

Museum Quarterly

LSU Museum of Natural Science

May, 2007

Volume 25, Issue 2

Museum of Natural Science Curators and Directors

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Letter from the Director...

On August 31, 2007, after 37 long years, **Dr. John Michael Fitzsimons** will leave his post in the basement of Foster Hall and retire as the Curator of Ichthyology. He and his wife, Charlotte, are planning to retire to a nice piece of land down along Bayou des Allemands.

Mike was born in Oklahoma, but is a Louisiana boy through and through. He graduated from Louisiana Tech in 1963, and then moved to the University of Hawaii, where he got an M.S. degree and found Charlotte. After that, he went to the University of Michigan for a Ph.D. and then moved immediately to LSU in 1970. Here he has taught nine different courses in zoology and in the Honor's College and, in the process, has garnered a remarkable reputation for teaching. Since I have been the Museum director, I can't remember Mike obtaining less than 10 out of 10 in student evaluations. In 2001, he was named the A. C. Pereboom Alumni Association Professor in Ethology and Animal Behavior by the Honors College. Mike has also been remarkably successful as a researcher, having brought home more than \$3,000,000 in grants in the last 10 years and having produced 113 peer-reviewed publications and 39 graduate students. Recently, this research has focused on the ecology and conservation of idyllic streams in Hawaii, much to the enjoyment of a host of graduate students and various colleagues.



Mike will be especially missed in the Museum for his wonderful stories about people, dogs, fish, snakes, boats, trucks, food, and guns. But we shouldn't despair at his departure. No doubt, in the coming years, we'll all be able to wander down to des Allemands, wet a line, and hear more tall tales.

Fred Sheldon



Dr. Mike Fitzsimons (above). Dr. Fitzsimons and his Hawaii team (far left). Dr. Fitzsimons with grad students (left).

“RAP” in Guyana

by Brian O’Shea

Last October, LSUMNS graduate student **Brian O’Shea** participated in a biodiversity survey with Conservation International’s Rapid Assessment Program (RAP) in the Konashen Indigenous District in southern Guyana. Brian was part of a diverse team of scientists from the US, Guyana, and Venezuela, each of whom was responsible for surveying a particular taxo-



The blue poison-arrow frog, *Dendrobates azureus*, is common in the Konashen District. This species is only found in far southern Guyana and Suriname, and adjacent areas of Brazil.



Map with the location of the Konashen district. The study area is marked by the box.

nomomic group (ants, dung beetles, katydids, fishes, reptiles and amphibians, birds, and large mammals). He was the leader of the bird crew.

The 625,000-hectare Konashen Indigenous District is one of the most remote areas of Guyana, situated at the extreme southern end of the country along the border with Brazil. To get there, the team flew south from Georgetown (the capital) for two and a half hours. Most of the flight took them over unbroken rainforest as far as they could see. The Konashen region was sparsely populated, with only one permanent human settlement. In November 2002, the government of Guyana granted the indigenous Wai Wai community absolute title to their lands, allowing them to determine how the area would be developed. The Wai Wai are closely tied to their land – they hunt and grow almost all of their food - and hope to develop

An armored catfish caught by the ichthyology crew. At least three species of catfish unknown to science were found during their survey.





A peacock katydid (*Pterochroza ocellata*) unveils its fake eye-spots, intended to scare away potential predators.



Bemner (left) and Reuben, two Wai Wai counterparts.

Brian O'Shea (standing, 4th from left) with the RAP team in Guyana.



an ecotourism facility to generate income without extracting and selling their resources abroad (which would be difficult anyway, because the region is only accessible by plane). In addition, they hope that tourism can preserve their culture by keeping young people in the community. The purpose of the scientists' biodiversity assessment was to determine the biological uniqueness of the Konashen area, to evaluate its potential for ecotourism, and to establish guidelines for sustainable use and protection of the region's abundant resources. Of course, the team was also eager to get out into the forest and catch critters! After gathering their gear in the village of Akuthopono, they boarded dugout canoes and set off deep into the heart of the Konashen rainforest.

