LSU | Museum of Natural Science

Newsletter

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Photo by Juliana Damasceno

WE BUILD TEAMS THAT WIN
IN LOUISIANA FOR THE WORLD

Letter from the Director

Museum of Natural Science Director and Curators

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John Stauffer McIlhenny Professor
Curator of Amphibians & Reptiles

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Jacob A. Esselstyn
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Nicholas A. Mason
Associate Professor Curator
of Birds

Gregory Thom
Assistant Professor Curator of
Genetic Resources

Sophie Warny
AASP Professor
Curator of Palynology



Dear LSU MNS Community,

Natural history museums are at an inflection point. This country's oldest natural history museum, the Academy of Natural Sciences in Philadelphia, Pennsylvania, is closing its exhibits, and many are worried the historic collections will be eliminated next. The smaller but no less important Sternberg Museum of Natural History in Hayes, Kansas, is also closing. Both museums are shuttering their doors due to budget issues (largely at the university level, Drexel and Fort Hayes State, respectively) and from a lack of support from administrators. That won't happen to the LSU Museum of Natural Science. We have support for our research in microCT scanning, genomics, collection development, and outreach. We also stay relevant as a collections-based research powerhouse. As I write this, Curator Nick Mason and his ornithology team are in Bolivia, where LSU research over 40 years (by folks like LSU MNS legends Ted Parker and Emeritus Curator J. Van Remsen) helped establish the Madidi National Park. Ichthyology and Herpetology Collections Manager, David Boyd, is currently in the Cayman Islands with former LSU MNS student Sheila Rodríguez Machado (now at Yale) for a biogeographic study of Caribbean fishes. Our tendrils and impact are everywhere (read more about our publications and activities in this newsletter).

As I begin my 2nd year as director, I wanted to update you on one of my promises to reach out to more museums and information keepers to see how they do things. I joined the Association of Science Museum Directors and am also part of the ZooMu Network (an NSF-funded group connecting zoo and natural history museum researchers); more recently, I was named a Fellow of "Project GLAM" – an LSU-led grant connecting researchers across galleries, libraries, archives, and museums (i.e., "GLAM"s). These groups have helped me better understand the challenges that other similar organizations face – from protecting collections from climate change-related impacts to dealing with shrinking funding streams. We've had the Director of Harvard's Museum of Comparative Zoology, Gonzalo Giribet, and Harry Greene (from the U of Texas, and formerly faculty at Cornell and Curator at the Museum of Vertebrate Zoology at Berkeley) out to give talks to discuss their research. I plan to have more museum leaders visit our small but mighty museum so they can learn about what we do at the LSU MNS, and so that we can learn from their experiences. (If you would like to nominate a museum leader to speak and visit with us, please send me their names.) I learned recently about the importance of having both 'strong ties and weak ties' to help create community networks: I aim to do more to help build a global network for the Museum.

At a recent talk that I gave at James Madison University, I spoke about 'natural history museums in the age of AI.' I made the point that museums have to evolve to stay relevant to funding agencies like NSF that increasingly are moving away from basic science research (despite that being in their charter) to applied tools like artificial intelligence – or as they are now mandated to call it, "super intelligence." AI seems to be invading every facet of our lives, so I was surprised that in my graduate course, using

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natural history specimen data from a resource called GBIF (Global Biodiversity Information Facility), that the graduate students found no need to use AI despite the title of the course being "Publishing in Natural History using GBIF/AI." As the Chuck Berry song goes ""*C'est la vie," say the old folks, it goes to show you never can tell.*"

As the world changes, we need to change with it; we need to evolve to stay relevant. Of course, that change requires money – especially when it comes to much-needed renovations. You will read inside this newsletter about Curator Greg Thom's research grants and his more recent infrastructure grant to expand and update our vaunted liquid nitrogen tissue collections – one of the most important collections of animal DNA in the world. With Greg's grant from the National Science Foundation and with support from the College of Science, we will create a larger, more secure, and updated facility for these collections that are used by researchers worldwide. If you would like to help support the work of our students and senior researchers, every cent makes a difference and helps secure the future of our research, teaching, collections, and outreach (see the back page and please give what you can).

Thank you, and long live the LSU MNS (check out this great photo of us below),

Prosanta.





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To Borneo and Back: Investigating Areas of Endemism in North Kalimantan

by Claire Watersmith

Borneo, the world's third largest island, is divided by many large river systems and several disjunct, high-elevation mountain ranges, making it a likely source of biodiversity to islands across several different biodiversity hotspots in Southeast Asia. However, much of the interior of Borneo remains undersampled, especially in Indonesian Borneo. To remedy this, mammalogists at the LSU Museum of Natural Science have been making expeditions to Borneo since 2024, investigating patterns of diversity and endemism across the island. This year, we traveled to Kalimantan, or Indonesian Borneo, for the first time.



Our team from left to right: Austin Chipps, Nurul Inayah, Claire Watersmith, Toni Androski, Missy Hawkins, Gita Nurul Wahidah, Akbar Fadhilah Hilmi, and Hendri Dasra.



Our ~5-mile hike into camp.

This summer, both current and past members of the Esselstyn Lab made a trip to North Kalimantan, the northernmost Indonesian province in Borneo, for a collecting trip in collaboration with Nurul Inayah of the Indonesian National Research and Innovation Agency (BRIN) and Dr. Melissa Hawkins of the Smithsonian National Museum of Natural History (NMNH). Austin Chipps, a recent graduate of the Esselstyn Lab and now a postdoctoral researcher at the NMNH also joined us. From LSUMNS, we had doctoral student Claire Watersmith, Collection Manager Toni Androski, and Curator Jake Esselstyn.

Our final destination was the base of Mount Harun, a peak of 2,103 m located in Kayan Mentarang National Park, the largest stretch of unbroken, protected rainforest in Borneo. However, it does not receive much tourism due to its isolated and remote nature.

To access our site, we first visited the Dayak village of Pa'Raye, from which we hiked into and set up camp on the first of June. We remained there for just over four weeks, where we collected specimens of rodents, bats, shrews, and other small mammals.

During our trapping, there appeared to be a whole forest masting and fruiting event as we observed many acorns and fruits on the ground. This may have made animals less inclined to enter our baited traps and led us to try multiple different types of bait in our traps. Regardless, we were able to collect a wide diversity of mammals, including approximately three species of shrews, thirteen species of rodents, two species of treeshrews, and six species of bats. Importantly, we collected many focal species being used in our assessment of areas of endemism in Borneo and flank glands from male shrews which will be instrumental to Claire Watersmith's dissertation.

