LSU | Museum of Natural Science

newsletter

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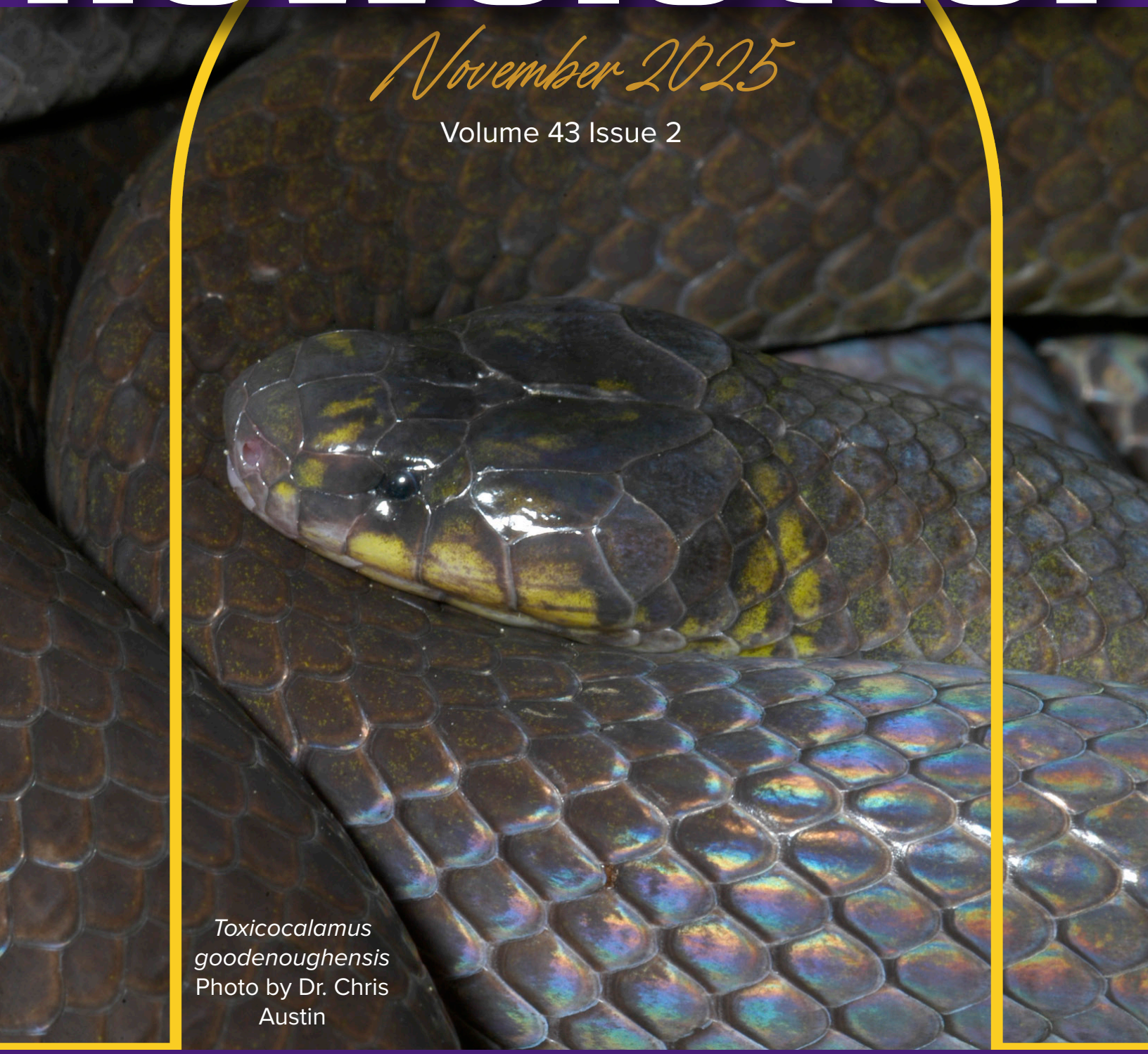

Toxicocalamus goodenoughensis Photo by Dr. Chris Austin

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Gregory Thom
Assistant Professor Curator of
Genetic Resources

Sophie Warny
AASP Professor
Curator of Palynology

Letter from the Director



Dear Museum Friends, Family and Alumni,

It is my great pleasure to be the new Director of the LSU Museum of Natural Science in its 70th year of existence, and to introduce this Fall 2025 newsletter to you. I've been with the Museum since 2008 as the Curator of Fishes and have seen lots of growth and changes under previous directors Fred Sheldon, Robb Brumfield, and Chris Austin. I hope to follow in their footsteps and I thank them for their continued leadership and mentorship.

These past few months our wonderful curators, collections managers, graduate students (and in some cases undergraduates) traveled around the tropics doing fieldwork in Mexico, Papua New Guinea, Brazil, Colombia, Taiwan, Thailand, Malaysia and Costa Rica. Students were also involved in research at other museums including the Smithsonian, Field Museum, and Harvard's Museum of Comparative Zoology. We've published dozens of peer-reviewed papers since the last newsletter and obtained three new NSF grants (congrats to Sophie Warny, Greg Thom and Nick Mason) and two outreach grants, congrats to Irene Martí Gil our fabulous Educational Outreach Coordinator. You will read about some of these trips and research highlights in the following pages.

