

Museum Quarterly

LSU Museum of Natural Science

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Museum of Natural Science Curators and Directors

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Letter from the Director...



Happenings at the Museum

Usually I review the latest happenings at the Museum in fundraising letters, but I haven't written such a letter in a long time, so I thought it might be a good idea to fill y'all in here on the latest news.

Yesterday afternoon, we had an elegant champagne, cheese, and strawberry event (funded by curators and students!) to celebrate the successful dissertation defenses of two senior graduate students, **Ben Marks** and **Matt Carling**. In his seminar, Ben talked about discovering remarkable cryptic diversity in African rainforest birds. What look outwardly like single, uniform songbird species distributed across the central African forest turn out to be highly diverged and geographically structured species complexes. Their amazing genetic diversification appears to have been caused by division of once widespread populations into forest refugia during the Pliocene. Matt talked about his work on hybridization of Indigo and Lazuli buntings in the western Great Plains. In the most lucid description of hybrid population genetics I've ever seen, he described his use of gene sequences from mitochondria, autosomes, and sex-linked chromosomes to decipher the history of the bunting zone. Next year, Matt will be a postdoc at the Cornell Lab of Ornithology, which has the world's best collection of Great Plains hybrids. Ben will stay here for a while to write Earth-shaking manuscripts on the causes of biodiversity in Africa.

By the way, the champagne event was organized by our new postdoc in ornithology, **Elizabeth Derryberry**. Liz is a recent graduate of Duke (and before that Princeton). She is a behavioral biologist, specializing in the evolution of bird vocalizations, who is now learning molecular genetic techniques and museum biology under the watchful eyes of curators **Robb Brumfield** and **Van Remsen**. Liz brings a new dimension to our group (bird behavior), as well as remarkable energy and class (as evidenced by the champagne and strawberries).

Finally, I should mention our search for a fish curator to replace **Mike Fitzsimons**. We interviewed three outstanding candidates in March and offered the job to Prosanta Chakrabarty. Prosanta is a NYC boy, educated at McGill and the University of Michigan. He recently found his way back home and is now a postdoc at the American Museum of Natural History. He is a real museum wonk, having spent his youth at the AMNH, and we hope he'll accept our job offer and come to LSU to study fish evolution and build our collection.

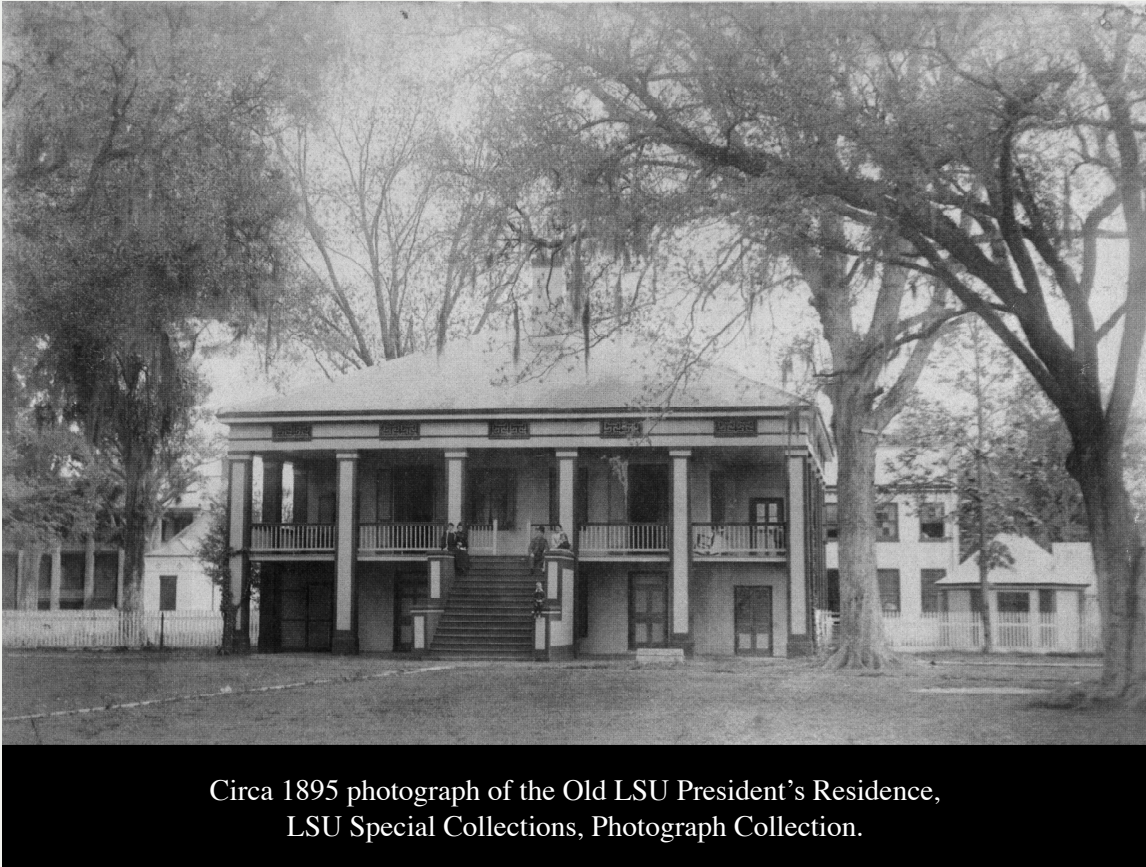
Lots more to say, but no more space.

