

# MUSEUM QUARTERLY

# LSU

Museum of Natural Science



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American Alligator (*Alligator mississippiensis*) | Louisiana 2017  
Photo by LSUMNS graduate student Subir Shakya



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## Letter from the Director...

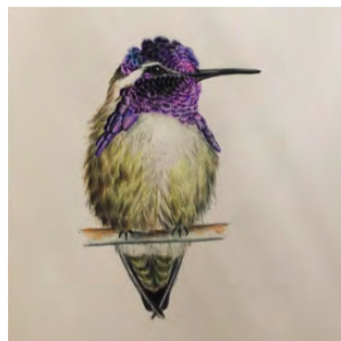


At a recent **Night at the Museum** event I ran into the parents of former Museum undergrad [Katie Faust Stryjewski](#). It had been many moons since I last saw them, but our meeting reminded me of the many stellar undergraduates who gained valuable research, curatorial, and field experiences as undergraduates here. Katie, a Louisiana native, conducted research at the Museum and participated on a collecting expedition to Peru. After graduating from LSU, Katie completed her PhD at Boston University on *Lonchura* finches in New Guinea, and she is now a postdoctoral fellow at Harvard University.

It is our stellar graduate program that gets the lion's share of the attention around here, but the fact is that Museum curators always have a bevy of talented undergrads working in the research collections, the lab, and in the field. Most of the undergrads are working in the Museum to gain new experiences, usually in research. Former Museum undergrads are now working as Museum directors and curators, university professors, wildlife biologists, physicians, and in many other professions. I often hear from alumni that their undergraduate experiences working in the Museum were transformative.

I recall an undergraduate who became proficient at prepping birds because he planned to become a surgeon and wanted to improve his dexterity with scalpel and forceps.

The opportunity to participate in Museum research has also been attracting high school students from out of state. For example, [Phred Benham](#), now a Ph.D. candidate at the University of Montana, is a New Hampshire native who came to LSU for his undergraduate education. This semester LSU freshman Marky Mutchler joined the Museum from Missouri. Marky was the 2015 American Birding Association Young Birder of the Year. She is also an incredible artist and is already learning how to prep birds for a future expedition.



Colored pencil drawing of a Costa's Hummingbird by Museum undergrad Marky Mutchler.

A group of Museum graduate students came to me recently with the idea of formalizing our undergraduate program. It's a fantastic idea that meshes well with my vision for a course in collections-based natural history that interested undergraduates could take early in their undergraduate careers. With these in place, undergrads who love natural history would be able to learn about the Museum and its remarkable collections early in their tenure here, just as I did when I took Van Remsen's ornithology course back in 1989.

See page 29 for a list of Museum publications with undergraduate authors. The impressive list dates back to 1989.



Museum Director John O'Neill, undergrad Tristan Davis, and graduate student Gary Rosenberg on an ornithological expedition to Peru in the late 1980s.



# A Trip up Gunung Besar in Indonesian Borneo

by Subir B. Shakya

Ornithologists have traveled to far out places and collected in all sorts of habitats to catalog the world's avifauna. However, just because these biologists are well-traveled does not mean there aren't pockets of the world they've missed. One such region is the Meratus Mountains in southeast Borneo (South Kalimantan, Indonesia). In April-May of 2017, after a great deal of advanced planning, two LSU graduate students, **Ryan C. Burner** and I, along with our advisor, **Dr. Frederick H. Sheldon**, Ryan's wife, Lindsay Burner, and collaborators from LIPI (our Indonesian counterparts) hiked up one of the Meratus Mountains, Gunung Besar (1902 m), to fill at last a missing page in the world's avifauna.

The birds of Gunung Besar weren't a complete mystery though. In June of 2016, a bird-watching group including Dr. Frank Rheindt (of the National University of Singapore), James Eaton (an ecotour leader), and colleagues climbed this mountain looking for birds. They subsequently published a list in the journal *Forktail*, in which they reported some possibly new taxa. They provided extensive descriptions of two birds they believed to be undescribed species: a white-eye (Zosteropidae: *Zosterops*) and a jungle-flycatcher (Muscicapidae: *Cyornis*). They also noted that several other birds on the

mountain appeared different from those found elsewhere in Borneo.

The potential for a unique avifauna in this part of Borneo is not a novel concept. Dr. Sheldon and other Bornean biogeographers have long recognized that the isolation of the Meratus Mountains from other mountain ranges in Borneo made it a likely place for distinct birds (and other animals and plants). In respect to Borneo as a whole, a current biogeographic hypothesis is that the Meratus Mountains, along with the mountains in NE Borneo (Sabah, Malaysia), acted as rainforest refugia during episodes of dry climate during the Pleistocene (10,000 – 2 million years ago), Pliocene (2.6 – 5.3 mya), and Oligocene (23-34 mya). These refugia helped preserve ancient lineages and, by their isolation, fomented new lineages of rainforest birds, which subsequently recolonized Borneo in climatic times more conducive to rainforest species. Years of collecting and associated biogeographic research in the northern part of Borneo, consisting of the Malaysian states of Sabah and Sarawak, have already shown that several species of birds from Sabah are genetically distinct from those in the remainder of Borneo (particularly those in Sarawak), thus supporting the refuge hypothesis. However,





**Above:** Ryan Burner (back) and Lindsay Burner (front) hiking up to camp at Gunung Besar (Meratus Mountains).

**Title Photo:** The Meratus Mountains.

way to the city of Loksado at the base of Gunung Besar. We arranged for locals to take us and our gear to the village of Kadayang by motorbike. Thus, we loaded ourselves and three weeks of food and camping equipment on 12 small motorbikes (no helmets, of course). The route consisted of trails, often vertical, which were hair-raising, to say the least. We reached Kadayang (at 500 m in elevation) shaken, but in one piece, and with the help of the local people set up mist-nets around the village while planning for our assault on the mountain. Immediately, we started to notice a different avifauna than we were used to in Malaysian Borneo. Several montane species were present at this 500 m site, and several common lowland species were absent. We managed to get a good series of birds from our nets around the village, including the first tissue and modern specimen

er, because no bird specimens had ever been collected from the Meratus Mountains in southeast Borneo, the appropriateness of the refuge hypothesis to birds in that part of the island had never been tested.

To rectify the total absence of specimens from the Meratus Mountains, we traveled there in late April of 2017. As I wrote in the October 2016 *Newsletter*, LSU has begun a 5-year collaborative project with the Bogor Museum of Indonesia to collect birds on the Greater Sunda Islands (Borneo, Sumatra, and Java) and their peripheral smaller islands. Our first trip was to Indonesian Borneo, and the outlying Maratua and Bawean islands. The recent trip to the Meratus Mountains was our second expedition, and we hope many more are to come.

After obtaining permits in Jakarta, we made our



Our camp for 14 nights as we collected birds on Gunung Besar (Meratus Mountains)



The local people of Kadayang village were interested in seeing Subir B. Shakya prepping birds.

of the Pin-tailed Greenfinch (*Erythrura prasina*) from Borneo. We also caught a Pied Fantail (*Rhipidura javanica*) that was much larger and bulkier than the birds we were used to. Other surprises were the Ochraceous Bulbul (*Alophoixus ochraceus*), Hill Blue Flycatcher (*Cyornis cf. banyumas*), which were different from the ones that occur elsewhere in Borneo. Some other species were remarkably similar to those found in Sabah, e.g., and the Bornean Spiderhunter (*Arachnothera everetti*) and Bornean Leafbird (*Chloropsis kinabaluensis*).

