Museum Quarterly

LSU Museum of Natural Science

November 2007 Volume 25, Issue 3

Letter from the Director...

The Latin Connection

Sixty years ago, **Dr. George Lowery**, the Museum's founder, started sending graduate students to Latin America to collect birds and mammals. These youngsters included mammalogists **Walter Dalquest** and **Al Gardiner**, who together collected over a wide area of the Neotropics and Mexico and accounted for 23 taxa new to science. They also included ornithologists **Burt Monroe**, of Honduras fame, and **John O'Neill**, who has discovered more new species of birds than any living person. The Museum's Latin American program has continued steadily over the decades to the present day, and many LSU graduate students have cut their teeth on biology while tromping through the forests, deserts, mountains, and savannahs of Middle and South America. As a result of their efforts, the Museum's collections are not only rich in Latin American holdings, but our research ties to friends and colleagues in the Neotropics and Mexico are unusually strong.

However, despite this long and distinguished record of work in Latin America, discouragingly few Latin American students have come to LSU to study for graduate degrees. As far as I can tell, there have been only five: **Alex Aleixo** (Brazil), **Leda Castro** (Costa Rica), **Manuel Marin** (Chilé), **Carlos Quintela** (Boliva), and **Glenda Quintero** (Venezuela). Given 50-60 years of "cooperative" research, this is a pathetically small number. The reasons for the dearth of Latin American students are many, but the most obvious hurdles have been money and competitiveness—it has been difficult for Latin American students to obtain entrance and financial support for studies at LSU.

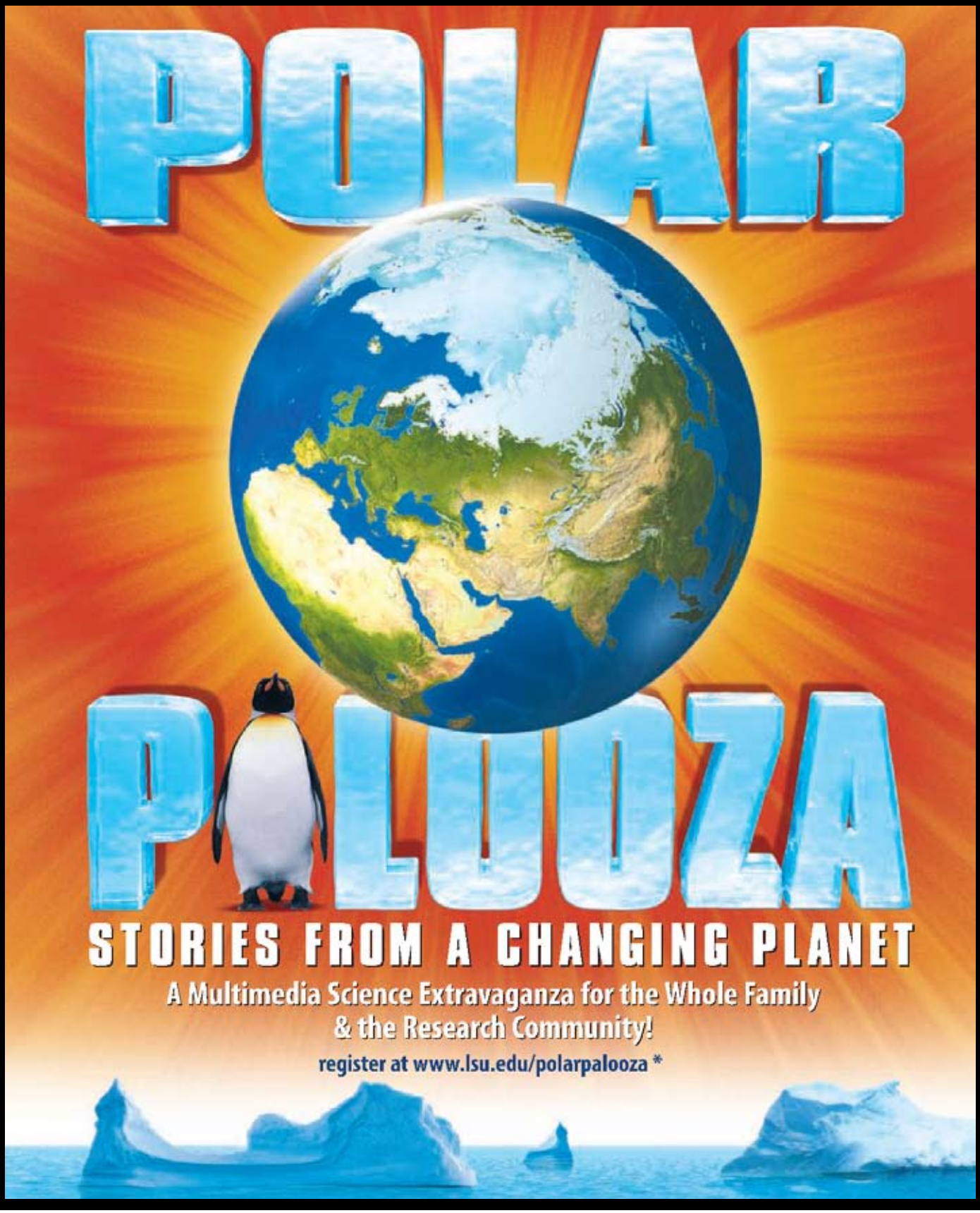
Well, that has all changed. In terms of sophistication and quality, Latin American countries are producing among the best natural historians in the world, and LSU is reaping the benefit of this explosion of talent. We now have a remarkable group of young scholars from South America and Mexico working at the Museum: **Santiago Claramunt** (Uruguay), **Gustavo Bravo** (Colombia), **Andrés Cuervo** (Colombia), **Jesus Fernández** (México), **Luciano Naka** (Argentina), and **Thomas Valqui** (Péru). Not only do we enjoy the benefits of their ability and energy, we also have the satisfaction of repaying our southern neighbors for many years of largely unrequited help and hospitality.

