously shot under the Long Bar at the Raffles Hotel in 1902, that bar is also the birthplace of the overrated cocktail, the Singapore Sling.) We also saw wild otters, a myriad of colorful birds (including an elusive Great Billed Heron), and of course, lots of cool fish. However, unlike my last Singapore trip we collected most of these fish ourselves and ended up with nearly 2,000 specimens from 250 species. We collected mostly using 15' beach seines, but also using dipnets in mangroves, gillnets, and via trawls on a small ocean research vessel.

This was a different experience than my previous collecting trips. I was invited to collect as the "fish expert" along with international experts in other groups including, bryozoans, anemones, isopods, copepods, etc. In all there were about 20 invited zoologists and dozens of local scientists and volunteers from the Raffles Museum and other local institutions. Each day we would sign up for one of three or four field trips to various parts of the island or mainland. Then we would go on

a well-organized trip to that locality and collect alongside other experts for several hours before being returned to the lab at the OBS camp to sort, ID, photograph, tag and tissue the specimens. Bill and I would not only deal with the samples that we collected but also fishes that others collected for us. In the end we ended up having specimens from over 60 field sites in the nearly three weeks we were there.

The OBS camp was an interesting place. Breakfast, lunch and dinner were served there in a regular schedule and in a regular pattern that we quickly grew tired of. The food wasn't awful but we knew that just over the Serangoon Harbor there was the most delicious food in the world. Mainland Singapore has its own unique cuisine but also serves food from all over Asia. Bill and I savored each Roti Chennai, Chai Tea, and Chili Crab that we could get our hands on.

In the end the trip was a wonderful success. We collected many species that were new to our LSU collections and that are rare in collections outside of Asia. Among the highlights is a specimen of *Coilia*, a bioluminescent anchovy, a highly venomous and dangerous stonefish and several species of archerfishes. The archerfish samples were particularly important. These fish hang out near the surface of the water and spit out a small squirt of water at leaves above them to make insects attached to those leaves fall into the water below. The fish then eat those insects. This unique behavior would make you think they are closely tied to the land but they have a rather wide distribution across several continents. My former labmate at the University of Michigan, Heok Hee Ng, who now works in Singapore and I will be working up the phylogeny of this group in the future.

Besides establishing this collaboration and meeting many international experts this was also Bill's first international field trip. He did an excellent job and he and I will be collecting again in Japan this summer. We can only hope that these future trips will be equally successful.

Top Left to Bottom Right: a highly venomous and dangerous stonefish; an archerfish; a bioluminescent anchovy; **Prosanta Chakrabarty** and **Bill Ludt**

Congratulations Jacob on moving to the Smithsonian!

Jacob Saucier graduated with a bachelors from LSU in December 2008. While at LSU, Jacob went on two expeditions to Peru with LSUMNS and assisted **James Maley** with rail fieldwork in Louisiana. Currently, he is a masters student with one of our former students, **Matt Carling,** at the University of Wyoming. Jacob has been offered and accepted a collections manager job (Museum Specialist) at the Smithsonian! Way to go, Jacob!

"As someone with a lifelong fascination with birds, the research collection at LSU was awe-inspiring. I became passionate about exploring every drawer, and Dr. **Remsen** and the LSUMNS staff were kind enough to allow me to indulge my interest. The inclusiveness and approachability of the LSUMNS community is truly unique. I was just a kid from down the road, and they went out of their way to make me a part of the team."

-Jacob Saucier

Top: LSU Alumni **Jacob Saucier. Above: Jacob Saucier, Matt Carling, and James Maley in Wyoming.**

Ocean Commotion
at the LSU
Pete Maravich Assembly Center

Museum representatives and a group of volunteers hosted a Modern and Fossil Sea Monster exhibition, allowing children to view specimens from various collections of the **Museum of Natural Science**.

Ocean Commotion welcomed ~2,000 K-12 students, plus ~350 teachers and chaperones, representing 32 public, private and home schools from eight parishes.

Congratulations to MNS's Sophie Warny and Kate Griener on having their research featured in the new *Earthquake* exhibit at the California Academy of Sciences!

Happy Holidays from LSUMNS!

Thank you all for making the 2012 LSUMNS Christmas Party a success!
Congratulations to Verity Mathis for being this year's outstanding MNS graduate student!
Photos by Vivien Chua, Manon Bart, and Prosanta Chakrabarty.

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

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Email your material to swarny@lsu.edu or mail to:

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