After five days at Kadayang, we started our journey up the mountain. The route up the mountain was quite difficult, even treacherous, in places. After 3-4





hours of climbing, we reached our camp site (at 1200 m). The porters we'd arranged in the village had already gathered there and set up a nice big camp for us, which served as our home for the next 14 nights. We ran mist-nets along an expansive ridge of "good-looking" forest right next to camp. However, much to our dismay, the nets were barely catching any birds. The forest had occasional mixed flocks passing through, and you could hear some birds, but it was still eerily quiet at most times. There were gibbons and hornbills in the area, and few shots were heard, so "big game" hunting wasn't a problem. However, every person we saw in the village or near our camp was carrying a pellet

species, such as the Bornean Stubtail (*Urosphena whiteheadi*) and the White-necked Babbler (*Stachyris leucotis*). Both of these were remarkably common at 1400m, but they are definitely not as common in other parts of Borneo. All in all, we collected specimens from 63 species of birds on Gunung Besar and recorded calls of many others. After 19 days in the field, and four roosters later (the hunters would bring us roosters from the village), we hiked back down, packed up and headed to Jakarta to assess what we had gotten.

The tissues and half the specimens arrived in LSU (the other half went to the Bogor Museum), and now I am preparing to sequence some mitochondrial genes of these birds. The sequences not only will elucidate whether any of the birds we collected are potentially new species, but will also shed light on the biogeographic affinities of the birds on the mountain. By the time you read this, we may be adding a new species or two to the already impressive list of 10,000 bird species.

Our adventures in Indonesia are not over, not by a long shot. In our next trip, we plan to head to Sumatra, the second biggest island in Sundaland. Very few, if any, modern bird specimens exist from the mountains of Sumatra, and none have been collected on Sumatra's western islands. These new specimens will definitely help us rewrite the biogeographic history of the Greater Sunda Islands.

gun, and it was clear that small birds and squirrels were a main source of protein for the local folks. Eventually, however, we started to get some good birds, including some species that rarely fly into mist-nets, even when mist-netting is productive. These included the first tissue and modern specimen of Long-tailed Broadbill (*Psarisomus dalhousiae*) from Borneo, and several specimens of common (though rarely collected) leafbirds, minivets, and barbets.

The white-eye and the laughing-thrush that Eaton, Rheindt, et al. had described as being potentially new or different were still nowhere to be seen. So, we decided to set up a few nets at 1400 m, along the top ridge of the mountain. Finally, we managed to get specimens of the white-eye, and a hunter brought back a laughing-thrush. We also collected several different



A group photo of all the people who helped us hike up and set up camp at Gunung Besar (Meratus Mountains).





# Expedition Brazil - Apuí 2017

by Glauca Del-Rio

I spent last Spring feeling down and discouraged. Away from my country, family, and culture, I was sad and without energy to keep working. I am from Brazil, and I came to the USA to do my PhD, because being at LSU was a dream come true. However, facing the mental pressure of the academic life, I asked myself, what is the meaning of all this? By leaving everything behind to do my PhD abroad, am I only working for my own benefit? Am I just thinking about my career and my CV? After all, what is our purpose as scientists, to work for ourselves, or in favor of something bigger?

With these philosophic questions rolling in my mind, I saw myself organizing a new trip to collect bird specimens in the Amazon Forest for the **LSU Museum of Natural Science**. The idea was to collect important samples for my research. I needed to collect White-breasted Antbirds (*Rhegmatorhina hoffmannsi*), along a geographic transect between two Amazonian Rivers, the Sucunduri and the Aripuanã. This species hybridizes with the Arlequin Antbird (*Rhegmatorhina berlepschi*) at the Sucunduri River headwaters, a re-

gion poorly studied by ornithologists. A hybrid zone is formed when individuals of one species meet and mate with individuals of a closely related species. The result of these encounters is the formation of birds with intermediate plumage patterns. In many cases, these hybrids are not as apt to compete for food and other resources. For this reason, hybrid zones provide opportunities to study why hybrids are less fit.

In this expedition, I needed to add samples from an unexplored geographic region to check if there were hybrids there. With the support of the Museum of Zoology of University of São Paulo, I joined a small crew in São Paulo and we drove to Apuí in the Amazon forest. Our crew consisted of: Fernando Costa, our driver and cook; Felipe Arantes, my good friend and Brazilian ornithologist; the great and legendary bird skinner **Greg Schmitt**; and **Marco Rego**, my husband and LSU PhD student that was also organizing this trip. We squeezed in the same car for 3810 km for five days until we reached Amazonia, where we started crossing the Transamazonian road.





**Above:** Crossing the Transamazonian road in a pickup truck. Photo by Glauca Del-Rio.

**Title Photo:** The Crew. Photo by Marco Rego.

The Transamazonian road was built by the Brazilian government in 1972 as an attempt to colonize Amazonia – by far the least populated region of the country. However, the original plan was never undertaken completely. Even today, what was supposed to be a highway is an unpaved dirt road of 3000 km. The road is crossed everyday by big trucks carrying supplies to Amazonian areas and taking logs to the rest of the country. The fact that the Transamazonian road is unpaved actually slows down deforestation in the area, though it is not as slow as we would like. Guided by satellite imagery, we took small dirt roads to reach woodlands. Google Earth images from 2012 or 2013 would show forest where now we could only gaze at pastures. We had to go farther and farther from the Transamazonian road to reach some properties that would still be adjacent to continuous forest.

Local people were always receptive and friendly. We camped in people’s backyards and walked every day to the forest. With the help of our ingenious field assistants, Polaco and Ivá, we opened trails to set up mist

nets. With 40 mist nets set, we waited anxiously for a White-breasted Antbird to be captured. Would it be hybrid or not?

When we were setting or running mist nets, or preparing bird specimens, we faced some challenges to our health and patience. We were constantly attacked by clouds of gnats called “pium”. Their bites hurt, itch, and bleed. One day I took six wasp stings at the same time; my body got swollen, itchy and red. I jumped in a small creek and stayed there until my allergic reaction passed. Even with some difficulties we kept working. Although White-breasted Antbirds were not captured, we collected different species poorly represented in museum collections like the Roosevelt Stipple-throated Antwren, Green-winged Trumpeter, and the Rusty-belted Tapaculo. Felipe and Marco even had a breathtaking encounter with a Harpy Eagle eating a South American coati, which rendered great pictures of the bird. The high diversity of species we found indicated the forest was still in good shape. We knew that White-breasted Antbirds were there; we had just not been lucky.

After four days of field work, Felipe got the first White-breasted Antbird out of our mist nets. For me it was a big relief! And this specimen deserved special treatment. We prepared a bird skin and high quality tissues for studies of its whole genome. We collected 15





samples of different organs and feathers to study the proteins produced by each organ, and the pigments responsible for differences in plumage coloration in the two species and hybrids.

But we needed more. We wanted to cover a transect of 150 km along the Transamazonian road. In the end, we captured 10 specimens of the White-breasted Antbird from four different sites, 40 km apart from each other. These valuable samples will bring important answers to what defines these species and what will be the fate of this hybrid zone, as well as how bird species arise and are maintained in the Amazon forest.

In the end, with a total of 225 specimens of 81 different species and the mission of collecting White-breasted Antbirds accomplished, I left the field better than when I arrived there. In the 12 days moving from one site to the other and 11 days of field work, I saw more meaning in what I do every day. When I was there, my mission was to encourage my colleagues even when we were covered by gnats or wasps. When I was there, I talked to a young guy who said he did not want to cut the forest down, like his father did. When I was there, I collected and prepared birds that will be used by biologists of future generations to answer questions that I can't even dream of. When I was there, I didn't work only for my own benefit; my work had more meaning.







# One Steppe at a Time: Amur Falcons in Central Mongolia

by Ryan C. Burner

LSUMNS students and faculty travel around the globe in our quest to better understand its species and environments and to collect data and samples from some of the farthest-flung regions of the planet. This summer, my wife Lindsay and I added a new country to the Museum's repertoire: Mongolia. I've long been fascinated with this country due to its harsh environments, climatic extremes, and unique traditional culture, so I jumped at the chance to visit and establish collaborative relationships with ornithologists from the National University of Mongolia and Mongolian Natural History Museum.