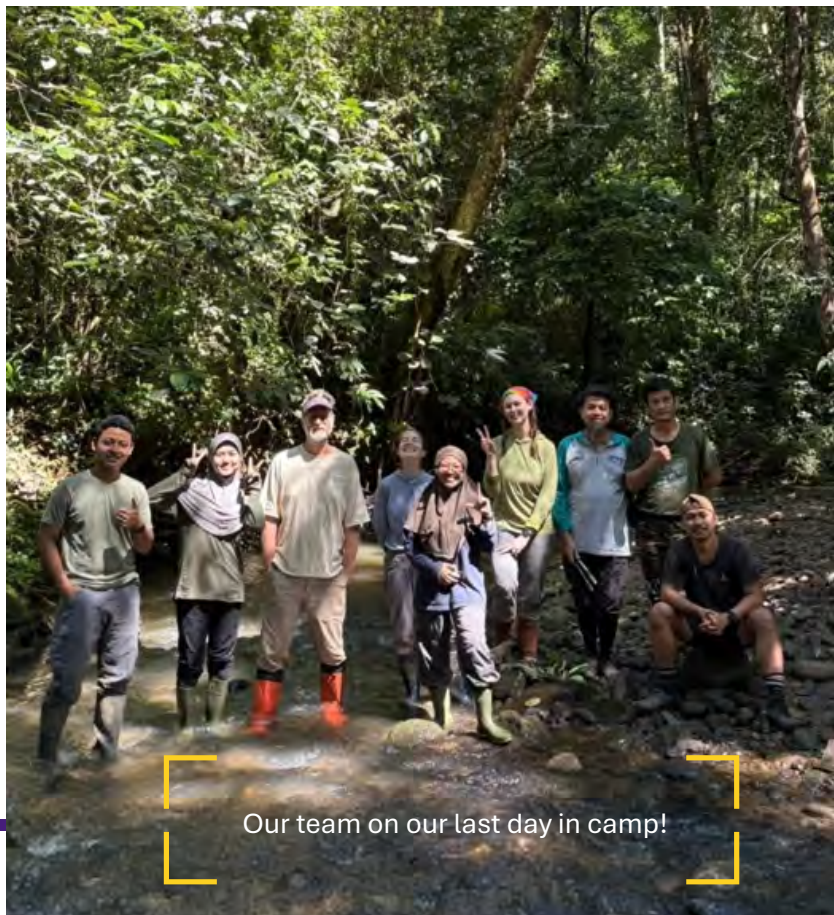




Left: The Bornean fruit bat (*Aethalops aequalis*) is endemic to the mountains of Borneo. **Right:** The tufted pygmy squirrel (Exilisciurus whiteheadi) is one of the smallest diurnal squirrels in the world and is also a Borneo endemic!

One of our most exciting finds was a tufted pigmy squirrel (*Exilisciurus whiteheadi*), one of several squirrel species that are endemic to the island. This tiny squirrel can be hard to spot as it moves rapidly up and down large tree trunks gleaning insects, lichen, and bark. We captured one in a trap set along the buttress roots of a large tree (see image above, right). Members of our team were also lucky enough to observe many other charismatic mammals; some highlights are a single sun bear (*Helarctos malayanus*), a lone female proboscis monkey (*Nasalis larvatus*), a banded linsang (*Prionodon linsang*), and a Malayan porcupine (*Hystrix brachyura*).

We hoped to return this fall, but forest fires in Kalimantan have led us to postpone. We are now planning to return to Kalimantan next year in continuation of this project. We are grateful to the donors who have contributed to the Al Gardner and Mark Hafner Mammalogy Fund for supporting this and our other fieldwork. If you'd like to support future expeditions, please consider making a contribution.



Our team on our last day in camp!

Inside a Frozen Record of Life—and What It Takes to Keep It Cold

by Bianca Scolaro

One of the world's oldest and largest vertebrate genetic collections holds more than 200,000 tissue samples gathered across nearly half a century. Keeping that biological record intact for scientists today — and for questions that may not be asked for decades — takes fieldwork, liquid nitrogen, and constant care.

Natural history museums are best known for what visitors see: exhibition halls and dioramas filled with birds, skeletons, fish in jars, and other specimens preserving snapshots of life from different places and times.

But much of what makes these collections scientifically valuable happens away from the public galleries.

Behind the scenes, researchers use museum specimens to study topics such as evolution, biodiversity, and environmental change. A specimen collected decades — or even centuries — ago can be examined again and again, allowing scientists to ask new questions as tools and technologies change.
And some of the most scientifically valuable material in a modern natural history museum may not look much like a museum specimen at all.

It might fit inside a tiny tube.

At the LSU Museum of Natural Science (LSUMNS), hundreds of thousands of those tubes are kept in a room most visitors will never see.

Instead of glass display cases, the room is dominated by large metal tanks. Inside, racks of tiny vials descend into an environment colder than minus 190 degrees Celsius. Open a tank, and the cold meets the warmer air, sending a cloud of white vapor spilling over its rim.

Established in 1979, LSU's Collection of Genetic Resources is one of the world's oldest and largest vertebrate genetic collections. It represents more than 140,000 individual organisms across roughly 8,660 species from every continent, most with multiple tissues, bringing the number of items preserved to more than 200,000.

For Gregory Thom, curator of genetic resources at the LSUMNS, the value of that archive lies not only in what scientists can learn from it now, but what it makes possible for the future.

"By cryopreserving tissues alongside museum specimens, we're preserving high-quality biological material that researchers can return to as new technologies emerge," Thom said. "It allows us to keep asking new questions about biodiversity long after a specimen was collected."



Gregory Thom, assistant professor and curator of genetic resources at the LSU Museum of Natural Science, helps care for a frozen archive built through decades of fieldwork.

A traditional museum specimen captures an organism's physical characteristics, such as its size, shape, and coloration. Frozen tissues complement that record by preserving biological material for molecular research, including high-quality DNA, RNA, and proteins.

Often, the two are connected. A tissue stored in one of those tanks may be linked to a bird in the ornithology collection or a mammal elsewhere in the museum, allowing scientists to move between the physical specimen, information about where and when it was collected, and the molecular record preserved inside its cells.

That potential has made LSU's frozen archive a resource for researchers around the world. Over the past decade, LSU has provided 628 national and international research loans totaling nearly 16,000 individual tissues. The collection contributes to more than 70 scientific papers each year. Those tissues have supported research well beyond evolutionary biology, including studies of West Nile virus and forensic tools for identifying illegally traded wildlife. The collection is also part of large international genomic efforts, including the Bird 10,000 Genomes Project, or B10K, which aims to sequence genomes from all living bird species.

The work behind the collection

Behind those numbers are decades of fieldwork — and thousands of samples whose journeys began long before they reached a freezer in Baton Rouge.

A large portion of its bird tissues — over 80,000 — comes from more than 40 years of expeditions to the Neotropics, the tropical regions of the Americas. Over the past two decades, the collection has also added material from places including Cambodia, Cameroon, China, the Dominican Republic, Equatorial Guinea, Ghana, Indonesia, Kuwait, Malaysia, the Netherlands, and South Africa. Other material has come through museums, zoos, breeding programs, and research institutions.

And this is where the work of a natural history museum can start to look a lot less like a museum.

"We can spend months at a time on expeditions in remote tropical areas," Thom said. "We're up hours before sunrise, walking miles in the tropical heat and dealing with intense rain and all sorts of bugs."

Expeditions like that require extensive preparation to secure permits and organize equipment and supplies. They also depend on collaborations with local scientists and communities, and often bring together LSU and local students and researchers at different stages of their careers.

Once a tissue is sampled, time matters. Biological material begins to degrade, so researchers working far from a lab need a way to preserve it quickly.

When possible, they carry liquid-nitrogen dewars into the field to flash-freeze tissue soon after it is sampled. Nearly all bird and mammal specimens are double-sampled, with one tube flash-frozen in liquid nitrogen and another preserved in ethanol.

Bringing liquid nitrogen into remote locations creates its own logistical challenge. Researchers first have to find a reliable source near their destination, which can add days of driving and reshape an expedition's route. They also have to carry enough to last the expedition — and often bring extra dewars in case one fails.

"Those dewars can weigh more than 40 pounds each, and we have to take them everywhere we go," Thom said. "That can mean carrying them for hours up steep hills, while making sure we have enough liquid nitrogen to last the entire trip."