Some of our troops from Latin America: Jesus Fernández, Gustavo Bravo, Santiago Claramunt, and Andrés Cuervo

Fred Sheldon

The LSU Museum of Natural Science is proud to bring Polar Palooza to Baton Rouge

Join us for a week of free events!






POLAR-PALOOZA features...

The people who know the poles best - ice researchers, geologists, oceanographers, climate scientists, biologists and arctic residents who are bringing "Stories from a Changing Planet" to science centers and natural history museums across the country. In Fall 2007, POLAR-PALOOZA visits California, New Mexico, Florida, Georgia and Baton Rouge, Louisiana.

The "High Definition Video Science Story Capture Corps" ("HDvCC" for short) is a team of intrepid videographers who will be accompanying the researchers on expeditions to both the Arctic and Antarctic. In 2007, they were taping in Alaska, out on the sea-ice off Prudhoe Bay, en route to the North Pole (they never made it - the runway broke up. Climate change?), and in Greenland, bringing you stories about the science, the people and their extreme adventures.

POLAR-PALOOZA guest speakers:

-Mike Castellini, marine mammal expert; University of Alaska Fairbanks

-Jackie Grebmeier, biological oceanographer; University of Tennessee

-Marshall Shepherd, expert on weather, climate, and remote sensing; University of Georgia; formerly of NASA

-Charlie Bentley, head of U.S. ice core drilling project, formerly involved with IGY; University of Wisconsin

-Leigh Stearns, geologist with focus on glaciology; University of Maine

-Richard Glenn, Alaskan Native from Barrow; head of Barrow Arctic Science Consortium, captain and trained geologist involved with petroleum and natural gas exploration in Alaska

-Phil Bart; specialist of high-latitude glacial stratigraphy and evolution of the Antarctic cryosphere, Louisiana State University

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SCHEDULE OF EVENTS

Saturday, 11/10/07	Children's Hands On Antarctica	10:00-12:00	LSU Museum of Natural Science
Thursday, 11/15/07	K-12 Teacher Workshop	8:30-12:30	LRCE, Florida Boulevard
Thursday, 11/15/07	Scientific Lecture by Dr. C. Bentley	3:30-4:30	LSU, Howe-Russell Building
Thursday, 11/15/07	Scientific Lecture by Dr. J. Grebmeier	3:30-4:30	LSU, 202 Williams
Friday, 11/16/07	K-12 Show: Stories From a Changing Planet	9:00-10:30	BREC, Independence Park Theatre
Friday, 11/16/07	K-12 Show: Stories From a Changing Planet	11:00-12:30	BREC, Independence Park Theatre
Friday, 11/16/07	Scientific Lecture by Dr. M. Castellini	3:30-4:30	LSU, Museum of Natural Science
Friday, 11/16/07	**Public Show: Stories From a Changing Planet**	**6:30-8:00**	**BREC, Independence Park Theatre RSVP at www.lsu.edu/polarpalooza**
Saturday, 11/17/07	Science Cafe and BASC Student Poster Competition	10:00-12:00	LSU, Museum of Natural Science

SHALDRIL

Charlotte Sjunneskog, Vincent Adams (graduate student), and Sophie Warny

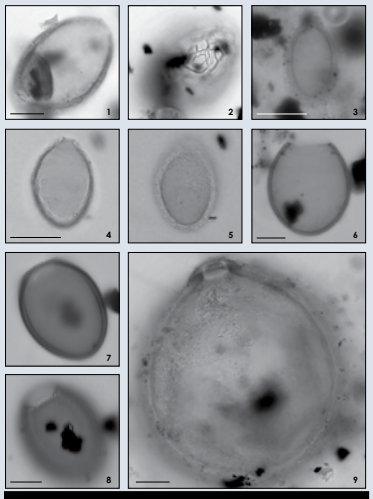
Dr. **Sophie Warny**, Education Director of the LSU Museum of Natural Science and MNS's researcher, received a $100,049 two-year grant from NSF to study the past environmental conditions on the Antarctic Peninsula via a palynological characterization of in situ sediments recovered during the 2006 SHALDRIL campaign.

Antarctic glaciation and progressive cooling are still less than adequately characterized by fossil evidence from the Antarctic shelves. The 2006 SHALDRIL campaign to the Antarctic Peninsula recovered cores of in-situ shelf sediments that should provide material needed to reconstruct the region's past environmental conditions. Strata from four geologic time intervals of global climatic significance were sampled: late Eocene/early Oligocene, late Oligocene, middle Miocene and early Pliocene. The PI proposes to conduct detailed palynological analyses of these cores to evaluate the paleo-environmental conditions. Greater attention will be placed on two intervals: 1) the late Eocene glaciation, and 2) the late Oligocene warming. This project builds on Warny's 2005-SGER study of seafloor sediments from the areas where the SHALDRIL cores were obtained. The ecologically diverse palynomorphs recovered during the SGER study (57 species of Cretaceous to Pliocene age) suggest that 1) palynomorphs are likely recoverable from the SHALDRIL strata, and 2) plants and algae were adapting to changing environments. These suggestions and the following four questions will be evaluated.

1. What were the Eocene-Pliocene environmental conditions in the Antarctic Peninsula? Marine palynomorphs from the SHALDRIL sediments should provide data on marine conditions (e.g., sea surface temperature and salinity) existing at the time of deposition. These marine sediments should also contain pollen and spores derived from vegetation present on the adjacent land areas. Hence, the characterization of pollen and spores will provide clues on climate and climate changes.

2. Was the Antarctic Peninsula already covered by an extensive ice sheet by early Oligocene? In the sixteen samples studied for the SGER study, Dr. Warny found that Eocene-Oligocene species of *Impletosphaeridium* and *Palaeostomocystis* were the dominant forms of marine microfossils. Morphologically-similar extant species are abundant today in oceans characterized by 1 to 9 months of sea-ice cover. Dr. Warny hypothesizes that the dominance of these species may have recorded the first sign of sea-ice cover off Seymour Island at the end of the Eocene/early Oligocene.