Mongolia, which is nestled between China and Russia, is the least densely populated nation on earth – its population density is about half of that of Alaska! Almost half of these people live in Ulaanbaatar, the capital city, but the rest are spread thinly across the country where they maintain the nomadic, livestock-herd-

ing lifestyle that was once common across the Eurasian steppe. Herds of cattle, sheep, goats, horses, camels, and even reindeer graze from deserts to steppe grasslands, boreal forest, and even into high mountains, where they are sometimes depredated by wolves, brown bears, and snow leopards.

Our trip was made possible by a field research fellowship from the American Center for Mongolian Studies in Ulaanbaatar. In Mongolia we collaborated with Dr. Gombobaatar Sundeev, a pioneer in Mongolian ornithology, president of the Mongolian Ornithological Society, and professor at the National University of Mongolia. At his invitation we traveled by air, rail, and (finally) for 10 days by horse to study the nesting ecology of Amur falcons (*Falco amurensis*) at Hustai National Park near the center of the country.

The Amur falcon breeds in a relatively small





part of Russia, China, and Mongolia, and then migrates over 7,000 miles to southern Africa to overwinter. Until a recent public outcry helped put a stop to the practice, tens of thousands of these birds were slaughtered when passing through India for sale in meat markets. There has been some research on this species in its wintering grounds, but to our knowledge no English language publications on its nesting ecology exists. Our goal, then, was to build on several years of pilot studies by students and Hustai Park staff to understand rates of nest survival, factors influencing nest site selection, and to examine diets of the chicks in the core and peripheral regions of the Park.

These small falcons, along with Lesser Kestrel (*Falco naumanni*) and Eurasian Hobby (*Falco subbuteo*), occupy old nests of Common Magpie (*Pica pica*) in small birch trees scattered in valleys between mostly-bare hills. We explored these sparse forest patches,

**Top:** Ryan and Lindsay on horseback

**Bottom Left:** Gers on the steppe

**Title Photo:** Patches of birch in Hustai National Park





**From Left to Right:** Adult Male Amur Falcon (Photo by Gombobaatar Sunde); Measuring a young falcon chick; A 20-day-old chick ready to fledge.

hope will correlate to dietary information we will gain from analysis of stable isotopes from toenail and feather samples collected during the season.

climbing every tree we could find that contained one of these large, untidy balls of sticks. After locating nests of the falcons (and other species), we monitored them regularly throughout the summer to document survival and mortality, nestling growth, and a variety of site and nest characteristics. We also had the opportunity to teach a group of Mongolian students visiting on a Zoological Society of London field course.

It is our hope that the data and samples we collected will result in several of the first publications about the nesting ecology of this poorly known species. The relationships we built in Mongolia should result in fruitful collaborations for us at the LSUMNS in the years to come (hopefully including a collecting expedition in 2018). Until then we'll dream of wide open spaces, starry nights, and green pastures.

Our life on the Park's edge resembled the traditional existence of herders across the country – we lived in a *ger* (yurt) that we rented from a family whose sheep, goats, and cattle grazed on the sparse, dry grass in the nearby hills. We spent the days working in the Park on foot and by horse and motorcycle, but in the evenings were back at camp to watch children herd the livestock home and light fires in dung-burning stoves to cook dinner and make salty, milky tea. Water, the most valuable resource on the steppe, came from a well near Park headquarters. On periodic trips through the surrounding area we experienced first-hand the wonders of nomad hospitality; one had only to arrive at a ger before sunset to be fed with loads of milk, butter, yogurt, and cheese, and usually to give in to the inevitable invitation to sleep inside with the family rather than camp nearby.

By the end of the summer we'd watched over 20 Amur Falcon pairs (and about 40 pairs of other species) lay their eggs, hatch their young, and (for those that survived, about 50%) raise their chicks, from little white balls of down to nearly fully-feathered acrobatic hunting machines. We'd also monitored the growth of each of these nestlings, which we

A magpie nest used by falcons







# New Bird Species Described by LSU Scientists

by Dan Lane

The new species is the Painted Manakin (*Machaeropterus eckelberryi*) from northern Peru. First discovered in 1996 on the O'Neill expedition that also discovered the Scarlet-banded Barbet (*Capito wallacei*), the new manakin waited 20 years to be described because of a lack of information on one closely related taxon from the Tepuis of NE South America. Once we had information on the voice of the latter population, we were convinced we could describe the present one as a distinct species. It is named in honor of Don Eckelberry, a famed American bird artist whose work drew special attention to Neotropical subjects. Don was instrumental in the establishment of the Asa Wright reserve on the island of Trinidad. He died in 2000, but was aware of our plan to name this bird for him, and was pleased by the prospect. The manakin is an endemic of Peru, and specifically of the Cordillera Azul range in Loreto and San Martín regions and the mountains ringing the Rio Mayo valley, San Martín region.

LANE, D. F., A. W. Kratter, and J. P. O'Neill. 2017. A new species of manakin (Aves: Pipridae; *Machaeropterus*) from Peru with a taxonomic reassessment of the Striped Manakin (*M. regulus*) complex. *Zootaxa* 4320:379-390.

## Abstract

We describe a new taxon of manakin in the *Machaeropterus regulus* complex, from the foothills of southwestern Loreto and northern San Martín departments, Peru. This new form appears to be almost identical morphologically to the Tepui form *M. regulus aureopectus* but differs strongly from that and all other members of the *M. regulus* complex in voice. Therefore, we conclude that this population represents a new biological species that we here name *Machaeropterus eckelberryi*. Based on voice and some morphological characters, we concur with several previous authors (e.g., Whittaker & Oren 1999; Snow 2004; Ridgely & Tudor 2009) that nominate *M. regulus* (Eastern Striped Manakin), of the Atlantic Forest of Brazil, should be separated as a biological species from the polytypic *Machaeropterus striolatus* of western South America (Western Striped Manakin), including *M. s. striolatus* of Amazonia, *M. r. obscurostriatus* and *M. r. zulianus* of the Venezuelan Andes, *M. r. antioquiae* of the Colombian Andes, and *M. r. aureopectus* of the tepuis region.





# Samaki! Samaki! Collecting Fishes in the Mangroves of Tanzania

by Dr. Prosanta Chakrabarty

I traveled to Tanzania this August to collect fishes for the MNS, and to help out folks from the LSU Department of Oceanography and Coastal Sciences (Drs. Mike Polito, Steve Midway and Victor Rivera-Monroy). Having spent the last year as a bureaucrat for the federal government (working as a Program Director for the National Science Foundation) I was eager for some adventure.

I must admit to being a bit nervous before the trip, there were a lot more unknowns than I am used to. I have never collected in mainland Africa; the closest I had ever been was Madagascar (which despite being close to Tanzania is very different). Although I am a seasoned ichthyologist now, I still don't know all 40,000 species of fishes; and I knew next to nothing about the ichthyofauna of the region before the trip. Unfortunately, few of the fishes were vouchered from the Oceanography's group previous expedition; which is one of the

reasons I was going this year.

The Oceanography team wanted to return to an area they sampled previously. This region called Pangani (specifically Kjongo Bay near the town of Kipumbwe) is a region across from the island of Zanzibar, and about seven hours north by car from the capital Dar es Salaam. Despite being remote, this area has plenty of infrastructure and creature comforts. Most importantly our hosts allowed us to spread dead fish specimens all over the place while we all took samples of otoliths, isotopes, DNA samples, and cores of mangrove mud.

We were traveling to Tanzania to allow the Oceanography team to better understand how the mangroves functioned in the larger ecosystem. Besides Mike and his student Mario Hernandez there was Steve Midway and his student Matt Roberts filling out Team Samaki ('samaki' is Swahili for fish). There was also Team





**Title Photo & Above:** Striking difference between low tide and high tide

Mangrove led by Victor Rivera-Monroy and his lab who were taking core samples and other data to better understand the role of mangroves in general.

The mangroves in Kjongo Bay have a tide that rises and sinks about three meters twice a day. Our boats could only go out while the tide were high enough to allow the boats in and out of the mangroves. The best collecting was near the lowest points of the tide when the boats would be stranded. There was always a race against the clock, and we were nearly always stuck somehow – either stuck waiting for the tide (to go up or down), or literally stuck in the mud.