For more than 40 years, LSU Museum of Natural Science expeditions have brought liquid nitrogen into remote field sites to preserve tissue samples. During this 1985 expedition to Huánuco, Peru, researchers transported a roughly 100-pound liquid-nitrogen tank into the Andes by mule, helping build what is now LSU's Collection of Genetic Resources. Photo by Ken Rosenberg.

At sufficiently low temperatures, tissue degradation essentially stops. Below roughly -130 to -135 degrees Celsius, chemical reactions that degrade DNA, RNA, and proteins essentially cease. Back in Baton Rouge, LSU's nitrogen-vapor tanks keep tissues colder still — below -190 degrees Celsius.

The result is something like a molecular snapshot, preserved until a scientist has a reason to examine it.

The value of an old sample

When the collection was established in 1979, preserving tissues for future research was a forward-looking investment. Decades later, that early commitment is making studies possible that its founders could not have imagined.

A sample collected decades ago can now contribute to genomic, transcriptomic or proteomic research. A tissue frozen today might someday help scientists investigate an emerging disease, reconstruct the evolutionary history of a species, understand how populations responded to environmental change, or answer a question no one has thought to ask yet.

Recently, Thom's lab encountered an example of why that foresight mattered. His team is producing high-quality reference genomes for a family of birds to study genome evolution. For one rare species, the White-masked Antbird, the only tissue available dated back more than than 60 years without a recorded sighting. Tissue collected during that work was cryopreserved and deposited in LSU's collection.



With pipettes, tubes, centrifuges and other portable equipment, modern field expeditions increasingly resemble traveling laboratories, allowing researchers to prepare and preserve samples for genomic, proteomic and other molecular research far from a traditional lab.

Modern long-read sequencing requires exceptionally high-quality DNA, and Thom wasn't sure a sample that old would work.

"When we extracted it, the DNA looked just as pristine as DNA from samples we collected on our most recent field trip," Thom said. "That tissue was preserved more than 25 years ago, and today it's allowing us to generate genomic resources that otherwise wouldn't be possible."

But for that to remain possible, one thing is essential.

They have to stay cold.

When the collection calls

Most days, the tanks do that job quietly. Nine large nitrogen-vapor tanks hold much of the collection, while ultracold freezers preserve additional material. Staff record temperatures and nitrogen levels every day. Sensors watch around the clock, monitoring freezer and room temperatures, oxygen levels, and even water on the floor.

Other days, a stream of alerts starts popping up on Thom's phone.

A temperature moves outside its safe range. Nitrogen runs low. A freezer malfunctions. Something needs attention.

The timing can be particularly unforgiving.

"Of course, problems always seem to happen during holidays or long weekends," Thom said. "In the past two years, I've had to go to the lab on Christmas Day to check on the freezers after getting alarm notifications."

Many samples inside those tanks cannot simply be replaced. Some were collected in places LSU researchers may never visit again. Others represent animals that are rare, difficult to encounter, protected or even extinct. The collection includes roughly 1,500 samples from zoos and breeding programs, some representing species extraordinarily difficult or impossible to sample in the wild.

A freezer failure, then, is not just an equipment problem. If a tank or freezer fails, its contents need somewhere cold to go immediately.

Meanwhile, the archive keeps growing. LSU's field program has accelerated in recent years, with international expeditions on four continents, while modern molecular research can require substantially more material from each individual. Some recent expeditions have generated as many as 20 tissue vials per specimen.

Then there is Louisiana weather.

The museum has backup power and

monitoring systems, but the collection still depends on a steady supply of liquid nitrogen. During summer, its external supply tank can require refilling about every seven days — a vulnerability during hurricanes, when transportation and deliveries can be disrupted. During prolonged storms, museum staff have placed the collections under 24-hour watch.

Even if every storm passes and every tank behaves as it should, there is still a predictable problem: it is running out of room.

The nine nitrogen-vapor tanks are already about 85 percent full. At about 3,500 new specimens a year, they are expected to reach capacity within roughly five years.

And space is only part of the challenge. Every tissue needs a trail of information that gives it scientific meaning: what organism it came from, where and when it was collected, who collected it, what kind of tissue it is, and, when applicable, which physical museum specimen it belongs to.

LSU researchers now record much of that information digitally in the field, using tablets, cryogenic-resistant labels, and barcodes. But getting a sample from an expedition into the permanent collection still involves manual steps and cross-checking, and processing new material can take years.

Without reliable data, even a perfectly preserved tissue loses much of its scientific value. Preserving the information about a sample can be nearly as important as preserving the sample itself.

Making room for the future

Now, nearly $1 million in infrastructure funding from the U.S. National Science Foundation will allow the LSU Museum of Natural Science to expand and modernize its frozen archive.

The project will move the Collection of Genetic Resources into a larger space in Foster Hall, add nitrogen-vapor tanks and ultracold freezers, modernize monitoring systems, and create the backup capacity the collection currently lacks.

The museum also plans to generate its own liquid nitrogen on-site. That would reduce dependence on outside deliveries and the more than $45,000 currently spent each year on liquid nitrogen. The improvements are expected to increase storage capacity by at least 30 percent, creating room for more than 60,000 additional samples and enough to accommodate projected growth for at least another decade.

The upgrades will also connect more of the digital journey from field to freezer, linking data recorded during expeditions with accession records, labels, and barcodes used to track individual tissues among the collection's more than 200,000 items.

The expanded infrastructure will support a collection already used by scientists around the world — and give it room to grow. The next tissue added to the collection may be used soon. Or it may stay frozen for decades. Either way, the job is to make room for it — and keep it cold.

A Tribute to the Contributions of Steve Cardiff and Donna Dittmann

by Van Remsen

The "Steve & Donna Era" at LSU ended in January 2024 with their retirement after 41 and 38 years, respectively, of dedication to the LSU Museum of Natural Science. Steve interrupted his Master's program at the Museum to become the full-time Collections Manager for Birds and Mammals in 1983, and Donna was first hired in 1985 as a Laboratory Technician in our genetics lab, but in 1995 she became our Collections Manager for the Genetic Resources Collection and Preparator for the Bird Collection. My major obstacle in writing a tribute to their careers was fear of trying to be comprehensive, so here I focus on a few of their most important contributions.

Specimens

The number of specimens Donna and Steve have prepared for the LSUMNS bird collection is remarkable. The latest figures are, for Donna, more than 10,300 study skins, skeletons, and "pickles", and for Steve, the grand total is more than 7500; Steve also collected more than 3000 specimens that others prepared. This represents about 10% of all bird specimens at the LSUMNS! The sheer number of specimens is just one part of their legacy. All S&D specimen labels have complete data, i.e., 10-15 data fields, i.e., at least 210K "data bits". Further, about 12,000 of their specimens have vouchered tissue samples, which represents roughly 15% (!) of the entire LSUMNS Genetics Resource Collection (which is the largest



Steve "in action," ca. 1988.



Steve and Donna collecting specimens in Cameron Parish, October 1984.

in the world). The quality of their study skins is among the best on the planet. Each one is an artistic marvel that maximizes the ease in extraction information on plumage and measurements. Open any specimen drawer in the collection, the "Dittmanns" and the "Cardiffs" will stand out. The Synoptic Series in particular is dominated by their specimens. Donna was renowned for her speed and skill in preparing large, often salvaged, specimens of seabirds and aviary birds, many in poor condition, some necropsied to the point that only Donna was capable of miraculously transforming these stinky carcasses into study skins. She also typically undertook the time-consuming preparation of "greasy" albatrosses, shearwaters, ducks, and alcids that the rest of us avoided.