3. Are the diatom and nannofossil-based preliminary ages of SHALDRIL cores correct?
Chronostratigraphy is critical to any meaningful climate interpretation of palynological results. The onboard SHALDRIL biostratigraphy will be independently refined by new LSU post-doctoral diatomist, **Dr. Charlotte Sjunneskog.** Charlotte comes all the way from Sweden, and is an expert in Antarctic diatoms. We are lucky to have her join our group, and welcome her to Baton Rouge!



Various species of *Palaeostomocystis* recovered from a glacio-marine section off Seymour Island

LSUMNS at the Second Colombian Ornithological Congress in Bogota

Article by Andrés Cuervo

Juvenile male of *Cundinamarca Antpitta*, species previously known from three female specimens

Ornithology is a burgeoning field of research in Colombia, a country with nearly 1870 bird species. The increasing interest in studying birds in this South American country is largely driven by a wave of young, enthusiastic national ornithologists and a recently formed national association. The "Asociacion Colombiana de Ornitologia" (ACO) held its second national congress on August 8-10, 2007, and was attended by almost 200 people.

The LSUMNS was an active participant in this academic event. First, the Curator of Birds **Dr. Van Remsen** was an invited keynote speaker. His fluent Spanish and thoughtful ideas on avian phylogeny and classification were remarkable and highly appreciated by the audience. Graduate students **Gustavo Bravo** and **Andrés Cuervo**, both Colombians themselves, organized a pre-congress workshop with the help of Dr. Gary Stiles, curator of birds at the Instituto de Ciencias Naturales, on bird curatorial techniques and the value of continue collecting in Colombia. Twenty undergraduate and professionals participated in the workshop.

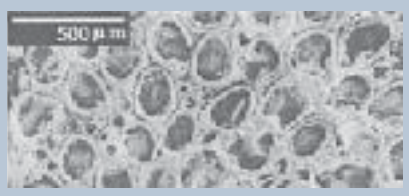
After the academic sessions, **Dr. Remsen, Gustavo**, **Andrés** and Jorge Avenda conducted a short trip to the eastern slope of the Andes, in the llanos foothills of the Orinoco drainage. Many interesting birds were encountered between 1500-3100 m, some of which are very poorly known in Colombia, such as the recently described Cundinamarca Antpitta (*Grallaria kaestneri*), the endemic Flame-winged Parakeet (*Pyrrhura calliptera*) and Blue-throated Starfrontlet (*Coeligena helianthea*), the local Ochre-breasted Brush-Finch (*Atlapetes semirufus*), and many others. With such a large avifauna, there is still much to be studied in Colombia by LSUMNS personnel in the future.

New species named in honor of Curator Barun K. Sen Gupta

Marginaria senguptai, a bryozoan from the Miocene of western Kachchh, Gujarat, India, has been named after **Barun K. Sen Gupta** for his contributions to the study of larger benthic Foraminifera from the Paleogene of the region.

Marginaria senguptai Guha and Gopikrishna, 2007

Modified after Guha, Asit K. and K. Gopikrishna. 2007. New calloporid (*Bryozoa, Cheilostomata*) species from Tertiary sequences of western Kachchh, Gujarat. *Journal Geological Society of India* 70: 121-130.



Birds in Péru's Andean Peatland

Article by Richard E. Gibbons

Choosing a research topic is one of the toughest decisions a graduate student makes. It's a big commitment so you'd better pick a topic that will keep you engaged for a few years. The process is open at LSU, encouraging the student to explore the literature before settling on a project. This program strength encourages independent thinking and project ownership. I was convinced this project would hold my interest and provide interesting results well into the future. No pressure.

A cool morning in the high puna near Marcapomacocha

The next step is convincing granting entities that your idea is worthy and logistically feasible. This is often a difficult hurdle, and my proposals met with modest success. I received two small grants: one from the American Bird Conservancy to survey the White-bellied Cinclodes population and another from the Louisiana Governor's Office for Environmental Education. This money, along with an LSU Big Day fundraiser award, would be enough to get me through the fledging stage.

Filled with anticipation, plans, and questions, I traveled to Peru to begin my study of the birds occupying high Andean "bogs." I chose to focus on peat-producing wetlands above the tree line in the grasslands of central and southern Peru. This is the "puna" to those in the know, a seasonal grassland dotted with an archipelago of wetlands. This remote and unique system harbors birds that are resident, stopover migrants, and wintering visitors from the north and south. I freely admit the paucity of information about these birds was attractive. The reason for the dearth of studies would soon be evident.

At 16,000 feet, the air is thin, the wind is strong, and the nights are cold. Walking can be a challenge, especially with a backpack loaded for several days in the field. Acclimatization takes a few days, but the body adjusts to the rarified air and then you have the place to yourself, if you exclude the omnipresent pastoral companions - shepherds, cattle, sheep, alpaca, goats, and llamas.

After a month of getting my feet wet, literally, I was joined by Jano Nuñez, of the Center for Ornithology and Biodiversity and **Phred Benham**, a recent LSU graduate. The three of us comprised the the White-bellied Cinclodes (*Cinclodes palliatus*) search team. We searched the departments of Junin and Huancavelica to develop a population estimate of this critically endangered bird. The short story is our month-long search produced only one bird outside the stronghold of Marcapomacocha in northern Junin. Although there are many areas still to search, the species' absence from numerous sites with seemingly appropriate habitat provided no reason to increase the current population estimate of 200-1000 individuals. We'll continue the search in January during the rainy season.

While searching for the Cinclodes, we gathered bird transect data in the peatlands. Some interesting patterns are suggested,

but you'll have to stay tuned for developments.