At one site we suddenly hit a sand bank and the boat was stranded in a few inches of water, while we figured out what to do next I got stung in the temple by a bee, and then stung again on the face, as I swatting furiously Mario yelled out “bees!” and then another person yelled out while pushing us, “jump into the water!” We all dove into the shallow water but the bees kept stinging the back of our heads and necks – we swam to the other side of the riverbank to escape. When we looked back at the boat we could see hundreds of bees swarming it. We were each stung about a half dozen times. As we licked our wounds we decided to walk downriver to join another team while we waited for the tide to rise, and to free our boat to drift down river away from the bees.

As luck would have it that other bee-free site was remarkably diverse. We were seining different spots

getting lots of different species. These included young grouper, snappers, but also species of a group I know well – the Leiognathidae (or ponyfishes). I was surprised to see ponyfishes in nearly every seine haul we made. I was surprised because adult ponyfishes can be collected nearly anywhere throughout the enormous Indian and Pacific oceans – adults are bioluminescent and typically found at depths several hundred meters deep – what on Earth are juvenile ponies doing in mangroves alongside mosquitofish and gobies? Part of what I hypothesize is happening is that ponyfishes spawn in shallow waters near the mangroves. Coastal Tanzania is known for its bioluminescent bays; the light is caused by high concentrations of small glowing organisms. Perhaps ponyfishes ‘gets their glow’ from a bacterium that may be in high concentrations here? Only time, and a \$500,000 grant from the National Science Foundation, will tell.



A beautiful seine pull in low tide.





Beautiful shrimpfish collected by Mike Polito.

Some of my days were spent sorting the fishes others were collecting. My job those days were to help with IDs for the project goals of the Oceanography team. It was sometimes hard not to think of the fish collections I curate whenever we got something new. I had to remember that these specimens may help the Oceanography team better understand how to save these endangered mangroves – and who would want to get in the way of that? In the end I still brought back nearly 500 samples from about 50 species, most new to the collection, and perhaps new to any collections – stay tuned for more on that.

It was certainly an interesting time to be in Tanzania – a new leader is pushing out foreign interests, trying to cut down on corruption (which also is cutting into the shadow economy that benefits many impoverished people). Tourism to Tanzania has also gone down dramatically because of increased violence. We sometimes found ourselves just at the periphery of such violence. We began and ended our trip in the capital city of Dar es Salaam. And although Dar has traditionally been rather safe we heard of several reports of gun violence. Near the end of our trip, a noted elephant conservation biologist Wayne Lotter was murdered just a few blocks from a place we were visiting. We learned of how he was killed (followed in his taxi from the airport, shot while he sat beside his wife) from reading the cover of the New York Times the next day, and not from the local news. The news shocked our colleague Lindsey West who runs a local NGO called Seasense. Lindsey, who is British, has lived in Tanzania for many years and has

been dealing with the increase in violence daily. She is extremely efficient and she masterfully arranged for local help for us from her many Tanzanian contacts and colleagues. Less shocking to Lindsey was our report that a corpse had washed up on the beach in Kijongo with its hands and feet cut off and a plastic bag around the head. ‘Oh that’s just witchcraft stuff’ nothing we needed to worry about. We learned to listen carefully to Lindsey, if she said not to worry, we did not. She was ‘dada mkubwa’ big sister, after all.

Over the 10 days in Tanzania I was able to see a great many things and learn a few choice Swahili words from the locals that were helping us out. The locals endowed us with some great nicknames too like, “Mzungu mfupi” (‘short white guy’) for Mike, and “Sharobaro” (‘pretty boy’) for Steve. Since Mario, was already ‘the Indian’ (‘Mhindi’), I didn’t really get a name that stuck. I wish I had learned more Swahili but I am thankful to MNS Business Manager, **Tammie Jackson**, who taught me a few key phrases before I left. If I had learned more from her I might have avoided some mix-ups while trying to purchase everything from full strength formalin (you want 37% of 37%?) to ice coffee with milk (for which we were served ice and milk - and no coffee). Despite the language barrier it was an amazing time. I thank my Oceanography colleagues Mike, Steve, Victor, (and their students) for letting me tag along on their trip – *Asante sana*.



Team Samaki!





# Mammal Expeditions to Louisiana and Arkansas

by Mark Swanson

Advances in DNA sequencing technology over the course of the past decade have revealed that animals do not exist in isolation, but are home to diverse assemblages of other organisms living on and inside them. Each wild mammal has hundreds to thousands of species of bacteria, fungi, archaea, haemosporidians (malaria parasites), and viruses living on their skin as well as in their lungs, livers, kidneys, and gastrointestinal tract. Some of these organisms are from the surrounding environment and are simply “along for a ride”, but many others are tightly associated with their mammal hosts and seem to be inherited from parent to offspring. In the mammalian gastrointestinal tract these symbionts are known in some species to metabolize toxins in plant foods, convert fibrous substances to sugars and vitamins, and modulate the host’s immune system.

Despite the known importance of microbes to mammalian biology, little work has been done on wild

mammals living in complex ecological communities. Knowing which microbes are found associated with each mammalian species and how they vary across environments, geographic barriers (e.g. the Mississippi River), and seasons could help us to understand important aspects of mammalian ecology and evolution. For example, my dissertation work examines two species of mice that are each other’s closest relatives, the cotton mouse (*Peromyscus gossypinus*) and the white-footed mouse (*Peromyscus leucopus*). These two species readily hybridize in the lab, but hybrids are exceptionally rare in the wild, even where both species are known to occur in close proximity. It is unclear how these distinct species are able to co-exist in the same spaces without one outcompeting the other. One possible answer is that they are eating different combinations of foods and that hosting different communities of bacteria in their intestines facilitate their specialization on these different diets. It is also possible that the unique diets of each





**Left:** Paul Videau on his way to scout trapping locations in Ouachita NF.  
**Right:** Mark Swanson looking for a great place to set his trap  
**Title Photo:** A view of the forest in the northwestern corner of Sherburne WMA.

species are resulting in the production of chemical cues that enable the mice to recognize members of their own species as the only viable mates. Whether or not this is true, there is certainly more to explore in the forests of our own backyards!

In order to collect specimens for my dissertation and to preserve resources for future researchers, I trapped small mammals in Kisatchie National Forest (NF), Tunica Hills Wildlife Management Area (WMA), Sherburne WMA, Buckhorn WMA, and Lee Memorial Forest in Louisiana from March through May of this year and in Ozark NF and Ouachita NF in Arkansas from May until June. Having the opportunity to drive across and explore these states and their forests was a delight. Fellow mammalogy graduate student **Jon Nations** and undergraduate student **Paul Videau** joined me for some of these trapping excursions.

Even though these expeditions were close to home and their logistics were simpler compared to our international trips, they still featured a fair dose of challenges. I unfortunately got my small sedan stuck in the

mud after a rainy night at Tunica Hills WMA. Copperhead snakes (*Agkistrodon contortrix*), Southern Black Widow (*Latrodectus mactans*) spiders, and American Black Bears (*Ursus americanus*) were frequently sighted while camping and checking trap lines.

Our efforts resulted in over 200 specimens from 14 species, each of which were prepared as study skins and skeletons with associated frozen liver, lung, kidney, stomach, and intestine samples. This collection will be a rich resource for understanding the diets, microbial symbionts, and population genetics of Southeastern mammals. Highlights include the beautiful Golden Mouse (*Ochrotomys nuttalli*), which is arboreal and lives in large communal nests of six or more individuals. We collected the first armadillo tissue from Arkansas and we tripled the number of Eastern Woodrat (*Neotoma floridana*) tissues from Louisiana available for phylogeographic studies. The Mississippi River may divide small mammal populations in the area, but this possibility has rarely been examined with molecular data.