The visual and numerical impact of S&D specimens on the research infrastructure of the LSUMNS will likely never be surpassed by anyone. Many of their specimens were obtained during official LSUMNS research trips to the tropics, including Peru, Bolivia, and Cameroon. Thousands, however, were collected on their own personal trips to Texas, New Mexico, Arizona, and California, as well as many parts of Louisiana, including the Gulf of Mexico, where their large series of seabirds represent the only modern sampling from anywhere in the Gulf. The next time you're in the collection, have a look at the remarkable series of beautifully prepared storm-petrels, shearwaters, or pelagic terns. Also meriting special mention are their collections in Texas, where they focused on the upper Rio Grande valley, the brushlands of south Texas, and the mountains of west Texas. Biogeographically, Texas is critical for analyses of geographic variation and population structure because it encompasses the distributional endpoints of so many eastern, western, and subtropical bird species, and thanks to the efforts of S&D, the LSUMNS contains the world's most important DNA samples of Texas birds.

One quantitative measure of the contributions of S&D that I wish I could calculate is the number of research papers and books published that have used their specimens. I am certain that the number must be in the many hundreds and that it is matched by few, if any, people in the world.

Specimen-based research culture and curation

Their attention to accuracy and reverence for the research value of a well-made specimen provided a model for staff and students that was essential to our collective appreciation of the importance of specimen-based research. Steve and Donna were the instructors for specimen preparation portion of our formal course, Museum Curatorial Methods. Their formal and informal tutelage of many dozens of students at the famous skinning table in the basement created a culture at the LSUMNS that focused on data accuracy and productivity.



Steve and Donna, 2015.

LSUMNS students have carried this culture with them to the 20 or so research collections in the Western Hemisphere where our alumni hold positions as research curators or collections managers.

As my collections manager for 35+ years, I trusted Steve completely to curate the collection to the standards we shared. Visitors to the collection invariably compliment us on the cosmetics and the organization that makes the LSUMNS bird collection easier to use, thanks to the time Steve invested.

Outreach and Louisiana birding community

Perhaps their most conspicuous contribution to birding in Louisiana was the creation of the Yellow Rails and Rice Festival in 2009. S&D had pioneered finding the ultra-secretive Yellow Rail in Louisiana by monitoring the combines that harvest rice in fall in southwest Louisiana. Their efforts revolutionized our knowledge of the status of the Yellow Rail in Louisiana; they changed it from being a rare phantom seen only by a lucky few to being common in unharvested rice in fall. So common, in fact, that the seeing multiple individuals was nearly guaranteed if one has access harvesting operations. They found that as many as a hundred could be flushed from a single set of fields, which was far more than Louisiana's combined total of all previous pre-YRARF sightings. S&D worked with rice farmers in the Thornwell area to organize a festival that allowed up to 130 people each year the opportunity to see Yellow Rails, including birds in the hand captured for banding. The number of birders who came to get their "lifer" Yellow Rail at the YRARF must be over a thousand. The festival also featured field trips to other habitats in Louisiana, often with LSU students as volunteer trip leaders. A main theme of the festival was how rice farming benefited bird populations, which promoted a new appreciation of farmers among birders and showed farmers the economic value of having Yellow Rails and other birds on their land through ecotourism.

Steve and Donna were an integral part of the Louisiana Ornithological Society and provided a

direct link between the Museum and Louisiana's birding community. As Chair and Secretary of the LOS Bird Records Committee for decades, their focus on high standards of bird identification and documentation had a pervasive influence on birding culture here. Donna's work on managing the archives and paperwork of the LOS BRC for more than three decades occupies several drawers of filing cabinets in the Bird Range.

Donna and Steve published 27 reports of the BRC's deliberations from 1990 to 2023, and the quality and pioneering layout of the reports were admired nationwide; see, for example, Dittmann and Cardiff (2023). Steve and Donna also wrote 14 bird identification articles for the LOS News, expertly illustrated by Donna, that drew attention from birding experts from around the country; these are archived online by the LOS). Steve and Donna also wrote other articles for the LOS News, led LOS field trips, gave talks at and organized meetings, conducted bird identification classes, and founded and compiled three important and popular Louisiana Christmas Bird Counts (Lacassine-Thornwell, Sweet Lake-Cameron Prairie, and White Lake). Donna, a talented artist (https://www.snowyegretenterprises.com/), illustrated birds for many LOS (and MNS) publications.

Steve and Donna also served as the Christmas Bird Count editors for Louisiana from 1987 until recently and were essential to quality control for Louisiana CBC data. Steve was also the Regional Editor for the Louisiana-Arkansas section of the quarterly bird reports for the journal *Audubon Field Notes/American Birds/North American Birds* from 1985 until recently. Steve was also one of Louisiana's eBird reviewers for more than a decade, during which he reviewed thousands of records and provided hundreds of observers with tips on bird identification. Steve was elected President of the LOS (2017-2019). In recognition of these voluminous contributions, the Louisiana Ornithological Society sponsored the Cardiff-Dittmann Scholarship, which is awarded annually by the LOS to a graduate student for their research on Louisiana birds.

Field talents

Anyone who has ever spent a day birding with S&D recognizes that they have special talents for finding and identifying birds. It's almost as if they have some sort of "special powers" for locating rare birds. The number of remarkable records they produced in Louisiana and elsewhere is astounding, including 16 (!) first specimen records for Louisiana and one first record for the United States (Blue Bunting). The number of "Review List" records that they found is certainly well ahead of anyone else's totals. My favorite record is one that is somewhat under-the-radar but emblematic of Steve's skills: a Bachman's Sparrow collected in a scrubby chenier in coastal Cameron Parish. Those familiar with this species know that it is basically an invisible bird except when singing on the breeding grounds in Louisiana's piney woods; just to find a silent migrant out-of-habitat is something few people have ever done, but to have also collected it is remarkable. Steve's field collecting skills are unrivaled. No one has ever found and then collected so many out-of-place birds. Steve was in charge of the Museum's "boot camp" for firearms training for all of our staff and students and became a Certified Louisiana Dept. of Wildlife and Fisheries Hunter Education Course Instructor; several generations of Museum students benefited from his training, although I am certain none of them could ever match Steve's deadly aim.

In summary, Steve and Donna were difference-makers for the LSUMNS. Their voluminous and legendary contributions to the Museum have had a profound, enduring impact on our program.

Recollections of Steve and Donna

by James M. Bishop

My association with the Museum of Natural Science began about 1963 during a field trip. I was enrolled in an undergraduate Field Zoology class at Southeastern Louisiana College and our professor, Dr. George A. Hurst, had arranged a visit to LSUMNS. Dr. Lowery greeted us and gave us an overview of the museum including the construction of the dioramas. We then toured the collection and were shown some highlights that included several trays of recently gifted African sunbirds and examples of Guatemala's national bird, the Resplendent Quetzal. He commented, as he held a Quetzal whose stuffing was showing through the feathers, that Quetzals were extremely difficult to prep because their skin was as delicate as wet tissue paper. He also showed us a duckbill platypus as an example of a monotreme. That fieldtrip sparked my interest in the Museum that continues to this day, over 60 years later. During this time, I've made it a point to keep up with curators, collection managers, and graduate students as opportunity allowed. I consider myself fortunate in developing some special relationships, particularly with Van Remsen, Emeritus Curator of Birds, and with Steve Cardiff, former Collections Manager of Birds and Mammals, and Donna Dittmann, former Collections Manager of Genetic Resources, Museum Preparator, and Permit Coordinator. These three individuals had a profound effect on the Museum and its collections, particularly birds.