Although they were optimistic about what they would find, the results of their survey surpassed expectations. The diversity of the area was tremendous – in just three weeks, they found at least seven insect and fish species new to science, and this number will undoubtedly grow as specimens are examined and compared to existing collections. The expedition team also saw many large mammals and birds that are hard to find in more densely populated areas – including up-close views of tapirs and jaguars, which had little experience with humans and were not shy at all. “It was a wonderful experience to be in the field with specialists from across the taxonomic spectrum, to witness their collection methods firsthand and to see the bizarre crea-



A Wai Wai displays a freshly-caught Haimara (*Hoplias aimara*), a top predator in the upper Essequibo river system. Large specimens like this were abundant in Konashen.

tures – from ants to sloths - that arrived in camp daily,” expressed O’Shea. The bird team recorded 318 species from just two survey sites, including a new species record for Guyana. Brian was assisted in the field by Bemner and Reuben, his Wai Wai counterparts. It was a great experience for him to learn about the forest from people who had spent their entire lives there and



Taking a break from catching fish in a small forest pool.



An Emerald Tree Boa (*Corallus caninus*), which we found hanging from a tree during a night walk in the forest (above). A pair of tree frogs tries to hide from the light (below).



The RAP team makes their way upriver in the dugouts.

relied on the land for sustenance. In exchange for the knowledge Brian gained from them, he taught his helpers to identify bird calls so that they could find and identify more species. With their sharp eyesight, they will make great bird guides. They're excellent fishermen too!

The scientists hope that the Wai Wai people are able to establish an ecotourism facility on their land and preserve the forest that they know better than anyone else. Their survey highlights the fact that there are still many species out there waiting to be discovered, particularly in tropical forests, which are rapidly disappearing worldwide.

Brian felt privileged to have been a part of the expedition, and to have seen firsthand one of the last remaining unspoiled areas on Earth.

EXPEDITION TO THE PERUVIAN ANDES

BY ZAC CHEVIRON



A high Andean cushion plant bog.

In January and February 2007, LSUMNS graduate students **Zac Cheviron** and **Matt Carling** mounted an expedition to the Pacific slope of the Peruvian Andes. Zac and Matt were joined on the trip by **Terry Chesser**, an LSUMNS alum and research zoologist at the National Museum of Natural History (part of the Smithsonian Institution). The primary goals of this trip were to collect specimens for three purposes: 1.) Zac's dissertation research, 2.) Terry's ongoing work on *Muscisaxicola* ground-tyrants, and 3.) general collection of species on the Andean Pacific slope.

Although the Pacific slope of the Andes in Peru is fairly densely populated, its avifauna is relatively understudied. This is because most ornithologists arriving in Peru make a mad dash for the mega-diverse Amazonian lowlands or cloud forests of the eastern slope. Zac, Matt and Terry, however, were content with the high Andean puna and the dry, dusty deserts of the Pacific slope. Together with Peruvian assistants Abraham Urbay and Dora Susanibar, they traveled all over the central and southern Pacific slope collecting some great specimens. Their trip was broken into three main parts.

Part 1 - The Pisco to Ayacucho road. The team spent five days collecting along the Pisco-Ayacucho road. This road serves as an altitudinal transect, ascending from the Pacific coast to over 15,000ft in the Andes. A number of bird species replace one another along this elevational transect, with each species being restricted to certain elevational zones. A few species, however, are distributed over this entire gradient. Obviously, the cold, thin air at 15,000ft in the Andes poses physiological challenges that are different from those that are faced on the hot, dry Pacific coast. When one species inhabits this entire gradient, populations at different elevations must adapt to the local conditions. Zac is studying how one particular species, the Rufous-collared Sparrow (*Zonotrichia capensis*), adapts to living in such drastically different environments.