Despite limited resources and a general muse-





**Top Left:** Measuring and collecting tissue from a Cotton Mouse (*Peromyscus gossypinus*) specimen.  
**Top Right:** *Ochrotomys nuttalli*. "...this is the prettiest species of [mouse] inhabiting our country" - John James Audubon and John Bachman  
**Bottom Right:** Spotted what appears to be an LSU superfan in Ouachita NF! Rosy Maple Moth (*Dryocampa rubicunda*).

um focus on the tropics, conducting fieldwork in the Southeastern US is a critical activity for the LSUMNS. Surprisingly few specimens with tissues have been collected from Arkansas, Louisiana, Mississippi, and Alabama over the past 40 years and this limits the ability of researchers to understand how climate and land use change impact regional mammal populations. For example, climate models predict that the Atchafalaya Basin, where Sherburne WMA is located, could be permanently underwater in 100 years if water levels continue to rise at their current rate. Now is the time to document what is living there! We look forward to continuing our collecting work across the Southeast US in the coming years.





# EAPSI Fellowship in Melbourne, Australia

by Jon Nations

In the summer of 2017, I took a break from the Louisiana heat and traveled to Melbourne, Australia to participate in NSF's East Asia Pacific Summer Institute. This program provides a fellowship that, along with the local scientific funding agencies, offers an opportunity for US graduate students to visit one of seven east pacific countries and collaborate with local researchers.

Australia is a developed country with excellent research infrastructure. However, due to its relatively small population (~24 million), international collaboration is paramount to maintaining a strong research sector. So, along with 20 other US students from all walks of scientific research, I was graciously welcomed to Australia by the Australian Academy of Science. The AAS members were not shy about letting us know how happy they were to have us there to interact with their researchers in the hopes of building life-long collaborations.

My local hosts were Dr. Kevin Rowe, curator of mammals at Museum Victoria and Dr. Alistair Evans, a professor at Monash University, both in Melbourne. Melbourne is a beautiful city and a bustling center of commerce and culture. I was told it is the "New York" of Australia, however the vibe is much more San Francis-

co. As it was the Austral winter, the cool coastal climate was invigorating, with temperatures ranging from the 40s to 60s.

I was there to generate 3D models of rat morphology using CT scans of specimens collected during several joint LSU / Museum Victoria expeditions. My goal is to quantify morphological differences among species to better understand ecological niche partitioning of rats on the Indonesian island of Sulawesi. Sulawesi houses some of the most species rich communities of small mammals on earth, with up to 23 murine rodents co-occurring on some mountains. Species must partition resources in order to coexist in a given space. This means that they are either eating different foods, or accessing foods in different ways. My hypothesis is that as species are added to a community, they occupy novel ecomorphological space, with the result that community niche volume is positively correlated with species richness.

Museum Victoria was an amazing place to work. One of the city's largest attractions, the museum is bustling with visitors from all over the world. The research collections house an incredible assortment of Australian and Southeast Asian specimens from the past 200 years.





his adventures in the Malay Archipelago, and some very old taxidermy mounts of the now extinct Thylacine, or Tasmanian Tiger.

The summer was a success, as I generated CT scans of 30 of the 45 species of murine rodents known from Sulawesi and I presented my research at the 12th International Mammalogical Congress in Perth, Western Australia. The AAS strongly encouraged us to take full advantage of our time in Australia, so I did make some time for play as well. I visited the stunning Great Ocean Road in Victoria, and the Margaret River region of Western Australia, known for its wine and beaches. And after the program ended, I spent 10 days traveling and backpacking around the Tasmanian wilderness. The mammal watching was amazing of course, as I saw around six species of kangaroos/wallabies, many koalas, a Tasmanian devil, and—my personal favorites—hairy-nosed wombats. With the EAPSI fellowship I generated lots of data, formed life-long collaborations with Australian scientists, and saw amazing critters in beautiful places. All in temperatures below 65 degrees, a true success!

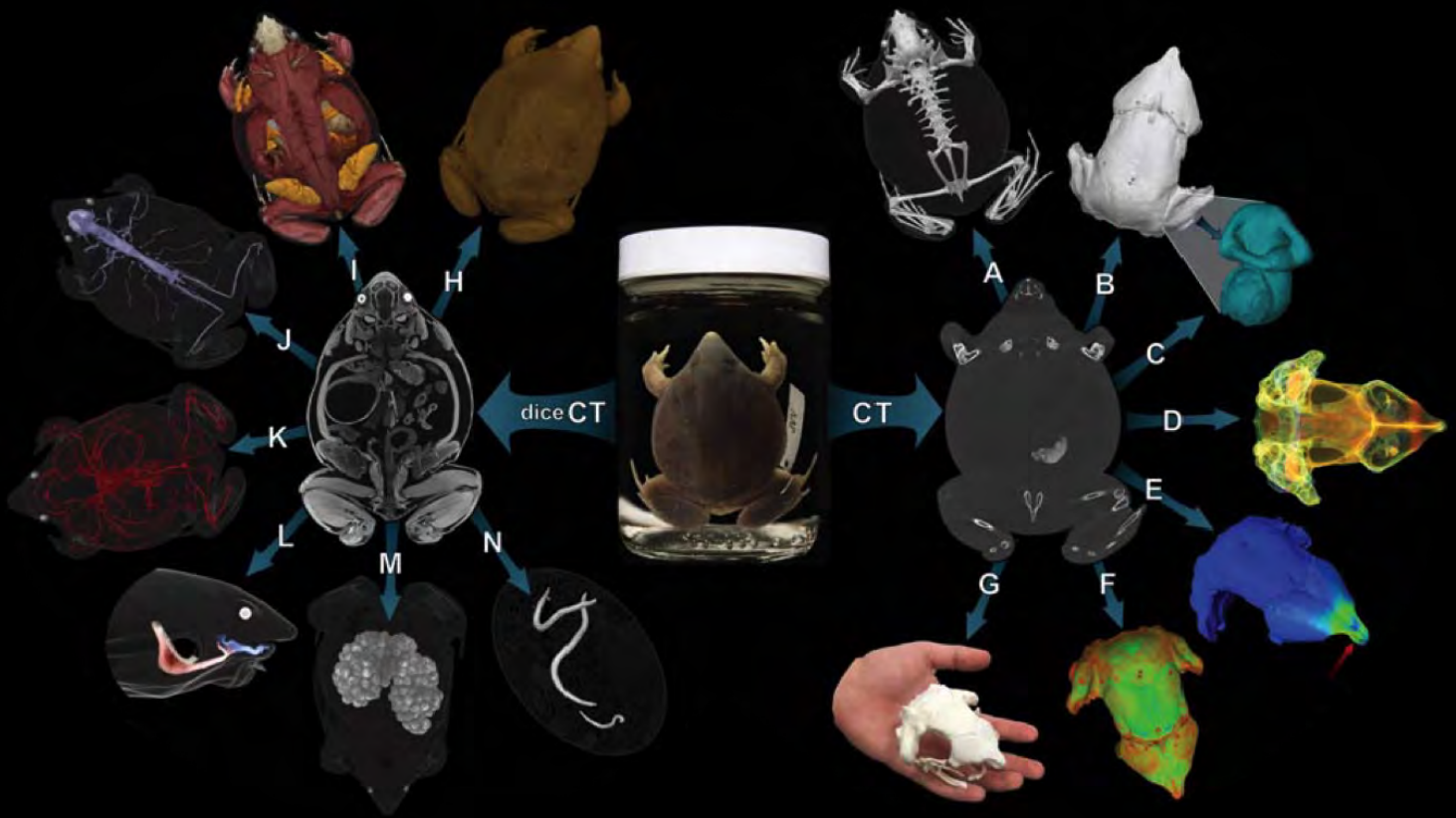
**Top:** Jon Nations with a hairy-nosed wombat on the Tarkine Coast, Tasmania.