Finally, I'll share our misadventure. After finishing the *Cinclodes palliatus* search, Jano returned to Lima, and Phred and I were heading south to Cusco, Puno, and Arequipa to find more peatlands and birds. Unfortunately, Phred and I were held up in Pisco. Our cab driver and accomplice took us out to a field at knifepoint and robbed us of all of our gear. We were left barefoot, bound, and penniless, effectively ending the field season with no binoculars, GPS units, camping equipment, or money to continue. I successfully pleaded to keep my field journal so the data were saved. Wait, there's more. Upon returning to Baton Rouge, Josephine Nixon suggested submitting a proposal to the Coypu Foundation to replace the equipment. There were no guarantees of course, but she said it was worth a shot. **Dr. Remsen** guided the proposal through the LSU system in record time and after review by the Coypu foundation trustees, it was approved.

White-bellied Cinclodes (*Cinclodes palliatus*) near Huancayo

Field season number two will start in January during the rainy season. Replacing rain gear is at the top of the list.

LSU Students win American Ornithologists' Union Awards

Matt Carling

Zac Cheviron

LSU doctoral students **Matt Carling**, from Livermore, Calif., and **Zac Cheviron**, from Decatur, Ill., recently attended the meeting of the American Ornithologists' Union, or AOU, in Laramie, Wyo., where they received two out of the three annual "best presentation" awards given by the organization.

Matt, who studies the molecular genetics of hybridization between Indigo and Lazuli Buntings in the Great Plains of North America, won the AOU Council Award. Zac studies Rufous-collared Sparrows and their adaptation to living at high elevations in the Andes. He was awarded the Nellie Johnson Baroody Award.

"Here at the museum, we continually stress to our graduate students how critical it is for their careers to give engaging presentations of their research," said **Robb Brumfield**, assistant curator of genetic resources, and major professor for both students. "Matt and Zac put in a lot work preparing their talks for the AOU meeting, and it paid off for them. This is actually Zac's second year in a row to win an award like this. I'm very proud of both of them."

LSU MNS Director Fred Sheldon said, "LSU students are used to winning these awards – they've won in 1998, 1999, 2000, 2001, 2002 and 2006 – but we've never had two in one year at an AOU meeting. This is quite an accomplishment, both for the students and for the university."

Museum Gets New Native American Exhibit

Introducing our community to Louisiana's Indian heritage

Thank you!!!

The LSU Museum of Natural Science would like to recognize and thank the Louisiana Board of Regents Enhancement Program for its $129,460 grant to the Museum and the Irene W. and C.B. Pennington Foundation for its $5,000 grant, both in support of the new permanent exhibit, traveling exhibit, new children activity book, and associated outreach program. All are celebrating Louisiana's rich Indian heritage.

would like to join, email us at mused@lsu.edu

For more information on our program and the new exhibit, please check our website at: http://appl003.lsu.edu/natsci/education.nsf/index

LSU Museum of Natural Science Celebrates Louisiana's Native American Heritage

The Division of Anthropology (**Dr. Becky Saunders** and **Steve Fullen**) and Education office (**Dr. Sophie Warny** and **Rebecca Tedford**) have joined forces and partnered with the Louisiana Department of Culture, Recreation and Tourism (Division of Archaeology) to celebrate and promote Louisiana's rich Native American heritage.

This program, which opened June 1, brings a new, permanent display to the LSU MNS, showcasing the cutting-edge archaeological and anthropological research being conducted at the university and around our state. It includes information about Native American cooking, hunting, fishing, and housing technology. Additionally, the display includes a comprehensive discussion of how Louisiana's prehistoric period can be read in the ancient mounds scattered across the State, including the 5,000-year-old LSU Campus Mounds, and the artifacts within Louisiana's soil.

LSU Laboratory School second graders enjoy a tour of the new Native American exhibit with their teachers, Mrs. Loy and Crutti.

The depth and scope of this project, highlighting university educators and researchers, is expected to attract and retain distinguished graduate and undergraduate students to the university. It will also provide excellent opportunities for faculty development.

Another facet of the program includes the development of a traveling exhibit similar to the one housed in the museum. It will be loaned out to other institutions and Louisiana schools free of charge in order to complete the museum's mission of continuous educational outreach. Other educational materials developed in conjunction with the traveling exhibit include an activity book linked to the K-8 curriculum developed in collaboration with the Louisiana Department of Education and a new exhibit Web site where additional materials can be viewed and downloaded for use in the classroom. All lessons that are part of the children's activity book were designed to provide important LEAP-test style questions specifically geared toward educating students about Louisiana's Native American prehistory.

Sophie Warny said, "This exhibit is intended to enhance the education of Louisiana's students while showcasing Louisiana's rich prehistory and the work of the state flagship university's archaeologists who are conducting fascinating research that helps us understand Louisiana's past.

The exhibit is also expected to play a role in state tourism, as it was developed to serve as an important part of the Louisiana Department of Culture, Recreation and Tourism's Louisiana's Ancient Mounds Driving Trail initiative, which is intended to showcase and promote the numerous mounds in northeast Louisiana. The Louisiana's Ancient Mounds Driving Trail was designed as a way to increase awareness of the valuable cultural resources of Louisiana and boost tourism while at the same time educating the public on the rich prehistory of Louisiana.

The museum and all of its exhibits are open free-of-charge to the public and schools weekdays, from 8 a.m. till 4 p.m..

Surveying the Southeastern Deserts of México

Article by Jesús A. Fernández

México contains several large, arid zones, including the Sonoran, Peninsular, and Chihuahuan deserts. However, in the southeastern part of the country there is a group of small, peripheral deserts surrounding several big population centers, including Mexico City and Puebla City. These dense human populations have caused urban development and expansion and have resulted in agricultural and grazing practices that have destroyed much of the native habitat, leaving only isolated pockets of deserts. As a result, several of the endemic mammal species in these regions are currently listed as endangered by the Mexican government.