Fred Sheldon

New Investigations at Old LSU: Uncovering the Past at the Louisiana State Capitol Grounds

Article by Dr. Rob Mann, Southeast Regional Archaeologist

In June and July 2007, the **LSUMNS** Regional Archaeology Program partnered with personnel from the Louisiana Division of Archaeology to conduct an archaeological investigation of the Old LSU Campus located within the present-day bounds of the Louisiana State Capitol Grounds (16EBR79). The project involved the excavation of four 1m x 1m units at what was known as the President's Residence during the LSU occupation of the site, ca.1886-1930. The project was open for public visitation, and over 400 visitors signed our guest book during the nine days we were on site.



Circa 1895 photograph of the Old LSU President's Residence,
LSU Special Collections, Photograph Collection.

The history of the area now occupied by the Louisiana State Capitol Grounds and Pentagon Barracks stretches back to the earliest Euro-American settlement of the Mississippi River. During the American Revolution the British established a fort here, called Fort Baton Rouge or Fort New Richmond, to defend the area from the Spanish, who had allied themselves with the American revolutionaries. In 1779 the fort at Baton Rouge fell to the Spanish led by Bernardo de Gálvez. The Spanish renamed the fort Fuerte San Carlos (Fort San Carlos) and occupied the area until it was captured by the West Florida militia in 1810, who proclaimed the area to be part of the independent West Florida Republic. The West Florida Republic was short-lived and the area was subsequently turned over to the United States in December 1810. From 1819 until 1879 the Pentagon Barracks and Arsenal Grounds occupied the area. In 1879 the Pentagon Barracks and Arsenal Grounds were decommissioned, and in 1884 they were transferred to U.S. Department of the Interior. Two years later the Secretary of the Interior gave the Pentagon Barracks and Arsenal Grounds to Louisiana State University (LSU). Many of the former military buildings that survived the Civil War and a hurricane in 1879 were taken over by LSU and used as dormitories, residences for University officials, classroom buildings, laboratories, and administration buildings. In 1902 LSU was given full title to the

property, and by the middle of the 1920s, LSU occupied about 40 buildings in downtown Baton Rouge. By 1922 LSU had acquired a large tract of land south of town and began the process of transferring the campus from downtown Baton Rouge to its present location. The Louisiana State Capitol building was completed in 1932 and by 1940 the State Capitol Grounds had more-or-less assumed the appearance they have today.