**Bottom Left:** Jon Nations using a MicroCT scanner in the lab of Dr. Alistair Evans at Monash University, Melbourne, Australia

**Title Photo:** The coastline of Victoria, Australia

I saw specimens collected on Darwin's voyage on the *Beagle*, birds collected by Alfred Russel Wallace during





# Modern 3D Imaging Grant Funded

by Alison Satake

A \$2.5 million National Science Foundation grant will launch oVert, a new initiative to “teleport” museum specimens from their shelves to the Internet by CT scanning 20,000 vertebrates and making these data-rich, 3-D images available to researchers, educators, students and the public. Curator’s **Chris Austin** and **Jake Esselstyn** are principal investigators on the grant.

oVert, short for openVertebrate, complements other NSF-sponsored museum digitization efforts, such as iDigBio, by adding a crucial component that has been difficult to capture — the internal anatomy of specimens.

“As we’re seeing in various fields, 3-D imaging technology is the future. CT scan 3-D imaging is also

the future of rapid biodiversity discovery and description. It will help us develop a fuller understanding of our natural world,” said LSU Museum of Natural Sciences Curator of Amphibians & Reptiles Chris Austin, who is a principle investigator on this grant.

With virtual access to specimens, researchers could peel away the skin of a passenger pigeon to glimpse its circulatory system, a class of third graders could determine a copperhead’s last meal, undergraduate students could 3-D print and compare skulls across a range of frog species and a veterinarian could plan a surgery on a giraffe at a zoo.

The project will encompass representative specimens from more than 80 percent of existing vertebrate genera, and a selection of these will also be scanned



with contrast-enhancing stains to characterize soft tissues.

“Our goal is to provide data that offer a foothold into vertebrate anatomy across the Tree of Life,” said David Blackburn, oVert’s lead principal investigator and associate curator of amphibians and reptiles at the Florida Museum of Natural History at the University of Florida, the grant’s lead institution. “This is a unique opportunity for museums to have a pretty big reach in terms of the audience that interacts with their collections. We believe oVert will be a transformative project for research and education related to vertebrate biology.”

CT scanning is a non-destructive technology that bombards a specimen with X-rays from every angle, creating thousands of snapshots that a computer stitches together into a detailed 3-D visual replica that can be virtually dissected, layer by layer, to expose cross-sections and internal structures. The scans allow scientists to view a specimen inside and out — its skeleton, muscles, internal organs, parasites, even its stomach contents — without touching a scalpel.

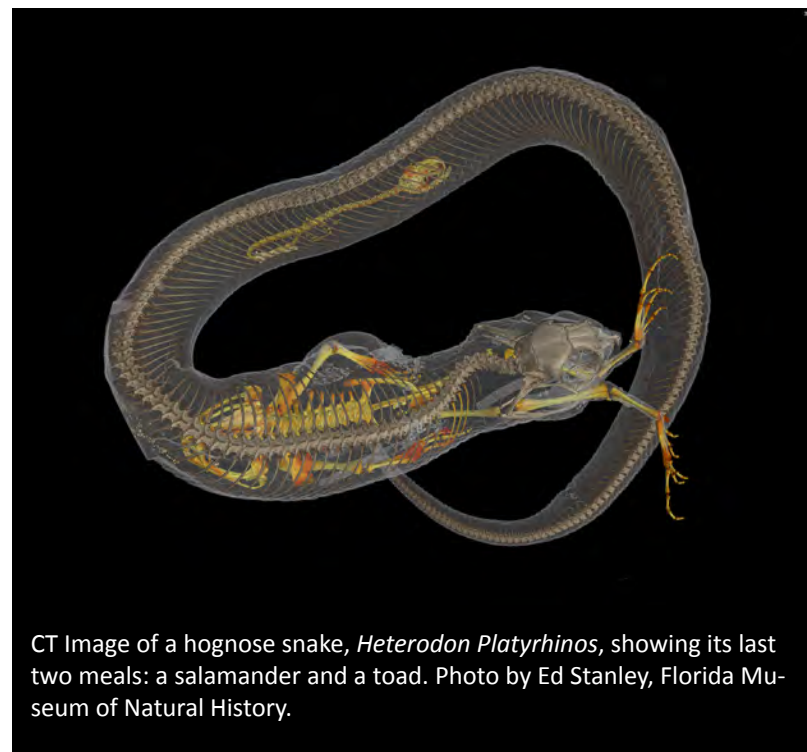
As part of oVert, these images will be housed in MorphoSource, a public database created by Duke University that scientists, educators, students or the curious can mine for 3-D data on their species of interest.

Advances in understanding the structure, function and evolution of genes and genomes have outpaced phenomics — the study of how genes interact with the environment to produce physical traits, or phenotypes. By providing a searchable digital encyclopedia of thousands of vertebrate phenotypes, oVert could be a valuable resource in narrowing the gap, Blackburn said.

CT scanning offers a wealth of data about specimens, but it’s an expensive and time-intensive process, limiting the number of specimens that can be scanned, Blackburn said. To maximize the usefulness of oVert, researchers will select and scan “super specimens,” those that are representative of a species, are in good condition and have corresponding data in iDigBio, information such as where, when and by whom they were collected. Ideally, the specimen would also have genetic data.

One of the key features of oVert is making these data freely available, Blackburn said. In addition to easing researchers’ access to vertebrate diversity, the oVert team also envisions the anatomical images being used in university and schools, inspiring the next generation of scientists, engineers and mathematicians.

Sixteen research institutions are included in the grant: **LSU Museum of Natural Science**; the University of Florida; the Academy of Natural Sciences of Drexel University; the California Academy of Sciences; Cornell University; the Field Museum of Natural History; Harvard University; the Scripps Institution of Oceanography at the University of California, San Diego; Texas A&M University; the University of California, Berkeley; the University of Kansas; the University of Michigan; the University of Texas, Austin; the University of Washington; the Virginia Institute of Marine Science and Yale University.



CT Image of a hognose snake, *Heterodon Platyrhinos*, showing its last two meals: a salamander and a toad. Photo by Ed Stanley, Florida Museum of Natural History.



# OUTREACH ROUNDUP

## STEP OUTSIDE DAY



On May 13, we once again participated in the 9th Annual LDWF Step Outside Day at the Sherburne Wildlife Management Area in Krotz Springs, LA. This is a great outdoor family event where kids learn about wildlife, make

bird houses, go on boat rides, and participate in hunting activities. We brought along specimens from our bird, mammal, and amphibian & reptile collections. Thanks to **Donna Dittmann**, **Steve Cardiff**, **Zach Rodriguez**, and **Roi Rogers** for helping out.

## BETHEL AME STEAM CAMP



On July 12, the LSUMNS took a visit to the Bethel AME Church to participate in their STEAM Camp. The evening consisted of a chemistry demonstration, break out engineering activity groups, and a specimen table by us. Camp participants got

to view the specimens up close and learn more about the animals and what we do at the museum. Thanks to **Anna Hiller** for helping out.

## MASTER NATURALIST WORKSHOPS



On May 20th, we once again hosted a natural history workshop for the Louisiana Master Naturalists of Greater Baton Rouge. They learned about the history and function of the LSUMNS, went on in depth behind the scenes tours of the collections,

and viewed a specimen prep demonstration. We also gave a bird collection tour to the Acadiana Master Naturalist's Birding Group on September 16. Thanks to **Steve Cardiff**, **Donna Dittmann**, **Vivien Chua**, **Matt Brady**, **Mark Swanson**, **Zach Rodriguez**, **Bill Ludt**, and **Oscar Johnson** for helping out.

## LOUISIANA STEM EXPO



On May 12, we participated in the Louisiana Stem Expo at the Team Sportplex in Baton Rouge, LA. This event showcased the science projects of tons of kids from the area and also featured exhibitors from robotics to virtual real-

ity to natural history. We had a specimen table, information about the museum and field trips, and were even featured on their youtube livestream! Thanks to **Genevieve Mount** for helping out.

## GRAND ISLE MIGRATORY BIRD CELEBRATION



This year's event was held 21-23 April. This birding festival draws participants primarily from across Louisiana. Collections Managers **Donna L. Dittmann** and **Steven W. Cardiff** again assisted by leading the Saturday "Grand Isle Big Day" field trip (trip list can be viewed at:

<http://ebird.org/ebird/view/checklist/S36204993>

Donna once again designed the festival's t-shirt and poster design, with a slightly different version for the coffee mug. This year's piece featured the female plumages of Louisiana's thirteen species of breeding warblers.