Rainbow in the Oriental Basin, Mexico

In July and August of this year, LSUMNS graduate student **Jesús A. Fernández** joined graduate students Juan Carlos Windfield and Jorge Falcón from the National University of México to search for several species of endemic mammals and reptiles (and their endo- and ecto-parasites) in the Oriental Basin and Ápan Plains of southeastern México. The Oriental Basin and Ápan Plains represent the southern-most extension of the Chihuahuan Desert. These regions are formed by parts of the states of Hidalgo, Puebla, Tlaxcala, Veracruz, and Oaxaca, and are separated from the core Chihuahuan Desert by the Trans-Mexican Volcanic Belt. Both deserts are characterized by the presence of several endemic species, including pocket gophers (genus *Cratogeomys*), kangaroo rats (genus *Dipodomys*), woodrats (genus *Neotoma*), white-footed mice (genus *Peromyscus*) and squirrels (genus *Spermophilus*) among mammals, and lizards (genera *Sceloporus* and *Aspidoscelis*) and rattlesnakes (genus *Crotalus*) among reptiles.

The goals of this fieldwork were to obtain samples of mammals and reptiles in this region to evaluate patterns of genetic differentiation and explore the potential influence of Quaternary and Pre-Quaternary climatic and geologic events on patterns and rates of molecular evolution. We also want to document how these organisms respond genetically to fragmentation of their habitats. As side projects, Jorge Falcón and Roxana Acosta (National University of México) will evaluate the diversity and re-

lationships among the parasites of these desert endemics, and Juan Carlos Windfield will participate in a study of rattlesnake phylogeography.

We sampled mammals and reptiles from three habitat types at each site: arid plains, rocky, arid hills, and agricultural fields. Our daily work involved preparation of mammal specimens and searches for reptiles during the morning and early evening hours and setting mammal traps close to sunset. Throughout our stay in México, the days were cloudy and warm, and the nights cold with a few light rains.

Oriental Basin pocket gopher

Black-tailed rattlesnake

The trip was very successful, as we obtained more than 100 samples of important mammal and reptile species, including the kangaroo rat *Dipodomys phillipsii*, the Perote pocket gopher *Cratogeomys perotensis*, and the black-tailed rattlesnake *Crotalus molossus*, among others. We also collected more than 100 fleas from the mammal specimens, and we saved the stomach contents of the mammals and reptiles to study their endoparasites. Some of the more noteworthy findings from our trip included the discovery of several populations of the Oriental Basin pocket gopher (*Cratogeomys fulvescens*) near the town of Tehuacán, Puebla (thus increasing their known geographic range some 50 km southward), and documentation of two populations of the rare southern subspecies of the Mohave Rattlesnake (*Crotalus scutulatus salvini*), whose distribution in this region seems to be confined to rocky hills.

I want to express my gratitude to the **LSU Museum of Natural Science** (**Mark S. Hafner**), the American Society of Mammalogists, and the Instituto de Biología, U.N.A.M. (Dr. Rafael Lamothe), who kindly provided funding for this research.

I also wish to thank the National Collection of Mammals, Instituto de Biología, U.N.A.M. (Dr. Fernando A. Cervantes), who assisted logistics and allowed me to work in their collection and laboratory in México City.

The Ptarmigan Trek

Article by Devin Bosler

Devin and his twin brother during a hiking trip in Big Bend National Park

The alarm startled me awake at 3:30 AM on 28 July 2007. It was time to prepare for the trek of a lifetime, the search for White-tailed Ptarmigan in New Mexico. Despite the lack of sleep, after tossing and turning with anxiety until almost 2 AM, I was more than ready to see my first ptarmigan and jumped out of bed. I met John Parmeter, author of the New Mexico Bird Finding Guide, at his home at 4:15 AM, and we waited for two others to arrive, Bill Wittman and Lane Leckman. We departed Albuquerque by 4:30 AM en route to the Sangre de Cristo Mountains in northern New Mexico. The group of optimistic birders was on their way.

White-tailed Ptarmigan (*Lagopus leucura*) is the only regularly occurring ptarmigan in the continental U.S. There are five subspecies of White-tailed Ptarmigan recognized across its range, though they are clinal and undistinguishable in the field. The subspecies are determined primarily on the basis of geographic isolation alone. The status of White-tailed Ptarmigan in New Mexico has been stable since the population was augmented by introductions in the early 1980s. However, the ptarmigans are native to the state, and they remain very difficult to find. Ptarmigans are residents of alpine tundra above tree line at the highest elevations in the state, confined to peaks and ridges exceeding 12,000 ft. The appropriate ptarmigan habitat is very limited within New Mexico, and there are only a few known locations for ptarmigans throughout the state. The most reliable location being the Santa Barbara Ridge and Jicarita Peak in Carson National Forest (Taos Co.). John Parmeter and Jerry Oldenettel first discovered this hotspot by trial and error in the late 90s. The Santa Barbara Ridge extends approximately fifteen miles north to south and contains the most expansive, continuous alpine tundra habitat in New Mexico, which makes it an ideal area for locating ptarmigans. It continues to be the one and only productive site for ptarmigan in the state. Even here, a great deal of luck, combined with effort, is required to come upon a ptarmigan.

Adult male White-tailed Ptarmigan

We reached the trailhead at the terminus of FR-161 shortly before 7:30 AM. Here, we met up with another birder, Jonathan Batkin of Santa Fe. The next six miles of arduous uphill hiking was very productive for the montane specialties. The trail meandered through pristine spruce-fir forest alive with the harsh, grating cries of Clark's Nutcrackers and the melodic three-noted calls of Pine Grosbeaks. Separate flocks of Red Crossbills and Evening Grosbeaks coursed overhead at nearly 11,000 ft. Mixed species flocks of Mountain Chickadees, Golden-crowned Kinglets, all three nuthatches, and Pine Siskins added to the splendor of the hike. Short of breath in the high altitude atmosphere, we

made it to the alpine tundra of the ridge by 9:30 AM. The wild flower meadows and rocky escarpments of the alpine zone stretched for miles in all directions. We spread out and began the search.