To do this, he needs to collect specimens at several different elevations along the transect. The team had five camps, each at a different elevation. At each camp, Zac and Matt focused their efforts on Rufous-collared Sparrows, while Terry collected specimens of other species in the area. Terry's general collecting added species diversity and some important specimens, including one specimen



Zac Cheviron with some future LSUMNS graduate students at Lake Titicaca.

of Blackpoll Warbler (*Dendroica striata*), a common migrant in the eastern U.S. and winter resident on the tropical lowlands of South America. Blackpoll Warbler is extremely rare on the west slope, so this specimen is an interesting record.

After five days of collecting, the team headed back to Lima with 77 Rufous-collared Sparrow specimens and a representative sample of west slope species. After a couple of days in Lima, the team geared up for the second leg of the expedition, the trip to Lake Titicaca.

Part 2 – Lake Titicaca. Located at 12,500ft in the Andes on the border of Peru and Bolivia, Lake Titicaca is famous for the Uros people who live on lake on floating islands constructed entirely of reeds. The team traveled to Titicaca to collect specimens of two species the Wren-like Rushbird (*Phleocryptes melanops*) and the Many-colored Rush-Tyrant (*Tachuris rubrigastra*) that live in the reeds growing along the lakeshore. The same species also occur in reedbeds along the coast and as a second part of his dissertation research, Zac is studying the genetic and morphological differences between the coastal and highland populations.

The high puna grassland surrounding the lake is dotted with bogs that are ideal for ground-tyrants. After the team finished up at the lake they headed out to sample some of these bogs and ended up with some great samples for Terry’s work on these interesting birds, including 12 individuals of Puna ground-tyrant (*Muscisaxicola juninensis*), a species that is poorly represented in the world’s tissue collections.

After a week in the Lago Titicaca area, the team headed to back to Lima to regroup and gear up for the final leg of journey, the trip to another high elevation lake – Lake Junin.

Part 3 – Lake Junin and transplant experiments. On the final leg of the journey, the team headed to Lake Junin to collect more Rufous-collared Sparrows for the final portion of Zac’s dissertation research in which he will test for differences in gene expression between high and low elevation birds. This work required Matt and Zac to catch sparrows in mist net, house them in cages, and transport some of them to Lima by car. It turned out to be pretty challenging, but in the end they collected some good material and Zac is hopeful that the study will yield some interesting results.

While Matt and Zac were busy tending their makeshift aviary, Terry sampled more bogs surrounding Lago Junin. Here, he added more Ground-Tyrant specimens, including another dozen Puna Ground-Tyrants and a few each of Ochre-naped ground-tyrant (*Muscisaxicola flavinucha*) and White-fronted ground-tyrant (*Muscisaxicola albifrons*).

Overall, the trip was a resounding success. A large portion of the funding for the trip came from Birdathon funds, so thanks to all who contributed.



Matt with local volunteers going to set mist nets at Lake Junin (above). A reed boat at Lake Titicaca (below).

Vertebrate Paleontology Section News



Otoliths

On March 14th, Dr. Gary Stringer of The University of Louisiana at Monroe Department of Geosciences visited LSU. He gave a talk entitled “Fish Otoliths: Their Use and Application in Vertebrate Paleontology” for the paleontology class taught by **Dr. Judith Schiebout**, curator of Vertebrate Paleontology. Otoliths, fish earstones, function in hearing and balance in boney fish. They are much more common in the rock record than whole fossil fishes, and they can also be used to identify the kinds of fish that were present in a geological or archeological site. The study of otoliths is significant because they can greatly increase the kinds of fish known from a site. They can also be helpful in the study of paleotemperatures and paleoecology.



Association for Women Geoscientists

On March 30th, **Dr. Judith A. Schiebout** gave a speech supported by The Association for Women Geoscientists (AWG) Foundation at the Department of Earth Sciences at Florida International University in Miami. It was entitled “Miocene Terrestrial Vertebrates from Louisiana Terrestrial and Marine Sites.” Dr. Schiebout’s talk covered work on the Fort Polk and TunicaHills/Kerry Sites in Louisiana. The Association for Women Geoscientists Distinguished Lecturer Program provides well-known female speakers the opportunity to lecture on most disciplines within the geosciences on their areas of interest.