## LSU SOLAR ECLIPSE EVENT



On August 21st, the LSU College of Science hosted an event in honor of the Solar Eclipse. Students were able to view the eclipse and check out the tables manned by different departments in the college. We had a table filled

with specimens and information about upcoming events. Thanks to **Andre Moncrieff**, **Ryan Burner**, **Dajia Collins**, **Jackson Roberts**, **Zach Rodriguez**, and **Link Morgan**.



## LSU FALL FEST



On September 29th, we once again had a table at LSU Fall Fest! This is always a great event to raise awareness about our museum to LSU students, faculty, and staff. The specimens served as a great attractant to event attendees and we were

able to educate people about the LSU MNS and our collections. Thanks to **Vivien Chua**, **Zach Rodriguez**, **Alicia Reigel Parker**, **Dajia Collins**, and **Alex Haynes** for helping out.

## CORE ELEMENT STEM FEST



On September 30th, we attended the Core Element STEM Fest at the Ochsner Sports Performance Center in Metairie, LA. It was the first year for this event and we were honored to be invited. Over 2000 kids came to enjoy

exhibitors from all areas of STEM. We brought along specimens from our bird, mammal, fish, amphibian, and reptile collections. Thanks to **Zach Rodriguez** for helping out.

## LOS SPRING MEETING



The Louisiana Ornithological Society is celebrating its 70th birthday during 2017. The annual spring meeting took place 28-30 April and was based in Jennings, LA. LSUMNS Collections Manager and LOS News Editor **Donna L. Dittmann** organized the meeting. Donna, along with LSUMNS Collections Manager and LOS President **Steven W. Cardiff**, also led Saturday's "Cameron Parish Big Day" field trip (some lists of the day's observations can be viewed at:

<http://ebird.org/ebird/view/checklist/S36388488>  
<http://ebird.org/ebird/view/checklist/S36395463>  
<http://ebird.org/ebird/view/checklist/S36397629>  
<http://ebird.org/ebird/view/checklist/S36399972>  
<http://ebird.org/ebird/view/checklist/S36412020>

LSUMNS graduate student **Andre Moncrieff** also assisted with field trips. The Friday evening program West Texas Sky Island Birding - You're Invited! was presented by Cecilia M. Riley & Michael L. Gray. Following the Saturday evening banquet, Neil Hayward presented the evening

program entitled An Accidental Big Year. Donna also designed commemorative LOS 70th anniversary coffee mugs, the Ivory-billed Woodpecker pair is digital art based on LSUMNS specimens. Ivory-billed Woodpecker is the the official LOS logo. LOS continues its platinum anniversary at its fall meeting in Cameron, 27-29 October. For more information about LOS visit losbird.org.

## DAVIS MOUNTAINS HUMMINGBIRD CELEBRATION



On the heels of the Spring LOS Meeting's Friday evening presentation about West Texas, LSUMNS Collections Managers **Donna L. Dittmann** and **Steven W. Cardiff** traveled westward to help with the Davis Mountains Hummingbird Celebration, 23-27 August. They led field trips as well as assisted with setting up the evening banquet. The "bird of the festival" may have been the Aplomado Falcon found during Donna and Steve's field trip to the Miller Ranch!:

<http://ebird.org/ebird/view/checklist/S38876669>

Several other Louisiana birders were participants at this year's event, which draws participants from across the US. At an art show concurrent with the festival, Donna snagged a blue ribbon and first place for Candlewood (acrylic on wood of a Lucifer Hummingbird and ocotillo flower).

The art show was hosted by Friends of the Jeff Davis County Library and held at the library in Fort Davis.



# SPECIAL SATURDAYS



## Endangered! Smalltooth Sawfish - September 16th

Our first Special Saturdays of the semester was on the endangered smalltooth sawfish. Kelcee Smith from the LSU Department of Renewable Natural Resources spoke about the differences between sawfish, saw sharks, and swordfish. Participants also learned about why the sawfish was endangered and what research is being done to help them. Afterwards, participants completed a worksheet that reinforced Kelcee's talk, built their own sawfish saw masks, and viewed various sharks and rays on display. Thanks to **Larry Bird**, **Vivien Chua**, **Anna Cole**, and **Link Morgan** for helping out.

# NIGHT AT THE MUSEUM



## LSU Special Collections

We are off to a great start with this semester's Night at the Museum program! We kicked off on August 29th with a collaboration with LSU's Special Collections in the Hill Memorial Library. People of all ages came to enjoy **Dr. Prosanta Chakrabarty's** stories on the history of natural history and his own research experience, see the LSU Special Collections exhibit, "Paper Tigers and Bibliobeasts: Creatures in the Collections," and view our specimen table filled with animals from the talk as well as other cool things from the museum. There were 61 people in attendance. Thanks to all who came out and thanks to **Vivien Chua**, **Bill Ludt**, **Link Morgan**, and **Fernando Alda** for assisting with the table.



## Birds

Our next event featured the LSUMNS Bird Collection. It took place on September 28 and had 62 people in attendance. LSUMNS Director **Dr. Robb Brumfield** shared his top 10 favorite specimens from the collection including birds such as the painted bunting, pileated woodpecker, the secretarybird, and 6 different hummingbirds like the Marvelous Spatuletail! Graduate students **Anna Hiller**, **Jessie Salter**, **Ryan Burner**, **Clare Brown**, and **Andre Moncrieff** had tables featuring montane birds, plumage pattern diversity in quails, SE Asian Birds, and other valuable series from the collection. **Matt Brady**, **Oscar Johnson**, and **Vivien Chua** had a table demonstrating how we prep specimens. Oscar and Andre later gave behind the scenes tours of the collection.



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## UPCOMING OUTREACH EVENTS

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**October 7 - Special Saturdays - Into the Dark**  
10am-12pm; Museum of Natural Science (Foster Hall)

**October 14 - USFWS Wild Things**  
Lacombe, LA

**October 21 - Girl Scout of Louisiana East BIG Event**  
University of New Orleans

**October 24 - Ocean Commotion**  
LSU PMAC

**October 28 - Halloween Art & Nature Festival**  
Atelier de la Nature; Cecilia, LA

**November 1-5 - Yellow Rails & Rice Festival**  
Jennings, Louisiana

**November 4 - Special Saturdays - Is it Venomous?**  
10am-12pm; Museum of Natural Science (Foster Hall)

**November 30 - Night at the Museum - Mammals**  
10am-12pm; Museum of Natural Science (Foster Hall)

**December 2 - Master Naturalists of Greater Baton Rouge Workshop**  
8am-2pm, Museum of Natural Science (Foster Hall)

**December 9 - Special Saturdays - Traveling Near & Far**  
10am-12pm; Museum of Natural Science (Foster Hall)

**January 20 - Special Saturdays - Insect Adaptations**  
10am-12pm; Museum of Natural Science (Foster Hall)

**February 3 - Special Saturdays - The Asian Monsoon**  
10am-12pm; Museum of Natural Science (Foster Hall)

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To register for a **Special Saturday** visit: <http://www.lsu.edu/mns/education/special-saturdays.php>

For more information on outreach events and museum tours, contact **Valerie Derouen** [vderou1@lsu.edu](mailto:vderou1@lsu.edu).

More photos from all of our outreach events can be found on our Facebook page.

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# MNS NEWS & UPDATES

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## Hiller, Salter receive AOS Travel Awards

Congratulations to LSUMNS ornithology graduate students **Anna Hiller** and **Jessie Salter** who received travel awards (\$260 and \$180 respectively) from the American Ornithological Society to attend the 2017 AOS Meeting in East Lansing, MI.



## Elias, Hiller, Salter, Turner receive SSB Awards

Congratulations to LSUMNS graduate students **Diego Elias**, **Anna Hiller**, **Jessie Salter**, and **AJ Turner** who received Graduate Student Research Awards from the Society of Systematic Biologists.