It was 10:45 AM and we had already covered an extensive parcel of the alpine ridge without any luck. Then, before me, a male Dusky Grouse, formerly Blue Grouse, appeared from a stunted patch of willows. I yelled to get the attention of the others. The male grouse froze in place as I obtained video at surprisingly close range. Within minutes, another four grouse flushed from the alpine vegetation. This was an exceptional find, a total of five Dusky Grouse way above tree line on the alpine tundra. In fact, John was still perplexed by the sighting well after the hike. He has observed very few Dusky Grouse in the state and never before at such a high elevation. It was a rare encounter, indeed.

Winter-plumaged adult female
White-tailed Ptarmigan

At this point, our hope was restored and the search for the target bird carried on. However, the sight and sound of thunderstorms on the near horizon put a slight damper on our moods. American Pipits with fledglings entertained us throughout the hunt. Pikas and Yellow-bellied Marmots bounded warily from rock to rock. Less than an hour later, I heard John shouting and waving his arms from high on the ridge. Unfortunately, I happened to be a considerable distance away, scouring the ground lower on the ridge. Knowing that he had located our quarry, I scrambled up the rocky slope as fast as I could, trying not to kill myself in the process. By the time everyone arrived at John's side, he had the cryptic ptarmigan pinpointed amidst the rocks within ten feet. I was in awe, staring at my first ptarmigan, a stunning adult male in summer plumage. I immediately grabbed the video camera and began recording. Moments later, a winter-plumaged ptarmigan emerged from the rocks nearby. A gaudy, pure white grouse had eluded our initial observation! This was remarkable and very unusual, a winter-plumaged ptarmigan in late summer. A rare hormonal disorder arrests the normal molt cycle of a few individuals. Molt and feather replacement in birds is controlled by hormones released through action of the pituitary and thyroid glands. The sex of the winter-plumaged ptarmigan was difficult to assess. However with help of Clait E. Braun - a long-time ptarmigan researcher who conducted field observations on this particular pair the previous summer; it was determined to be an adult female. Unfortunately, this rarely-documented failure to molt into cryptic summer plumage is expected to have a strongly negative effect on survival, and for females, it leads inevitably to nest depredation. Nevertheless, it was an unforgettable sight to behold, both ptarmigans in complete opposite plumages, side-by-side, strutting slowly up the ridge.

The excitement poured out of all of us as we watched the ptarmigans disappear over the ridge and back into their rocky domain. The trek was successful at last. An impressive male Bighorn sheep bid us farewell as we began the descent. The hike wouldn't be complete without Gray Jays, and sure enough on the descent, a family group of seven jays moved quietly through the spruce canopy above. A pair of Williamson's Sapsuckers worked a tall snag in clear view alongside the trail. The thunder showers caught up with us, and the descent became quite slick and hazardous. Wet and exhausted, we were relieved to reach the parking area after such a long, strenuous hike. It was equally relieving to know that we were triumphant in our pursuit of this small grouse of the high, alpine tundra.

Herpetology News

New lab member John McVay in the field with a chuckwalla

New Herpetology Lab Member

John McVay joined the Herpetology Division in July 2007 as a laboratory technician. John received his undergraduate degree from the University of Texas at Austin and his Masters degree from Texas Tech University working in the laboratory of Lou Densmore. John is supported by **Chris Austin**'s National Science Foundation grant for work on New Guinea amphibians and reptiles. Since arriving in Baton Rouge, John has been hard at work; in only two months he has already submitted a manuscript for publication on New Guinea snakes!

Fulbright Fellowship

One of the most difficult and demanding aspects of being a graduate student is trying to find ways to fund your research. Funding is limited and highly competitive. This struggle, however, provides the foundation for a good pattern of behavior towards research funding as their academic career proceeds. Herpetology Ph.D. student **Christopher "CJ" Hayden** was recently awarded a Fulbright Scholarship for study in Indonesian New Guinea. Competition is stiff for these coveted Fulbright awards and CJ's strong application and commitment to herpetological research in New Guinea and Southeast Asia made him a nationally competitive student.

Herpetology Ph.D. student CJ Hayden
in the field in New Guinea, measuring himself
against an 11-foot Amethystine python

Student Fieldwork

Nathan Jackson spent a good portion of the summer traveling the southeastern United States in search of his research quarry- the common ground skink *Scincella lateralis*. **Nathan** is studying the geographic patterns of variation and evolutionary history of *Scincella*. The species has a broad range from western Texas, north to Kansas, and east to the Atlantic coast, and is abundant, particularly along the Gulf and Atlantic coastal plains.

CJ Hayden spent a month of the Spring semester doing fieldwork in China near the Maolan reserve protected area. In addition, he spent 6 weeks in Indonesia conducting fieldwork in August and September.

Nathan Jackson scans Kentucky's Red River Gorge for possible signs of skinks

International Education and Conservation Outreach

As part of his international outreach education and conservation efforts, curator **Chris Austin** designed three natural history posters of common reptile and amphibian species from New Guinea. These kwik guides are intended to help local people, educators, scientists and tourists identify some of the most common reptile and amphibian species in New Guinea ('kwik' is the neo-Melanesian or New Guinea Pidgin spelling of 'quick'). The main goal of these kwik guides it to bridge the gap between knowledge and conservation. The hope is that by helping local people identify and better understand the animals that live on their land they will have a greater appreciation and desire to conserve wildlife and thus will be better land stewards. The posters included brief tri-lingual informative messages about each important group. The guides were designed as educational posters and, with support from the US National Science Foundation and the Papua New Guinea Department of Education, several thousand copies will be printed for free distribution to primary schools throughout Papua New Guinea. In addition, high quality printable pdf files can be downloaded for free for use by anyone (http://www.museum.lsu.edu/Austin/lab.html).

Research Publications

2007 has been a productive year for the Herpetology Division. So far, 8 publications have resulted from research by the herpetology group this year. Curator **Chris Austin** published 4 papers, research associate **Jeff Boundy** published one paper detailing a new snake skull bone, undergraduate **Jesse Grismer** published two papers, one of which was a checklist of the herpetofauna from Phnom Aural Wildlife Sanctuary in the Cardamon Mountains of Cambodia, and graduate student **Ali Jennings** published one paper describing a new method for capturing arboreal lizards.