Paleontology class field trip

On March 10th, the vertebrate paleontology class went on a field trip to collect Pleistocene (Ice Age) vertebrate fossils from Tunica Creek. Students in the class have been identifying some of the fossils they found on this trip as a class exercise. They include remains of an Ice Age bear, deer, bison, and a mastodon. Field trip leaders were citizen scientist Bill Lee and Museum Collections Assistant **Michael Williams**.





The LSU Museum of Natural Science



SHARING THE LSU MUSEUM OF NATURAL SCIENCE RESEARCH WITH EDUCATORS AND THE COMMUNITY

VIRTUAL MUSEUM: TECHNOLOGY ENHANCED PROFESSIONAL DEVELOPMENT FOR LOUISIANA SCIENCE TEACHERS (K-8 AND FRENCH IMMERSION)

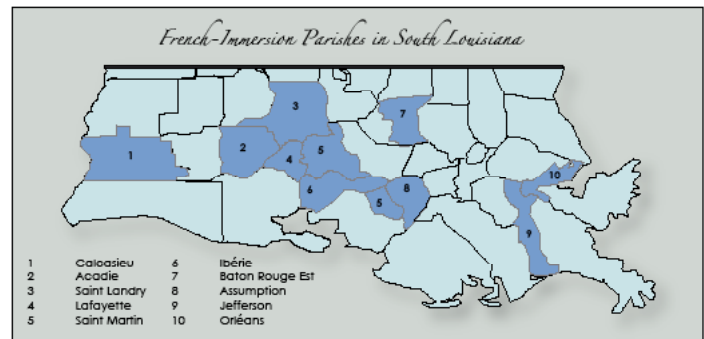
By Drs. Sophie Warny and Denise Egéa-Kuehne

A collaborative project between the Museum of Natural Science and the French Education Project at Louisiana State University was awarded a SELECT grant from the Board of Regents to offer Louisiana teachers a professional development program via videoconferences. Classroom-ready activities, content material, and online resources will be provided in French and in English.

This project involves not only a partnership between Foreign Languages and Science, but also with the parish school districts, the Louisiana Consortium of Immersion Schools, the Louisiana Department of Education, the LSU Basic Sciences Scope-On-A-Rope program, and the French Cultural Services in New Orleans.

Our goal: Support Science Education in Louisiana, while focusing on Louisiana's unique historical French heritage.

In Louisiana, there are two types of K-8 science teachers: teachers in "traditional programs," and teachers in immersion programs. In Foreign Language immersion, the target language (French or Spanish) is the language of instruction and the means of communication in the classroom. These programs are designed for English-speaking students and are not to be confused with "Bilingual Programs." In these French Immersion programs, the teachers teach the entire state curriculum with respect to the Louisiana Comprehensive Curriculum and Grade Level Expectations, *including science*, in French (except for reading language arts). Louisiana has the most developed French immersion program in the Nation (CAL 2006). There are currently nearly 3,000 students in 30 French immersion programs in 11 school districts, employing some 150 teachers (only 7 schools in 4 districts in Louisiana Spanish Immersion programs; CAL, LDE and Sgambato, 2006). As a result, Louisiana hosts approximately 30% of all French Immersion schools in the Nation.



This strong representation is part of the legacy of Louisiana's unique history, and it is one of the strengths which make Louisiana such a special place in the U.S. Most of these immersion schools



SELECT Team during the planning phase, from left to right: Dr. Sophie Warny (MNS); Terri Hammat (LDE); Bernard Dubernet (FEP); Nicole Boudreaux (Louisiana Consortium of Immersion Schools); Dr. Denise Egéa-Kuehne (FEP); and Arnaud Sgambato (FEP). SELECT Team members not featured are Jean May-Brett (LDE); Adrienne Lopez (SOAR); and Rebecca Tedford (MNS).