Using an early twentieth-century LSU campus map overlain on a modern aerial photograph as a guide, our archaeological investigations were designed to determine if we could locate evidence of a building known as the President's Residence during the Old LSU occupation of the site, ca. 1886-1930. This structure, however, predates the Old LSU occupation, and historic maps indicate that a structure was in this location by at least 1829. It may have served as quarters for Ordnance Officers and was perhaps built as early as 1825. Significantly, historic maps also depict a well just south of the Ordnance Officer's quarters. By at least 1895, the structure is being referred to as the President's Residence on maps of the LSU campus. Historic photographs of the President's Residence show that it was a Greek Revival style house, two-stories high with front and side galleries supported by square Doric columns, which appear to sit on brick piers (shown below, left). Historic photographs also show a small polygon-shaped (probably an octagon) structure located on the south side of the President's Residence, in the area of the well denoted on earlier historic maps. It is possible that this small structure represents a well house, built over the well sometime after 1829. The historic photographs of the President's Residence also suggest that the well house was built on a chain wall foundation rather than raised on piers. Furthermore, the roof and wall angles reveal that the well house was constructed as multi-sided polygon, probably in the shape of an octagon.

A small grid was established over the area selected for excavation, and a trench measuring 1 m x 7 m was laid out. The map overlay suggested that a trench in this location would intersect the south wall of the President's Residence. Four 1 m x 1 m units within the trench were selected for excavation. Artifacts recovered from below the modern fill strata indicated that intact archaeological deposits dating from the early nineteenth century through the early twentieth century were present here. We subsequently defined seven cultural features during the course of our field work at the site; the most significant being Feature 5 and Feature 7. Feature 5 is a brick pier, six courses high. Feature 5 is interpreted as one of the brick piers, which supported one of the six columns on the south wall of the President's Residence. Feature 7 is a portion of a polygon (octagon?)-shaped brick foundation. The foundation is three bricks wide and two courses high. Feature 7 is interpreted here as being the foundation for the well house associated with the President's Residence.

In conclusion, our excavations at the location of the Old LSU President's Residence revealed the presence of intact archaeological deposits and structural features interpreted as being related to the structures known to have been present in this location since at least 1829. Future excavations may shed additional light on the daily lives of the soldiers, officers, cadets, students, workers, and administrators who served, studied, lived, and toiled here during both the military and LSU occupation of the Louisiana State Capitol Grounds.



Feature 5, Brick pier for column support.
Right: Feature 7, polygon-shaped foundation of well house.



Feature 7, polygon-shaped foundation of well house.

Following the birds that follow the ants

DNA analysis sheds light on evolution of this unique behavior

Article by Pat Leonard, Cornell Lab of Ornithology

When thousands of army ants go on the march, Central and South American rainforests erupt with hordes of other insects and small creatures scurrying to get out of the way. Many species of birds have learned that following the marauding ants means a feast, and over millions of years of evolution, some species have lost their ability to find food any other way.

Using modern genetic techniques, a new study traces the evolution of army-ant-following behavior in the typical antbirds and finds it has been around for up to six million years. The behavior has become more and more specialized—to the point where some species depend entirely on ant swarms. These are the “professional” army-ant followers.

“These birds depend almost solely on one species of army ant, called *Eciton burchellii*,” says study author **Robb Brumfield**. “This makes the professional army-ant-followers sensitive to many of the very real threats to this ecosystem, like deforestation, global warming and other similar issues.”

Brumfield, assistant curator of genetic resources at the **Louisiana State University Museum of Natural Science**, led the research team whose findings appear in *Molecular Phylogenetics and Evolution* (October 2007). He first became interested in army-ant-following behavior in birds while working in Peru, assisting then-graduate student Ken Rosenberg, now director of conservation science at the Cornell Lab of Ornithology and a coauthor of the study.