Expedition to Honduras

Article by James Maley

Museum of Natural Science graduate student **David Anderson** has been working in Honduras for a considerable amount of time, a portion of which has included his dissertation research focused on the ecology of canopy birds. He obtained a collecting permit to further his research, which sparked interest in forming an expedition. The museum has considerable history working in Honduras, primarily through the efforts of former LSUMNS graduate student **Burt Monroe** during the 1950s and 60s. Very little recent collecting has occurred in Honduras, and LSUMNS has few tissue samples from northern Central America in its collection. This void makes broader comparative work, including our efforts in South America, more difficult, often requiring tissue loan requests for even common Neotropical species. So during February and March of 2007 fellow graduate students **Santiago Claramunt, Richard Gibbons**, and **James Maley** joined **David** in Honduras for three weeks of collecting. The goals of the trip included a broad sampling of the avifauna in the country, collecting furnariids as part of current museum efforts to study this exclusively Neotropical family in detail, and teaching Hondurans about our efforts and the value of specimen-based ornithology.

A male Northern Royal Flycatcher caught near David's house

Santiago, Richard, and James flew into the second largest city, San Pedro Sula, where they met up with David and immediately rented a truck. Overloaded with gear, the team drove to a chemical plant to pick up dry ice to facilitate collecting. Traditionally, expedition members will skin everything collected during the course of the trip. Because of the interest in collecting at a variety of localities and limited time, the team decided that dry ice would be used to freeze specimens whole immediately after collecting, and exported frozen to be prepared later. After filling two coolers with dry ice the team drove to David's house just south of the city of La Ceiba, on the border of Parque Nacional Pico Bonito.

The team started collecting the next morning using mist nets. The mixed primary and secondary forest that was selected to work in was across a major river from David's house. The only way across was in a basket hung from a cable that was suspended over a gorge. It was scary. Over the course of several days the team was able to collect a variety of important specimens and obtain good series of some of the more common species. Highlights include Tawny-faced Quail, Keel-billed Motmot, Scaly-throated Leaftosser, Tawny-winged Woodcreeper, Northern Barred-Woodcreeper, Ivory-billed Woodcreeper, and Rufous Mourner. The team also visited a nearby fallow pasture to collect Slaty Spinetails, which prefer extremely dense, thorny, overgrown brush filled with ticks and chiggers.

The next stop on the expedition was the thorn forests of Olanchito, which are a short, dry, dense, cactus-filled forests and home to many species of birds that have disjunct distributions. Obviously mist-netting was a challenge, but the team managed to collect a number of important specimens while dealing with more ticks and a herd of cows that were determined to destroy nets (they got one during a failed herding attempt). Highlights include Lesser Ground-Cuckoo, Turquoise-browed Motmot, White-bellied Wren, and White-

lored Gnatcatcher. After several days, and with the dry ice running low, the team headed to more lowland tropical forest along the road to the Lancetilla Botanical Gardens. The managers of the gardens allowed their freezers to be used for storage while the dry ice was restocked. Here the team mist-netted in dense riparian second growth, attempting to collect Rufous-breasted Spinetails. The team secured a single specimen of this new species for the tissue collection as well as a number of highlights including Olivaceous Piculet, Cocoa Woodcreeper, and Great Antshrike. Unfortunately, a mist net was stolen while the team was running the nets, so they picked up shop and moved to the next spot before the thieves could return for more.

The next habitat to sample was upper montane forest and field edge above Lago de Yojoa. It was productive and a beautiful place to work, yet proved challenging due to weather and uncooperative birds. The team made friends with several local people during the process of collecting in the area. Several target species were collected, including another Rufous-breasted Spinetail, and highlights such as Ruddy Woodcreeper, Prevost's Ground-Sparrow, Rusty Sparrow, and Black-headed Saltator. The final collecting locality was associated with the Panamerican School of Agriculture at Zamorano, near the capital of Tegucigalpa. The team was offered the use of the Zamorano Biological Research Station in the upper-montane pine-oak forests, which transitioned into cloud forest just above the lodge. Mist-netting was conducted up in the cloud forest and around the station in the pine forest. Highlights include collecting several specimens of Rufous-collared Robin, a species previously known from only a single record in the country. The team also collected Strong-billed Woodcreeper, Mountain Elaenia, Bushy-crested Jay, Rufous-browed Wren, Ruddy-capped Nightingale-Thrush, Cinnamon-bellied Flowerpiercer, and White-naped Brush-Finch. This was a beautiful place to end the expedition and by far the best facilities. Unfortunately, Santiago came down with an illness that was probably food-related. Also, James contracted a botfly larva, later named Billy, which was not removed for 10 weeks, providing entertainment and disgust for many.

The team's last days in the country were devoted to a workshop designed to teach Honduran biologists and students the benefits of specimen-based ornithology, and to give them an idea of why LSUMNS was interested in collecting birds in the country. The workshop was hosted by the Panamerican School of Agriculture on the spectacular Zamorano campus, and benefited from direct collaboration with Zamorano's Center for Biodivesity, directed by Jorge Iván Restrepo. David gave eloquent and well-prepared (with help from Santiago) lectures, followed by the team teaching and helping Hondurans skin Great-tailed Grackles in groups of two. Participation was high and the members of the workshop were awarded with certificates of completion. The enthusiasm and interest in learning was impressive, and it was clear that this kind of outreach benefits everybody involved, including the teachers. The specimens were recently imported and are in the process of being prepared. These specimens comprise an important contribution to ornithology from an exciting country that has received sparse attention from ornithologists. The team hopes that a partnership was forged that will open the doors to future work with the people and birds of Honduras.