are in the parishes that were most severely affected by the 2005 hurricanes. These same parishes also include some of the most rural and underserved areas of the state, and consequently, the majority of Louisiana French immersion programs are located in high-need school districts, attended primarily by historically underrepresented and low socio-economic students. Through the partnership between the FEP and the MNS, supported by a BOR SELECT grant, we have the opportunity to help the recovery efforts of these schools by providing them with workshops via videoconferences, and offering all the scientific workshop materials in both French and English. This innovative partnership, bringing together science and French, is grounded in a solid body of research in the fields of teacher education, science education, and foreign language education. Because all elements of the program are offered in both languages, they will also be available to science teachers in standard elementary and middle school programs. “Standard” and “Immersion” teachers have a number of characteristics in common: both groups teach the same science content, both are in dire need of pedagogical materials and support, and both need opportunities for professional development. The LSU FEP and MNS partnership offers precisely that to teachers. It is our hope that the program also encourages and fosters new collaboration between science teachers in regular programs and science teachers in immersion schools.

The professional development workshops via compressed video will also provide the pedagogical assistance needed to use the material provided through the FEP Online National Resource Center, partially funded by a previous BOR DEI Grant (2003-2005), and through the LSU Museum of Natural Science (MNS) education Website. Furthermore, the professional development component will be enhanced by the fact that these compressed video workshops will offer Continuing Learning Units (CLUs) which teachers may submit for approval toward the Louisiana teacher re-certification or the Highly Qualified Teacher requirements. These six videoconferences will be broadcast from LSU to six distance learning sites across the State of Louisiana, in Lafayette, Lake Charles, Monroe, New Orleans, Shreveport, and Thibodaux. In our effort to provide the best learning environment, we are planning an open and interactive format, alternating presentations with active participation from individuals at all seven sites. In order to make this participation more effective, we have asked two colleagues, one in science and one in French, to act as local moderators at each site and to lead discussions and activities. These teachers were recommended by Jean May-Brett, MSP Coordinator, and by Terri Hammatt, Foreign Language Program Consultant, both from the Louisiana Department of Education.



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1. Foreign language and science teachers learn about the self-guided field trip book written by Dr. Sophie Warny and translated into French by Dr. Stanislas Dubois and Anne-Sophie Dubois, and into Spanish by Ana Morales. 2. MNS student worker Loren Price demonstrates an ancient Indian pottery-making technique called “coiling.” This activity will be integrated into the workshops. 3. Graduate student Rebecca Tedford demonstrates one of the workshop activities to Jean May-Brett from the Louisiana Department of Education and to facilitators. In the background, the new AV system funded by the Pennington Family Foundation displays samples of creatures living in the LSU lakes. 4. Terry Hammat, from the Louisiana Department of Education, and Select educators learn about new ways to integrate LSU Scope-on-a-Rope (SOAR) program in the classroom. 5. Adrienne Lopez, LSU MNS alumna and SOAR coordinator, demonstrates how to integrate the scope into the curriculum.



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On Monday, January 29, 2007, those fourteen Louisiana educators gathered at LSU for a day of orientation at the Museum of Natural Science and training in the LSU distance learning labs. The orientation gave the participants and future facilitators an opportunity to become familiar with the unique research collections held at the MNS, but also with the program itself, and the technology that will be used. It also gave all involved a chance to meet one another and develop French/Science partnerships. This day of orientation was a success and we are looking forward to training many participants at our 6 upcoming workshops. The workshop themes correspond to some carefully selected MNS exhibits, and focus on the Louisiana environment and resources. They will be offered on the following dates:

March 9, 2007	2:30-4:00pm	Birds and tracks
April 20, 2007	2:30-4:00pm	Life in the bayous
May 11, 2007	2:30-4:00pm	Hunting for fossils
TBA Fall 2007	2:30-4:00pm	Louisiana rocks and minerals
TBA Fall 2007	2:30-4:00pm	Gulf coast sea-line
TBA Fall 2007	2:30-4:00pm	Louisiana Indians

If you have any questions, please contact:

Dr. Sophie Warny, Education Director, LSU Museum of Natural Science, swarny@lsu.edu, 225-578-5089 or

Dr. Denise Egéa-Kuehne, Director French Education Project at LSU, dekueh@lsu.edu, 225-578-2429.