### **Diego Elias - \$1000**

“Comparative Phylogeography of Freshwater Fishes in Northern and Nuclear Central America”

### **Anna Hiller - \$1700**

“Incipient Speciation and Rapid Plumage Diversification in the Andes: Phylogeography of Two Superspecies (Thraupidae: Diglossa)”

### **Jessie Salter - \$1700**

“Population Genomics of a Phenotypically Hyperdiverse Quail Genus”

### **AJ Turner - \$1000**

“Selective Mechanisms underlying the maintenance of an all-female hybrid species”



## Nations receives Patton Award

Congratulations to LSUMNS mammalogy grad student Jon Nations who received the James L. Patton Award (\$5000) at the 2017 American Society of Mammalogists meeting in Palouse. This award supports museum-based research by graduate student members of ASM.



## Burner receives Field Research Fellowship

Congratulations to LSUMNS ornithology graduate student **Ryan Burner** who received a Field Research Fellowship for the summer of 2017 from the American Center for Mongolia Studies.



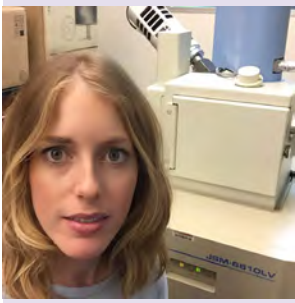
## Chua receives Dissertation Year Fellowship

Congratulations to LSUMNS ornithology graduate student **Vivien Chua** who received a Dissertation Year Fellowship from the LSU Graduate School valued at \$18,000.





# RECENT GRADS



## **Shannon Ferguson - PhD**

Advisor: Dr. Sophie Warny,  
Palynology

Shannon was hired by the Department of Homeland Security in Chicago, IL as their second forensic palynologist.



## **Cathy Newman - PhD**

Advisor: Dr. Christopher Austin,  
Herpetology

Cathy was hired as an Assistant Professor at the University of Louisiana, Monroe.



## **Mitch Gregory - M.S.**

Advisor: Dr. Sophie Warny,  
Palynology

Mitch was hired at Petrostrat in Houston, TX as a biostratigrapher.



## **David Rau - M.S.**

Advisor: Dr. Sophie Warny,  
Palynology



## **Ryan Terrill - PhD**

Advisor: Dr. J.V. Remsen,  
Ornithology

Ryan received a 2-year NSF Post-doctoral Fellowship working with former LSUMNS post-doc Dr. John McCormack at Occidental College.

# NEW STUDENTS



## **Varshith Chakrapani**

New PhD student from Anna University in India joining the Esselstyn Lab in mammalogy.



## **Jackson Roberts**

New PhD student from Auburn University joining the Austin Lab in herpetology.



## **Ashlee Taylor**

New MA student from California State University, Chico joining the Saunders Lab in Anthropology.





**October 6: Dr. Jason Bond, Auburn University**  
 Title: "Using phylogenomics to deconstruct the spider tree of life"

**October 13: Dr. Brian Counterman, Mississippi State University**  
 Title: "The origin of species told from the wings of a butterfly"

**October 20: No Seminar: Fall Break**

**October 27: Sara Lipshutz, University of Tennessee, Knoxville**  
 Title: "Female competition and hybridization in sex-role reversed shorebirds"

**November 3: No Seminar - Yellow Rails & Rice Festival**

**November 10: No Seminar - Museum Retreat**

**November 17: Dr. Kevin Conway, Texas A&M**  
 Title: "Tenacious C: Phylogenetic relationships of the clingfishes (Gobiesocidae)"

**November 24: No Seminar – Thanksgiving Break**

**December 1: Dr. April Wright, Southeastern Louisiana University**  
 Title: "Flexible Bayesian modeling of morphological data for phylogenetic analysis"



# A Sampling of Museum Publications with Undergraduate Authors (indicated by an asterisk)

## Herpetology (since 2008)

- Austin, C.C., Rittmeyer, E., Oliver\*, L., Andermann\*, J., Zug, G.R., Rodda, G.H. and N.D. Jackson. 2011. The bioinvasion of Guam: inferring geographic origin, pace, pattern and process of an invasive lizard (*Carlia*) in the Pacific using multi-locus genomic data. *Biological Invasions*, 13:1951–1967.
- Austin, C.C., Spataro, M., Peterson\*, S., Jordan\*, J., and J.D. McVay. 2010. Conservation genetics of Boelen's python (*Morelia boeleni*) from New Guinea: reduced genetic diversity and divergence of captive and wild animals. *Conservation Genetics*, 11:889-896. DOI: 10.1007/s10592-009-9931-z
- Oliver, L.A\*, Rittmeyer, E.N, Kraus, F., Richards, S.J. and C.C. Austin. 2013. Phylogeny and phylogeography of *Mantophryne* (Anura: Microhylidae) reveals cryptic diversity in New Guinea. *Molecular Phylogenetics and Evolution*, 67:600–607.
- Rittmeyer, E.N., A. Allison, M.C. Gründler\*, D.K. Thompson\*, C.C. Austin 2012. Ecological guild evolution and the discovery of the world's smallest vertebrate. *PLoS ONE* 7: e29797. doi:10.1371/journal.pone.0029797
- Hamilton\*, A.M., Klein, E.R., and C.C. Austin. 2010. Biogeographic Breaks in Vanuatu, a Nascent Oceanic Archipelago. *Pacific Science* 64:149-159.
- Hamilton\*, A.M., Eckstut, M.E., Klein\*, E.R. and C.C. Austin. 2008. Clutch size in the tropical scincid lizard *Emoia sanfordi*. *Zoological Science* 25:843-848.
- Weinell\* J.L. and C.C. Austin. 2017. Refugia and speciation in North American Scarlet Snakes (*Cemophora*). *Journal of Herpetology* 511:161-171.

## Ornithology (since 1989)

- Brumfield\*, R. T., and J. V. Remsen, Jr. 1996. Geographic variation and species limits in *Cinnycerthia* wrens of the Andes. *Wilson Bulletin* 108:205-227.
- Remsen, J. V., Jr., M. Ellerman\*, and J. Cole\*. 1989. Dead-leaf-searching by the Orange-crowned Warbler in Louisiana in winter. *Wilson Bull.* 101: 645-648.
- Remsen, J. V. Jr., M. A. Hyde\*, and A. Chapman. 1993. The diets of Neotropical trogons, motmots, toucans, and barbets. *Condor* 95:178-192.
- Remsen, J. V., Jr. and W. S. Graves\* IV. 1995. Distribution patterns and zoogeography of *Atlapetes* brush-finches (Emberizinae) of the Andes. *Auk* 112: 210-224.
- Remsen, J. V., Jr. and W. S. Graves\* IV. 1995. Distribution patterns of *Buarremon* brush-finches (Emberizinae) and interspecific competition in Andean birds. *Auk* 112: 225-236.
- Remsen, J. V., Jr. and R. T. Brumfield\*. 1998. Two new subspecies of *Cinnycerthia fulva* (Aves: Troglodytidae) from the southern Andes. *Proceedings Biological Society Washington* 111: 1008-1015.
- Sheldon, F. H., K. G. McCracken, and K. D. Stuebing\*. 1995. The phylogeny of the Zigzag Heron (*Zebrilus undulatus*) and White-crested Bittern (*Tigrionis leucolophus*) estimated by DNA-DNA hybridization. *Auk* 112:672-679.
- Smith, B. T., J. E. McCormack, A. M. Cuervo, M. J. Hickerson, A. Aleixo, C. D. Cadena, J. Pérez-Emán, C. W. Burney, X. Xie, M. G. Harvey, B. C. Faircloth, T. C. Glenn, E. P. Derryberry, J. Prejean\*, S. Fields\*, and R. T. Brumfield. 2014. The drivers of tropical speciation. *Nature* 515:406-409.
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## Ichthyology (since 2012)

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