I can't recall the first time I met either Steve or Donna, but it was most likely when Steve was a master's student. Steve grew up in a museum environment. His father, Eugene A. Cardiff, was Curator of Biological Sciences at the San Bernardino County Museum, and Steve was introduced to specimen preparations at an early age. Initially, Steve would skin-out specimens, and his father would then put them back together. With time, Steve became a skilled preparer of bird specimens, and Van often commented that Steve was one of the best bird skinners in the world. Donna, on the other hand, learned basic skinning skills at the California Academy of Sciences, then honed those at LSUMNS with Steve's tutorage. She obviously had a proclivity for skinning and preparing study skins and, after learning the "LSU technique" Donna's skins were equal to or exceeded Steve's (and she was much speedier!). Steve was hired as Collections Manager in 1984 before he had completed his master's degree, and Donna was integrated into the Museum staff full time within the next few years. The LSUMNS began with the ambitions of a single individual, Dr. George H. Lowery, and museum staff were never numerous, but with Steve and Donna the museum was now well-positioned to handle the high volume of bird specimens that flooded into the museum.

My professional career took me to Kuwait when I accepted a position with the Kuwait Institute for Scientific Research. As a shrimp biologist, I was frequently out on the water while collecting samples. One day I noticed several seagulls behaving peculiarly as they were struggling, dipping their heads repeatedly under the water. Turned out they had grabbed a baited hook on a trotline. Some of the gulls had swallowed the hook and it was impossible to extract without seriously injuring the gulls. So, I euthanized a couple thinking the MNS would welcome Kuwait specimens. This is when I attempted to prepare my first study skins. The results were identifiable as gulls, but none would have won a beauty contest. I packed the specimens and mailed them to the museum. The reactions were enthusiastic and immediate. No fewer than four responses were received: one each from Van, John O'Neill, Steve, and Donna.

received: one each from Van, John O'Neill, Steve, and Donna. My big mistake was making the necks too long. They looked more like herons than gulls. During my next trip to the States, both Steve and Donna agreed to show me the process of preparing a decent study skin. Steve's first words, as he placed a specimen on its back to be skinned, were "a fat bird is better looking than a skinny bird." Donna emphasized that the head should be positioned relatively close to the body so as not to exaggerate the neck and make it more vulnerable to breakage. And, she was careful with inserting the cotton eyes without getting them blood-stained in the process. In spite of this superb tutoring and my best efforts, I never mastered these skills. Consequently, I chose to deliver bird specimens to the museum frozen. That was very successful until bird flu struck Kuwait's poultry industry, and fresh material from Kuwait was no longer allowed.

Over their 40 plus years at LSUMNS, Steve and Donna and I became good friends. Often during a visit, we would mosey over to "The Chimes" for lunch. Occasionally, I would be invited for dinner at their home in St. Gabriel. Donna's skill in the kitchen was equal to her skinning prowess. She had mastered the technique of roux preparation, and her gumbos were legendary, but desserts were her passion. Their frequent trips to SW Louisiana eventually led to both Steve and Donna becoming boudin connoisseurs, and they did not hesitate to recommend the favorite brands.

Steve and Donna's contributions to Louisiana birding and the bird collection at LSUMNS cannot be overstated. On one occasion, Steve informed me that the number of birds from Louisiana in the collection exceeded 25,000. My reaction was one of shock, and Steve's response was "we're just getting warmed up." They worked hard at building series of common Louisiana species for which specimens had been relatively few. Ideally, a series should be comprehensive both temporally and spatially, and Donna treated a specimen with an unrepresented plumage as though it were a species new for the collection.

Both are avid birders, and trips to SW Louisiana resulted in several species new to the state, usually backed-up with voucher specimens or photos.





Steve & Donna prepping a South Carolina Wild Turkey.

The list of Louisiana birds would not be as close to 500 had it not been for Steve and Donna, and they have seen more bird species in the state than all but a handful of other birders. They birded not only during spring and fall migration peaks, but also in the off-season during Louisiana's infamously hot, humid, and very buggy summer months. This dedication resulted in the State's first several records of Arctic Tern, and probably other species of which I'm not aware. I don't know how many first State records they are responsible for, but taken together, it is likely more than anyone else, except perhaps Dr. Lowery.

I always marveled at Steve and Donna's acute sense of perception when viewing a bird. Years of experience and attention to detail served them well when bird watching or during specimen preparation. On one occasion, I delivered an unidentified bird specimen from Kuwait and commented that I could not determine the species. Steve grabbed a book on birds of the Middle East and sorted it out in a matter of seconds: a Thrush Nightingale, a species of fairly uniform coloration and no obvious markings. On another occasion, I delivered what I thought was a common shorebird that had been salvaged from the beach in Kuwait City. It had been frozen stored in a plastic box for seven years and I thought it would have been good for a skeleton only and made no further effort to protect it from freezer burn. Donna took one glance at it and realized immediately that it was more interesting than I had thought. She produced a decent study skin and informed me that it was the collection's second specimen of a Terek Sandpiper.

Successful skin preparation of long-frozen or zoo-necropsy-mutilated specimens (more typically destined for skeletonization) was routine for Donna, but the occasional frozen-for-decades specimen could be a challenge even for her. One example was a 28-year freezer-burned Surf Scoter unloaded on the Museum in exchange for some thrush tissues. Donna took making a skin of this specimen as a personal challenge. She soaked the duck in a refrigerated bucket of water for several days, which did not help much in reviving its cardboard-like skin. But with patience, effort, and skill, she produced a decent study skin. Donna and Steve emphasized to all bird preppers that label data quality and content and having a "functional" specimen in terms of being able to take basic measurements were more important than creating a "synoptic series" beauty every time.

During my visits Steve usually treated me to a "show-and-tell" of the latest material in the quarantine cabinets. Steve would select a specimen and tell me about it. He would point out the most subtle features that separated it from sibling species or an anatomical feature that was unique to the species. I considered myself lucky and privileged to have experienced these one-on-one sessions. On one occasion, a flock of Cedar Waxwings had crashed into a window on campus and the specimens were salvaged for the museum. Few birds are as dapper as a Cedar Waxwing, and Donna had produced some lovely study skins. Steve pointed out the differences in the waxy, red secretions on the bird's secondary wing feathers and commented that no one had really studied the variation of these attractive anatomical features unique to the genus.

Dr. Lowery established the pattern of the museum acquiring voucher specimens of all bird species recorded in the State, and although it is often not possible or even desirable, a specimen of a bird new to the State is always welcome. In 2013, I sent Steve a list of all the birds species recorded in the State and asked him to mark those for which there was no specimen. At that time, the State list numbered 477 species and 43 were not represented by a specimen. With the current list at 498 species, the number of birds not represented by a specimen has certainly increased.

Steve and Donna initiated an investigation into Louisiana's last frontier of birding, the State's offshore waters. The Gulf of Mexico is notoriously depauperate of species diversity, so under the best of circumstances, they could expect only limited success. With private funding and persistence, however, they organized numerous offshore surveys during the period 1991-2012. Although they sometimes returned empty-handed, the eventual combined total of 321 specimens of 21 species is by far the most comprehensive collection of pelagic birds from the northern Gulf of Mexico. Without their efforts, Cory's, Scopoli's, and Manx shearwaters would not be on the Louisiana list. Other particularly noteworthy specimens include Louisiana's only specimens of Red-billed Tropicbird and Sabine's Gull. Other surprises from this trove may be revealed in the future, e.g., a potential Cape Verde Shearwater and a pair of intriguing Band-rumped Storm-Petrels- but confirmation awaits DNA analysis.