“What’s exciting to me is that we now know army-ant-following behavior has evolved a couple of different times in different groups of antbirds,” says Rosenberg, “But once it evolved, the behavior never disappeared. It just became more and more pronounced in some species and became what we call ‘obligate’ behavior. If these birds don’t find an army ant swarm, they don’t know how to feed.”

“If anything affects the ant population, it could be devastating for these birds,” says **Brumfield**. “But what is perhaps most surprising is that, despite the bird’s dependence on one primary ant species, the specialization has persisted for millions of years.”

“Nature is like a giant jigsaw puzzle,” says Rosenberg. “The ecology, the environment, the evolution of behavior over time—each new technique we develop, such as this genetic analysis, allows us to look at the world through a whole new window.”



Photo by Dan Lebbin



The **LSU Museum of Natural Science** would like to congratulate John P. O'Neill for receiving the “Resolucion Suprema,” one of the highest civilian awards given in Peru. This award from the Peruvian government will recognize O'Neill for his many years of dedication and service to Peru, and it will be signed by the President of Peru. O'Neill says it is “truly an honor to be recognized by the country and the people whose natural resources and especially birds are so close to [his] heart.” O'Neill will travel to Peru to receive the certificate and medal.

Counting has always been for the birds with Robert Andrie

Article by Gerry Rising of *Buffalo News*



“Some occupations are not simply thankless but invite animosity. I know. I have two of them: university department chairman and basketball referee.”

For 51 years, **Dr. Robert Andrie** (LSU MNS alumnus) quietly and efficiently filled another of those roles: chairman of the statistics committee of the Buffalo Ornithological Society. Over part of that time he also served for two decades in a similar capacity for New York State birders. The basic task of those committees is to decide whether a rare bird report is acceptable.

Now think about it. You have seen a bird, perhaps at your backyard feeder, and you are convinced that it is a scallop-winged-zip-whacker. You’ve carefully checked the bird’s characteristics against a field guide, and you are absolutely certain that’s what it is. You write up a report and send it in. It is not accepted.

Several reactions immediately occur to you: “That guy is attacking my integrity.” “He is purposely embarrassing me.” “Who is he to make such decisions?” Never mind that the scallop-winged-zip-whacker has been extinct since 1935, that its range before that was New Zealand and that it is not distinguishable from a starling. “What right does he have to question my call?” That example is, of course, apocryphal and even a wee bit exaggerated, but I know those feelings. I have had records turned down myself.

I have known Bob Andrie since the 1950s, and my respect for him has grown over those years. He has weathered time on that statistics committee very well, and although he will be giving up his role as statistician, he will continue as the senior Niagara Frontier ornithologist. Later this year, a new “Atlas of Breeding Birds of New York State” will be published. Andrie was senior editor of the first of those atlases in 1988, and has made important but mostly behind-the-scenes contributions to the new volume. Andrie’s other activities have included:

- Service to the Buffalo Museum of Science in various roles including curator of vertebrate zoology; assistant, associate and acting director; fellow; and research associate.

- Preparation of the materials that led to designation of the Niagara River as the first international Important Bird Area (IBA). This Audobon Society sponsored program is part of a global effort to identify and conserve areas that are vital to birds and other biodiversity.

- Work for more than 20 years with Buffalo and Erie County politicians as well as the New York Department of Environmental Conservation (DEC) on the conversion of Lake Erie shore brownfields area known as Times Beach into a park.

- Consulting with the DEC on problems, including botulism that is decimating Lake Erie waterfowl.

- Regional publications including a 1970 supplement to *Beardslee* and Mitchell’s “Birds of the Niagara Frontier” and “Gulls of the Niagara Frontier,” which has contributed to the mounting interest in the species.

In preparing this column, I read Andrie’s seminal and often-quoted 1967 paper, “The Horned Guan in Mexico and Guatemala.” Reading between the lines, I gained a feel for his tough pursuit of this strange and now increasingly rare bird through tropical forests on the steep sides of Central American volcanoes. This hiking was recently described as “incredibly strenuous.” At this time of his “retirement,” I salute this fine and generous friend. May he long continue to contribute to that natural history of this region.