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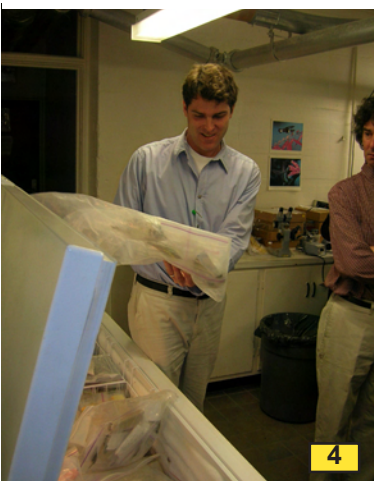
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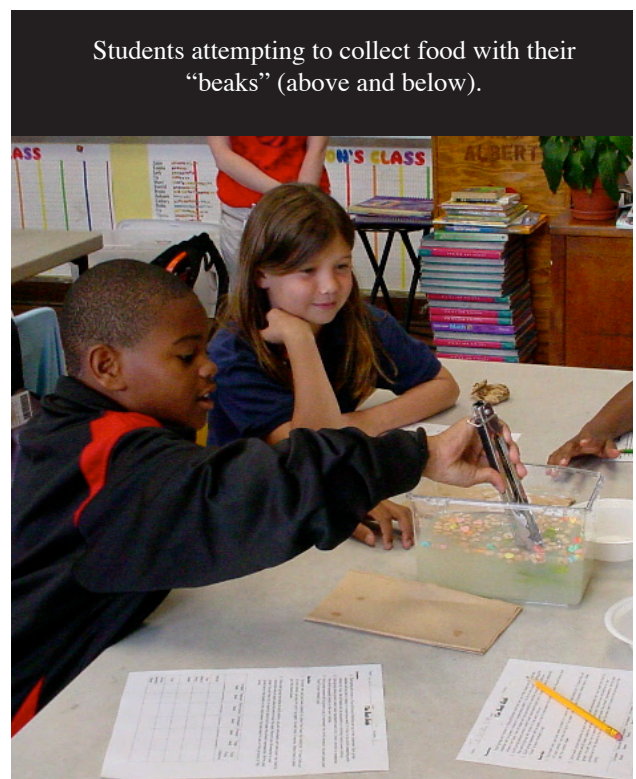
1. Dr. Van Remsen shares the bird collections he curates with Select facilitators. The bird collection is the 4th largest university-based collection in the world. 2. Brian Fontenot, science facilitator for the Lake Charles site, visits the herpetology collection curated by Dr. Chris Austin. 3. These are two of the new liquid nitrogen tanks that are used since the hurricanes to protect the priceless genetic resources (tissue) collection. The museum hopes to raise enough funds to buy an additional 6 tanks to transfer all its bird tissues to these tanks. At the moment, only the herpetology tissue collection is stored in nitrogen, thanks to a grant from the National Science Foundation to Dr. Chris Austin. 4. The bird tissue collection is currently stored in ultra-cold electric refrigerated containers, a solution that is not optimal in a state prone to hurricanes and power outages. The museum relied on generators and the constant care of Dr. Robb Brumfield during hurricanes Rita and Katrina and survived intact. 5. Dr. Mark Hafner shows a specimen from his collection. Dr. Hafner is the curator of mammals and currently studies the relationship between mammals and parasites. 6. Dr. Robb Brumfield, curator of Genetic Resources, gives a tour of the genetic lab to the participants. 7. All participants were invited for lunch at the LSU Faculty Club before the afternoon training session which took place at the LSU distance-learning center with Bobby Callender, Coordinator of the E-Learning Technologies Center for Instructional Media Services/CELT. The afternoon session prepared the fourteen SELECT educators for their role as distance-learning facilitators.