They were active members of the Louisiana Ornithological Society and served on the Louisiana Bird Records Committee (LBRC). Donna was LBRC Secretary for many years and compiled the annual reports of records reviewed and new species accepted to the state list. Steve was also a member and Chair of the LBRC for many years and served three consecutive terms as LOS President. Their contributions to the LOS were recognized with the establishment of an endowment in their name. Interest from the endowment will be used to fund research on Louisiana birds. Their impact on Louisiana birding went far beyond the LOS activities. In cooperation with rice farmers Kevin and Shirley Berken, Steve and Donna initiated the Yellow Rails and Rice Festival in the Thornwell area of Jefferson Davis Parish. This unique festival was held annually from 2009 through 2024 (except for 2020 due to the Covid pandemic). Yellow Rails are extremely secretive and, although not rare, they are rarely seen. The festival was held during the peak of rice harvesting in the fall, usually at the end of October or beginning of November, and participants from as many as 35 states and several foreign countries rode the combines as rice was harvested. This activity flushed birds as the harvester approached. Only 4 or so people could ride the combine at one time, and this limited the number of participants to about 120 individuals. Almost everyone who attended these events saw the target species plus hundreds of other bird species during local field trips. For many participants, riding on the combine was often as exciting at seeing Yellow Rails!

Although (in retirement) they have relocated to west Texas (where they are already making an impact on the local birding community), Steve and Donna will continue to be associated with LSUMNS as Research Associates. It is my hope that I'll visit them on my way to hunt Merriam's Wild Turkeys in either New Mexico or Colorado. If I'm successful, I'll do my best to talk Donna into skinning at least one more bird for the LSUMNS!

Acknowledgments

I thank Van Remsen, Steve Cardiff, and Donna Dittmann for constructive comments.

LSU Herpetologist's New Snake Discovery Gets a Rock 'n' Roll Name

by Bianca Scolaro

LSU herpetologist Chris Austin has helped describe 53 new species of frogs, lizards, and snakes over his career — and he has roughly 30 more potential new species from his fieldwork still awaiting description. His latest to join the scientific record comes with a rock 'n' roll name: *Lielaphis slashi*, or Slash's groundsnake, named for Guns N' Roses guitarist Slash.

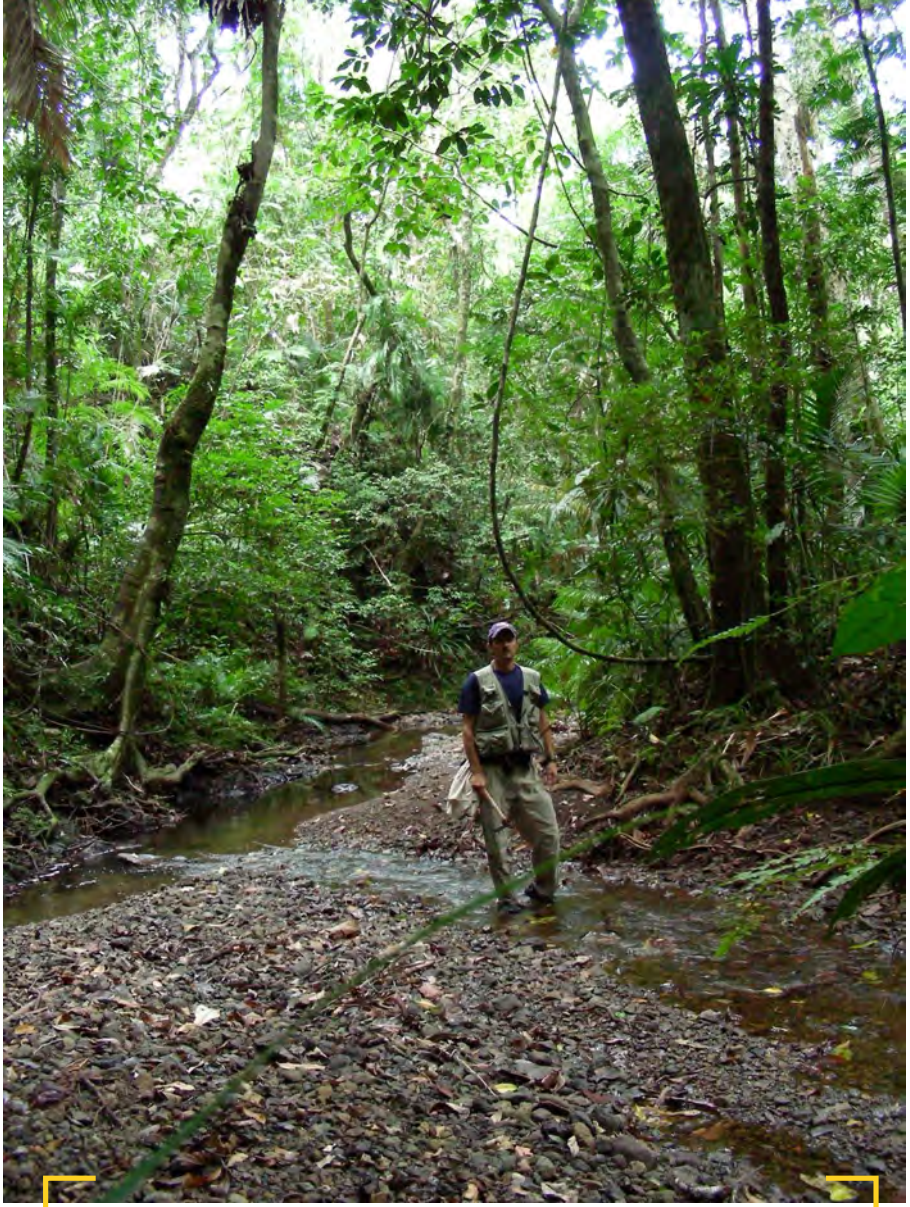
Austin, professor of biological sciences and Curator of Amphibians & Reptiles at the LSU Museum of Natural Science, encountered the reddish-brown snake during a nighttime expedition in New Guinea in 2006. Nearly two decades later, he and collaborators confirmed that it was a species new to science.

At about 28 inches long, Slash's groundsnake is nonvenomous and active at night. Austin says New Guinea groundsnakes are typically found just after sunset near the base of large trees, where they search for food. Finding them requires care: several highly venomous snakes in New Guinea can resemble nonvenomous ones.

The name came from Austin's former LSU postdoctoral researcher and longtime collaborator, Dr. Sara Ruane, now associate curator of herpetology at the Field Museum in Chicago. Ruane grew up as both a Guns N' Roses fan and a reptile lover and proposed honoring Slash for his lifelong interest in reptiles and support for museums and zoos.



Lielaphis slashi, or Slash's groundsnake, is a nonvenomous, nocturnal snake from New Guinea named for Guns N' Roses guitarist Slash. Credit: Chris Austin.



LSU herpetologist Chris Austin during fieldwork in New Guinea, where he encountered the snake that would later be recognized as *Lielaphis slashi.*

An eye—and an ear—for discovery

Lielaphis slashi illustrates something Austin has learned through more than three decades of fieldwork in New Guinea: new species don't always announce themselves in the same way.