Santiago, James, David and Richard in front of a hummingbird preserve near Olanchito

An On-the-road Ornithological Expedition to Central and Southern Peru

Article by Andrés Cuervo

Katherine Faust, Daniel Lane and Andres Cuervo in Peru

Continuing the long tradition of ornithologists in the **MNS**, collecting trips to the South American tropics were conducted this past summer by museum personnel. Specifically, **Katherine Faust** and **Andrés Cuervo** of the Brumfield Lab, and Research Associate and expert on Peruvian birds **Daniel Lane**, traveled throughout Peru with the principal aim of completing the taxonomic sampling of the NSF-funded project of **Dr. Robb Brumfield** and **Dr. Van Remsen** to reconstruct the phylogeny of the ovenbirds, a speciose family of Neotropical birds. At the same time, **Andrés** was looking for the first samples for his dissertation project on avian speciation in cloud forest birds of the northern Andes.

The Peru 2007 expedition was atypical in not being concentrated in a particular location. Rather, it was literally on the road. Many of the target species of the trip were scattered along the central and southern portions of the country, including the dry highlands of the Andes, the Pacific coast from Lima to Arequipa, the high Andean altiplano in the south, the humid eastern slope and Amazonian foothills near the Bolivian border, and the Apurimac valley further north. Covering thousands of miles, Katie, Dan, and Andres camped during 1-5 days at multiple sites where they taped bird vocalizations, observed, and collected ovenbirds and many other interesting and unusual birds.

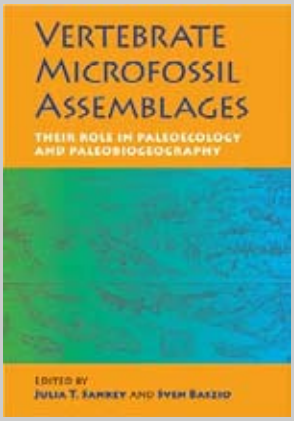
For instance, they obtained the first, or some of the first Peruvian specimens of *Simoxenops striatus, Synallaxis scutatus, Myrmotherula grisea, Hemitriccus spodiops, Mecocerculus hellmayri;* recent specimens of the rare *Megascops koepckae, Asthenes virgata, Tangara meyerdeschauenseei,* and *Atlapetes forbesi;* and even undescribed species in the genera *Herpsilochmus, Scytalopus, Phyllomyias* and *Cnemotriccus*. Almost all target birds for this particular trip were collected, making this on-the-road expedition highly successful, in part thanks to the support of CORBIDI, the Peruvian research institution partner of the **LSUMNS** in Lima. More trips like this are planned along the way.

The LSU MNS newsletter is now available in color, online on the main MNS webpage at:

http://appl003.lsu.edu/natsci/lmns.nsf/$Content/Newsletters?OpenDocument

Special Publications

Collections manager **Lorene Smith** has had a second scanning electron micrograph (SEM) published on the cover of the journal *Marine Micropaleontology*. The SEM shows the foraminifers *Laminononion tumidum* and *Patellina corrugata* attached to a vestimentiferan tubeworm from 562 m water depth. The image was taken as part of the research conducted by Adjunct Curator **Barun Sen Gupta** and Lorene on Foraminifera that live on tubeworms that inhabit Gulf of Mexico hydrocarbon seeps.

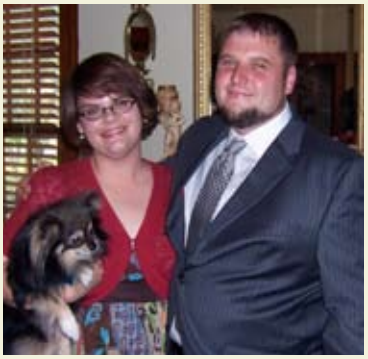


Judith A. Schiebout, Curator of Vertebrate Paleontology, has had a paper on vertebrate microfossil assemblages published in a book, which is expected to be for sale at this October's Society of Vertebrate Paleontology meeting in Austin, Texas.

Schiebout, J.A., P.D. White, and G.S. Boardman, "Taphonomic issues relating to concentrations of pedogenic nodules and vertebrates in the Paleocene and Miocene Gulf coastal plain: examples from Texas and Louisiana," in J. Sankey and S. Baszio (eds), *Vertebrate Microfossil Assemblages: Their Role in Paleoecology and Paleobiology*. Indiana University Press, p. 17-30.

Congratulations to Steve Fullen

Sadly, the time has come that we must bid farewell to **Steve Fullen,** the collections manager for the Anthropology Section. After seven years of diligent and tireless service, Steve moved on last month to become the new executive director of Magnolia Mound Plantation. Magnolia Mound Plantation, a part of BREC, is a lovely, late 18th century, French Creole plantation home. The house and grounds are now a 16-acre park and museum.



Steve has a long history at LSU. He completed his Bachelor's degree in Anthropology in 1998, and entered the Graduate Program in 2000. Steve began working as a collections manager in the Museum in September of 2000, balancing his Museum work with his master's research in the Department of Geography and Anthropology. For his Master's, Steve studied the evolution of pottery-making in prehistoric Louisiana, in particular, the 1000-year period between its truly humble (and crumbly) beginnings around 3000 years ago until some mastery over clay preparation had been achieved, around 2000 years ago. Steve completed his M.A. in Anthropology here at LSU in 2005. He was voted the Museum's Outstanding Graduate Student for 2004.

Throughout his tenure at LSU, Steve maintained the extensive collections of archaeological, zooarchaeological, and ethnographic items. He also collaborated on several of grants. **Dr. Rebecca Saunders**, Curator of Anthropology, and Steve received a Board of Regents grant to enhance the museum's Zooarchaeological Collection, and, with **Dr. Sophie Warny**, the Museum's Education Director, Rebecca and Steve created the first permanent archaeological exhibit in Foster Hall. Steve also served as interim regional archaeologist for southeastern Louisiana from 2005 to 2006.

Congratulations, Steve! We are all so very proud of you, and we thank you for the fine work you did at the Museum of Natural Science during your stay here. Best of luck to you!

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