SPECIAL SATURDAY

Going Batty!

On February 23, 2008, the **Museum of Natural Science** held a Special Saturday featuring bats. **Susan Murray**, a research assistant at the museum whose expertise is on bats and birds, was the speaker for the event. During her talk on bats, she emphasized that the most important thing the kids could do to help bats is to tell others how great bats are. She also hoped that after teaching the children about bats, they would not think bats are so scary. **Susan** talked about the special attributes of bats, especially echolocation and flight. She also discussed the twelve species of bats found in Louisiana, which include the Hoary bat, the Red bat, the Seminole bat, and the Yellow bat.

After learning about bats, the children were invited to do arts and crafts and to participate in an echolocation game. The crafts included making bat puppets and bat masks to take home. The echolocation game turned out to be a big hit among the kids and parents alike! **Susan** and graduate student **Rebecca Tedford** blindfolded one child to be a “bat.” Another child was chosen to be a “moth.” The bat and moth had to stand within the circle of other kids. As the bat yelled, “Bat!” the moth had to respond by saying, “Moth!” (very much in a “Marco Polo” fashion). The game taught the kids that by saying “bat” in very rapid succession, they could more easily pinpoint the location of their dinner, the moth.

Overall, the Special Saturday was a great success with some 25 children in attendance.

The **LSU Museum of Natural Science** will be hosting its next Special Saturday on “Backyard Birding” on April 26, 2008.



Speaker Susan Murray answers questions from curious parents and children on bats.



Above: Corinne, age 6, shows off her bat mask.
Left: A collection of bats brought by Susan Murray to show varying sizes and types of bats.



Former LSU MNS Curatorial Assistant Moves to Los Angeles



In February 2008, **Michael Williams** accepted a full time, two year, curatorial assistant position at the Natural History Museum of Los Angeles County, which will include research space for him to complete his doctoral research on *Miocene herpetofaunas* and a nice view from his window of the famous “Hollywood” sign. His duties consist of helping in the movement of vertebrate fossils during earthquake retrofitting of the original 1913 building, computer curatorial duties, and preparation and mounting of Cenozoic vertebrate fossils for the revamped Cenozoic mammal hall due to open in 2009. He is currently preparing an early Mio-

cene (~20 million years old) dolphin from California that is probably a new species.

During the summer of 2007, Mike and his family decided it was necessary for his wife and two young children (five and two years old) to move to Mike’s hometown of Cypress, California, to help take care of his father. Mike stayed in Baton Rouge to work on his Ph.D. and looked for jobs in southern California. The separation was difficult, and he flew back to visit every month or so.

Michael Williams has been a dedicated employee of the Louisiana State University Museum of Natural Science since he got out of the Navy in 1997 and began volunteering in the vertebrate paleontology section during his freshman year at LSU.

Starting in 1998, he began working as a museum student worker in vertebrate paleontology while completing his undergraduate degree in zoology and minor in geology.

After graduation in May 2002, he enrolled in a Ph.D. program at LSU in geology, and he became a curatorial assistant for the LSU Museum of Natural Science in January 2003. He is extremely thankful to his advisor, **Dr. Schiebout**, and dissertation committee (Dr. Brooks Ellwood, Dr. Jeff Hanor, and **Dr. Sophie Warny**) for all their support and help and to the Louisiana State University Museum of Natural Science for keeping him employed for ten years and giving him the training and experience that enabled him to acquire the job in Los Angeles.



Long-time office manager retires

We note the retirement of long-time office manager Peggy Sims. Mrs. Sims was an important part of the Museum for 15 years, friend to many graduate student and the Museum’s link to Old Baton Rouge. She will be sorely missed. We wish her well in her retirement, and look forward to seeing her at Christmas parties and anytime she’d like to drop in.





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