In the case of *L. slashi,* its appearance alone wasn't enough to recognize it as something new. Only after researchers compared genetic and physical evidence did its differences from related snakes come into focus. Other discoveries can stand out sooner. With frogs, for example, an unfamiliar call can be the first clue.

"I hear a call and think, 'I've never heard that frog before,'" Austin said. "Then it's, 'Okay, let's go. We've got to find it.' And that's exciting."

One remarkable example is *Paedophryne amauensis*, a tiny frog Austin and his team discovered in Papua New Guinea in 2009. Described in 2012, it is recognized as the world's smallest known vertebrate.

Whether the first clue comes from sight, sound or genetic analysis, researchers still need to establish what makes a species distinct.

"We look at multiple lines of evidence—morphology, color pattern, DNA and, for frogs, their mating calls," Austin said. "Then you have to determine what distinguishes that species from every other species in the genus."

For *L. slashi*, those differences were subtle but telling. The snakes were initially identified as another groundsnake species, but DNA analysis revealed a distinct lineage. A closer look also revealed differences in the number and arrangement of scales around the mouth, belly and tail, along with a pale white-to-cream underside that sets it apart from its closest relative. Together, those clues confirmed they were looking at a species new to science.

From tiny frogs to a nonvenomous snake named for Slash, Austin has spent decades discovering and documenting the region's biodiversity. With roughly 30 more potential new species from his fieldwork awaiting description, *L. slashi* is unlikely to be his last discovery.



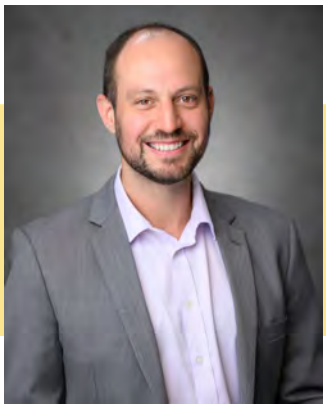
News



News, Awards & Achievements

Director Chakrabarty recently appeared on a BBC/NOVA series titled “Evolution.” Check it out on your local PBS station!





Dr. Nick Mason was promoted to Associate Professor with tenure. Congratulations!

Dr. Greg Thom has obtained nearly $1 million in infrastructure funding from the U.S. National Science Foundation to fund the "Expansion and Modernization of the Genetic Resources Collection at Louisiana State University Museum of Natural Science" project. Congratulations!



The 2026 LSUMNS **Virginia L. Mouw Award** in Ornithology 2026 were awarded to **Phoebe Gordon** and **Brett Kincade.** Congratulations!

The 2026 **Hannan Awards** were given to 9 ornithology students across the Ornithology and Genetic Resources Labs:

Mason Lab: **Quinn McCallum, Amanda Harvey** & **Brett Kincade**
Thom Lab: Juliana Damasceno, Luca Micheli, Gustavo Martins & **Phoebe Gordon**
Brumfield Lab: Sara Velasquez & **Jerry Su**



This summer, the **Thom Lab** went to Evolution in Cleveland, OH. **Luca Micheli** and **Juliana Damasceno** gave talks on their research, while **Trayvond Russ**, **Kristen Wacker,** and **Gustavo Martins** presented posters.



Kike Neyra earned the Student Travel Award to attend and present a poster at the 58th Annual Meeting AASP – The Palynological Society joint with the 19th Simposio Argentino de Paleobotánica y Palinología in Trelew, Argentina.



David Vander Pluym received the Ron and Mary Neal Fellowship from LSU. In addition, he successfully defended his PhD dissertation in October. Congratulations!

New Faces



Owen Conroy recently joined Dr. Jake Esselstyn's lab at the LSU Museum of Natural Science as the new PhD student, where he is studying shrew metabolism and phylogenetic and serves as the collection's Curatorial Assistant. He received his M.S. in Biology from the University of Nebraska at Omaha in the summer of 2026. His master's research focused on countergradient variation in the physiology of the Prairie Lizard (*Sceloporus consobrinus*), examining variation in metabolic and thermal physiology across ontogeny. His research included studies of adult metabolic rates, egg metabolism and thermal sensitivity, and cardiac investment during development. He also developed and published a new non-invasive method for measuring heart rate in lizards. Alongside Owen's research, he taught introductory organismal biology (Biology II), herpetology, mammalogy, vertebrate zoology, and ecology, including hands-on field experiences.

At the LSUMNS, he hopes to expand his experience in mammalogy, physiology, and evolutionary biology while becoming more involved in field-based research. He is particularly excited about opportunities to participate in fieldwork throughout the Americas and to connect field research with the museum's extensive natural history collections.



Dr. David Sneddon is an incoming postdoctoral researcher in Dr. Jake Esselstyn's lab and museum genetics lab manager. David completed his PhD at University of Idaho in Dr. Jack Sullivan's lab in 2025 where he studied the genomic architecture of introgression between two recently diverged subspecies of chipmunk. During a previous postdoc at Oregon State University with Dr. Katie Everson, David developed a project exploring selection against hybridization on a genomic and phenotypic scale across the distributions of three Oregon chipmunks. David is very excited to continue developing this project in collaboration with Dr. Esselstyn at LSUMNS.

New Faces

Kevin Torgersen is the new postdoctoral researcher in Chakrabarty's Lab, where he studies the evolution, diversity, and morphology of freshwater fishes. He earned his Ph.D. in Ecology and Evolutionary Biology from the University of Louisiana at Lafayette, where his dissertation focused on the systematics, phylogenomics, and evolution of Neotropical electric knifefishes. He also holds a B.Sc. in Microbiology with a minor in Spanish from Brigham Young University.



Kevin's research integrates taxonomy, phylogenomics, geometric morphometrics, and natural history collections to investigate the evolution and diversification of freshwater fishes across species, clades, and continents. A major component of his work uses 3D photogrammetry, CT scanning, and comparative morphology to characterize patterns of body-shape evolution and explore how morphology relates to ecological diversification across large assemblages of fishes.

More broadly, he is interested in understanding how evolutionary history, ecology, and geography interact to generate the remarkable diversity of form found among freshwater fishes.



Amandine "Mandy" Viala is a new PhD student in Geology in Dr. Sophie Warny's Lab. Originally from France, where she obtained her Bachelor's and Master's degrees, she trained in biology and ecology before specializing in paleoecology and paleoenvironmental reconstruction.

Mandy combines fossil pollen records and quantitative modeling to reconstruct past environments at the transition between Miocene and Pliocene in the Mediterranean region.



Publications



Recent Publications

Herpetology

Bernstein, J.M., **C.C. Austin**, J.A. Soto-Centeno, T. Huang, **J.R. Roberts**, J.A. McGuire, J.H. Frederick, J.L. Weinell, R.M. Brown, **S. Ruane**. In press, 2026. Diversification and Colonization in the Indo-Australian Archipelago: Genomic Insights from Colubrid Snakes. *Journal of Biogeography*.

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Canton, R. C., A. Chow, **A. E. Moncrieff, R. T. Brumfield**, N. P. Lord, and **B. C. Faircloth**, 2026. Super black plumage is prevalent among *Lepidothrix* manakins. *Ornithology* ukag001.