Learning to Eat Like a Bird in Lafourche Parish



Twenty-one 4th grade students at Thibodaux Elementary School were able to experience first hand what it is like to eat like a bird. Faith Albert was one of twenty-two Science and French teachers from Lafourche Parish who attended the Birds and Tracks workshop provided through collaboration between the Museum of Natural Science and the French Education Project on March 9th. Pictured are student groups racing to collect as much food with their beak as possible. This lesson focused on how a bird's bill has adapted to eat in its environment. Not only did students in the class learn science Grade Level Expectations they also integrated math into the beak lesson. Once students finished collecting food at each station they had to find the mean, median, and mode of "each type of food" eaten. Students then used these data to construct individual graphs by inputting the data into Graph Club software. The data were then put into a class "food eaten" graph. Students loved the activity and commented, "I didn't realize that birds had different beaks," "This activity was really neat," and "I didn't realize it could be so much work for a bird to get food." Since this lesson, students have been placing stale bread and nuts outside the classroom window to observe and compare the birds' beaks as they eat the food.

Lafourche Parish also provided each school, which had a teacher attend the workshop, with a ProScope HR. These are USB digital microscopes. Ms. Albert also taught the students how to use the Scope-On-A-Rope to look at the different seeds and foods the birds eat. They also looked at different clothing materials, plant leaves, feathers of birds, fingerprints, and other materials the students brought into the class. They also "showed off" the scope to a 5th grade teacher who will use it to present materials to her class.



Students attempting to collect food with their "beaks" (above and below).

SPECIAL SATURDAYS

“Coastal Critters”

Special Saturday, January 27, 2007

Guest Speaker: Dianne Lindstedt, Louisiana Sea Grant

On Saturday, January 27, Dianne Lindstedt from Sea Grant Louisiana came to the museum to teach about Gulf Coast Sea Life. She brought with her interactive exhibits of shells, seashore life and gulf coast marine life. Lindstedt said that Louisiana has about two million square miles of wetlands, which are the largest in the world excluding Alaska. The wetlands are flooded marshes and swamps that are very important for coastal creatures. Lindstedt described the different types of “critters” that live in and along the gulf coast and their importance to the area. Children and parents who attended the event were able to feel these marine creatures first hand, as well as ask Lindstedt any questions about the habitats they live in.



Dianne Lindstedt provides details about coastal critter specimens to children and their parent (right).

“Who Dunit? Understanding Forensic Science”

Special Saturday, February 27, 2007

Guest Speaker: Rebecca Tedford, LSU Museum of Natural Science



On Saturday, February 27, several kids entered the museum and became sleuths for the day as they tried to uncover the mystery of who “stole” the skeleton head of Mike the Tiger, LSU’s beloved mascot. Led by **Rebecca Tedford**, the kids who attended the Special Saturday had the opportunity to learn how forensic science can help solve a crime. They were able to use evidence such as hair and fiber samples, fingerprints, and DNA as they worked to pin down a suspect. During their transformation into detectives, the kids were able to put the information-gathering skills that they had learned to work to analyze the evidence to solve the case.



Kids work as a team to uncover clues to catch their suspect (left and right).

“Crawfish: Louisiana’s Mudbug”

Special Saturday, March 24, 2007

Guest Speaker: Sandra Malone, LSU AgCenter

Sandra Malone came to the Museum to speak about Louisiana's mudbugs, the crawfish. She explained how they move, feed and behave. Malone brought various types of crawfish for the children to examine up close. She explained that crawfish have been around since 25,000 B.C. and can be found in almost all cultures. She said they have provided us with a rich history of folklore. Native Americans believed that crawfish assisted in the creation of the earth. Farmers believe that they signal rain when they close up their burrows. And many cultures believed that crawfish can be used as medicine.

Many families in Louisiana make their living growing crawfish in ponds or harvesting the wild swamp crawfish of the Atchafalaya Basin. Crawfish are freshwater crustaceans closely related to lobsters. Although crawfish and lobsters look alike, they are only cousins. Crawfish live in freshwater lakes or ponds, but lobsters are saltwater creatures. The crawfish is called a “decapod” because it has five pairs of legs, as well as gills like fish. Crawfish are found in rivers, ponds, and swamps all over the world except Africa and Antarctica. The United States has 230 species of crawfish, 15 of which can be found in Louisiana. Crawfish can be white, pink, orange, brown and dark blue. In south Louisiana the most familiar species are the red swamp and white river crawfish. They are sold for eating, for bait, or as pets.



Sandra Malone gives kids an up close view of a crawfish.



Kids experiment with building crawfish mounds from clay and testing the types of food crawfish like.

Museum of Natural Science Ph.D. student, Michael Williams, receives national awards



Museum of Natural Science Ph.D. student Michael Williams (left) received a national Sigma Xi Grant-in-aid of Research award and a BakerHughes/Haliburton grant in April, 2006. He is studying the biostratigraphy, paleoecology, and biogeography of fossil reptiles and amphibians from an Early Miocene locality at Toledo Bend, Texas, as well as a Middle Miocene site at Fort Polk, Louisiana, and a Late Miocene locality in Jackson, Louisiana. The funds will be used for traveling to the Institute for the Study of Earth and Man at the Shuler Museum of Paleontology at Southern Methodist University in Dallas, Texas, the Michigan

State University Museum of Paleontology in East Lansing Michigan, and the University of Michigan Museum of Natural History in Ann Arbor, Michigan, to examine comparably-aged herpetological specimens from across the United States.

Would you like to receive the LSU MNS by email also?



If yes, send an email to: tjacks9@lsu.edu

Tammie Jackson, Administrative Coordinator, LSU Museum of Natural Science

Email title: I wish to receive the NL by email attachment.

COVER GIRL

Section of Fossil Protists and Invertebrate Paleontology



Adjunct Curator **Barun Sen Gupta** and Collections Manager **Lorene Smith** recently had some of their research published in the journal *Marine Micropaleontology*.

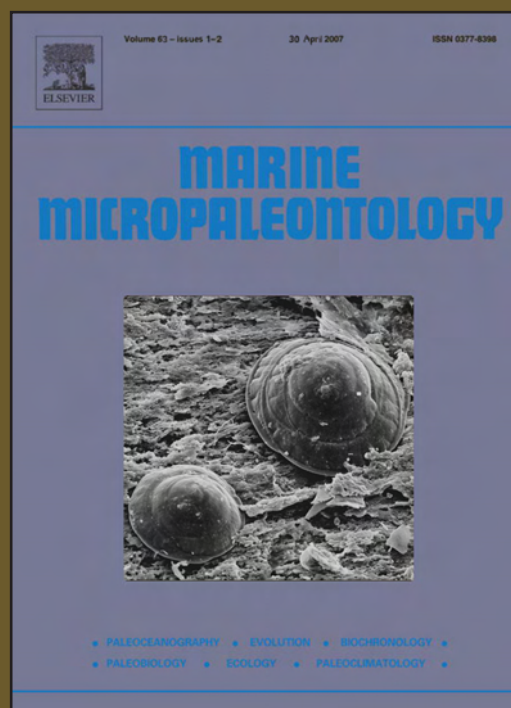
Many species of Foraminifera were discovered living on vestimentiferan tubeworms which inhabit Gulf of Mexico hydrocarbon seeps. Their points of attachment were centimeters to decimeters above the seafloor allowing these foram species to avoid the oxygen depletion and H₂S toxicity at the sediment-water interface.

Sen Gupta, Barun K., Lorene E. Smith, and Melissa K. Lobegeier. 2007. Attachment of Foraminifera to vestimentiferan tubeworms at cold seeps: Refuge from sea-floor hypoxia and sulfide toxicity. *Marine Micropaleontology* 62: 1-6.

AND...

A scanning electron micrograph (SEM) by Lorene was also selected for the cover of *Marine Micropaleontology* Volume 63 (see picture to the right). The SEM shows two specimens of the foraminifer *Patellina corrugata* attached to the tubeworm *Lamellibrachia luymesii* (Green Canyon, water depth 562 m).

Congratulations to Lorene and Barun!





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

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