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Outreach



Audubon Day - April 25

Again this year we participated in LSU Libraries Special Collections' Audubon Day, complementing the special viewing of John James Audubon's *Birds of America* and related exhibits with a behind-the-scenes tour of the museum's ornithology collections. The tour offered visitors an opportunity to explore the scientific study of birds beyond Audubon's historic illustrations, showcasing how bird specimens are preserved and maintained for research and education. By highlighting the importance of ornithological collections in documenting avian diversity, understanding bird evolution, and supporting ongoing research, LSUMNS connected Audubon's artistic legacy to the modern scientific study and conservation of birds.





College of Science Open House - August 19



We joined the LSU College of Science Open House by hosting an informational table at the Our Lady of the Lake Health Interdisciplinary Science Building. Through interactive conversations with students, LSUMNS grad students and Dr. Chakrabarty introduced visitors to the museum's research and educational activities, highlighting the importance of natural history collections in understanding biodiversity, evolution, and conservation. The event provided an opportunity to engage new students in the study of natural sciences, share information about the museum's collections and research opportunities, and encourage interest in scientific exploration and careers in the natural sciences.









St. Mary Parish 4-H - October 13



The LSUMNS was delighted to participate in a community Birding Workshop at Lake End Park in Morgan City, Louisiana. Organized by St. Mary Parish 4-H, event participants learned to identify birds by sight and sound, explored local habitats, and developed new birding skills while connecting with nature. Attendees shared exciting sightings of several species, including Bald Eagles, Great Blue Herons, Killdeer, and Boat-tailed Grackles. Our PhD student Juliana Damasceno (Thom Lab) volunteered for this event by contributing her ornithological expertise and helping make this engaging educational experience possible.



Master Naturalist Workshop - October 10

The LSUMNS welcomed the new cohort of members of the Baton Rouge Master Naturalists for the fall edition of its educational workshop, offering participants an opportunity to explore the museum's history, research mission, and scientific collections. Guests had the honor of receiving a guided tour led by the museum's director Dr. Chakrabarty and PhD student Phoebe Gordon (Thom Lab), who shared insights into the museum's research activities, the care and preservation of its extensive collections, and the important role these resources play in advancing biodiversity research and conservation. The visit provided a behind-the-scenes look at the work of museum researchers and collection managers while highlighting the value of natural history collections in supporting scientific discovery, environmental stewardship, and public education.







Science and Spirits- October 16

The LSUMNS was invited to participate in LSU College of Science's "Science & Spirits" event at the Our Lady of the Lake Health Interdisciplinary Science Building. Through an interactive demonstration table, the museum showcased its research and scientific collections, offering guests an opportunity to learn about natural history, biodiversity, and the importance of museum collections in advancing scientific discovery and conservation. The event welcomed approximately 150 guests, including donors and LSU leadership, providing LSUMNS with a valuable opportunity to share its research mission, highlight the work of its scientists and students, and engage the university community in the natural sciences.







Ocean Commotion - November 3



LSUMNS was excited to participate in Ocean Commotion 2026, organized by Louisiana Sea Grant! We enjoyed engaging with students, families, and community members through interactive activities that highlighted the importance of Louisiana's coastal and marine ecosystems. Thank you to Louisiana Sea Grant for organizing this wonderful event and providing an opportunity to inspire curiosity and promote ocean conservation!





STEM DAY - November 9

The LSU College of Science and LSU Museum of Natural Science visited the LSU Laboratory School for STEM Day to introduce students to the museum's work and the different groups of vertebrates.



Some of the biggest hits were a cast of a megalodon tooth, learning how birds use their beaks as tools, and discovering why studying animals is so important to their conservation!



LSUMNS Annual Fishing Retreat - November 6-8



The Museum held its annual fishing retreat in beautiful Grand Isle, providing a wonderful opportunity for everyone to step away from their daily routines, reflect on the year, and reconnect with colleagues and friends. Between fishing adventures, family time, and catching up on football, the retreat was filled with laughter, camaraderie, and plenty of good memories. It was a great time for all, and a reminder of the importance of building connections both inside and outside the Museum!







Fall 2026
Museum Seminar Schedule

Seminars begin at **3:30 PM** Central Time in the main gallery of Foster Hall, unless otherwise noted.

September 4	**Brett Kincade** *Louisiana State University* Travelog: TBD Antonia (Toni) Androski *Louisiana State University* Travelog: TBD
September 11	**Claire Watersmith** *Louisiana State University* Travelog: "To Borneo and Back: Investigating Areas of Endemism in North Kalimantan." **Darwin Morales Martinez** *Louisiana State University* Travelog: TBD
September 18	**Fabio Mendes** *Louisiana State University* Talk: Phylogenetic incongruence: The good, the bad, and the uncertain
September 25	**Isaac Overcast** *Columbia University* Talk: Integrating eco-evolutionary models and machine learning for predictive biodiversity science
October 2	**Callen Inman** *Louisiana State University* Talk: From sneaker males to showboats: understanding the evolutionary ecology of sexually dimorphic traits in the livebearing fish family Poeciliidae
October 9	**No seminar: Fall Break**
October 16	**Harry Greene** *University of Texas at Austin* Talk: Primates and snakes, a 75-million-year-long deadly dialog
October 23	**David Sneddon** *Louisiana State University* Talk: Genomic and phenotypic impacts of hybridization among western chipmunks
October 30	**Kevin Torgersen** *Louisiana State University* TBD
November 6	**No seminar: Museum Retreat**
November 13	**Arthur Porto** *University of Florida* Talk: Challenges and opportunities in the application of deep learning for evolutionary morphology
November 20	**Camila Ribas** *Instituto Nacional de Pesquisas da Amazônia* TBD

November 27	**No seminar: Thanksgiving Break**
December 4	**Joe Cutler** *The Wilderness Project* Talk: 10,000 kilometers, lessons learned on African Rivers

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For further information, contact Juliana Damasceno: jdamas1@lsu.edu

Support the Museum

Dear Donors and Future Donors to the LSU Museum of Natural Science,

I've learned so much about our wonderful Museum in this last year, my first as Director. I'm often asked to speak briefly about the museum to new administrators or to tour groups and I often begin by saying something like the following:

"I think we are the most fun little unit on campus. We are also maybe the most internationally focused and interdisciplinary (our museum includes folks from biology, geology, and also the humanities - specifically anthropology). We are explorers doing fieldwork locally and abroad, our mammalogists are in between trips to Borneo and our ornithologists are headed to Bolivia soon. Ichthyology is headed to Colombia and Guam in the new year, among other trips around the world for our staff, students, and curators. Many of our folks were born in the places where we work and we are very proud of the number of international students we have.

We teach the 'ology' lab courses, the students in Biological Sciences can't wait to take, including Ichthyology, Ornithology, Herpetology, and Mammalogy. Many of our undergrad researchers join us in our fieldwork, learn to prepare animals as specimens, work on extracting and amplifying DNA, use microCT scans, and many other tools that prepare them for whatever they want next.

The Museum offers free programs to the general public through our exhibits and outreach programs like 'Special Saturdays' that are run by the graduate students, curators, and collections managers."

In summary, we are training the next generation of biologists (from natural historians, geneticists, morphologists, and more) while doing cutting-edge international-focused science. I'm extremely proud of our Museum of Natural Science, and I hope you can help us continue our mission: " To understand and conserve the natural world through field-based scientific research and collections. "

Sincerely,



Prosanta Chakrabarty

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LSU Museum of Natural Science
LSU Foster Hall
19 Dalrymple Drive, Baton Rouge, 70803
Hours of Operation:
M-Th: 8:00 to 4:00
F: 8:00 to 2:30

Editing by Irene Marti Gil (imart23@lsu.edu)