We also had some sad news. The first collections manager of ichthyology and herpetology, Seth Parker, passed away from cancer at just 36 years old. He worked at the Museum from 2016-2020 and was a dedicated manager of the collections and a very good friend to many of us at the Museum. You can learn more about him here https://www.forevermissed.com/seth-elias-parker/lifestory. He will be missed.



-Credit: Chris Austin

If you'd like to donate to the Museum to help student research, our outreach events like Special Saturdays, and much more – please use this QRcode.



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Big Day Report

by David Vander Pluym

Spring 2025 brought migrants and the annual Big Day fundraiser! Hoping to improve upon last year's state-wide Big Day. Our four-person team consisted of Gustavo Martins (Thom lab), Jerry Su (Brumfield lab), David Vander Pluym (Mason lab), and Brett Kincade (Post-baccalaureate Scholar and incoming graduate student in the Mason Lab).

We started at midnight on campus, trying for American Robin, a species we need to get in Baton Rouge as it is not found elsewhere on our route. No luck there, but we did have our first bird of the day: a migrant Common Yellowthroat! We took seeing a migrant as the first bird of the day as a good sign of migration, but sadly that was not the case.

A House Finch provided better luck for us, as did a second stop on campus where we managed to spot our American Robin for the day. Ahead of schedule with all our Baton Rouge species secured by 1:00 AM, we headed to Whiskey Bay where owls were quiet.

We did hear brief calls from Barred and Eastern Screech Owls, which meant it was time to be on our way. 2:45 AM found us moving through the rice fields in search of more owls and marsh birds, which sadly did not materialize. However, we would have another chance at all these species, so we were feeling pretty good about the day—despite missing a few birds and the lack of sleep!



First bird of the day, check! From left to right: Brett Kincade, David Vander Pluym, Gustavo Martins, and Jerry Su.

Before dawn, we arrived in Kisatchie National Forest and, after some time, we were able to add our last nocturnal bird – a singing Chuck-will's-widow. We also had our only flight calls of nocturnal migrating birds: two individuals of two species of thrush flying over. Studying the nocturnal migration of birds was something that the museum founder, George Lowery, helped pioneer.



Gustavo, David, and Brett listening for nocturnal flight calls right up to first light.

Arriving at our dawn spot, we quickly saw most of the Piney Woods specialties, such as the endangered Red-cockaded Woodpecker, plus Brown-headed Nuthatch, Bachman's Sparrow, and Prairie Warbler. Scouting had nailed down a Northern Bobwhite and a Red-headed Woodpecker nest, two species we missed last year and both appeared on cue. Behind schedule, we arrived at the Kincaid Reservoir dam area after 7:00 AM. Compared to last year, we added fewer species, though we did see the Bald Eagle we hoped for.



Highlight of Kisatchie National Forest was good looks at a breeding Prairie Warbler.

Next, we headed to Castor Plunge, a location we were unable to check last year due to road construction. A successful big day requires planning, scouting, and luck. Luckily this year, scouting had shown that the road was open and local breeders were present. Besides adding two breeders we missed last year, Acadian Flycatcher and Louisiana Waterthrush, we also had late Brown Creeper and Hermit Thrush. Closer to being on schedule, we headed to Booker Fowler Fish Hatchery, a place that came in big for us last year. This year, however, our only unique species at this location was Wood Duck, which took us a while to find. Having already recorded House Finch we were able to skip checking Oberlin and headed directly to Rice Country.



Jerry, Brett, and Gustavo getting onto some of the local breeders.



Jerry scanning a flock of shorebirds.

Arriving in rice country 50 minutes behind schedule, we were able to quickly add our only Glossy Ibis of the day. Fields can change quickly, even hour to hour, as birds move about looking for the best conditions. As mentioned, along with planning and scouting, you also need a certain amount of luck on a Big Day! This year, despite knowing several good fields and areas that had been consistent for weeks, we were unable to quickly find all the target species for this area. Instead, it took multiple spots to come up with a decent shorebird list. None of the rarities that we observed during scouting remained either. Finally moving south of the I-10, now almost two hours behind schedule, we had fantastic views of a King Rail and two Soras (missed during earlier marsh stops) in a ditch right next to the car. This individual was in the exact same location as last year, providing a reliable location for this secretive species. A detour through Cameron Prairie netted us several Limpkins, a species that has recently expanded into Louisiana and previously was not detected on this route.

By 3:00 PM, we had arrived at the coast adding a surprise pair of Ring-neck Ducks on the way. This spring has been described as one of the worst for migrants on the coast, and that description seemed accurate as sites that should have had migrants were eerily quiet.

Rutherford Beach gave us our first coastal birds, Gadwalls, and a lingering Sedge Wren. A check of Willow Island gave our spirits a boost as we had a previously missed Hairy Woodpecker and an uncommon Blackpoll Warbler. Just missing the Cameron Ferry and worried about missing it again we decided to wait in line which ended up costing us time and species. We managed to get across by 5:45 PM, a full 15 minutes earlier than last year.



We managed excellent looks at a secretive King Rail.

By 8:00 PM we were on the road headed home. We still had a chance to add species on our way home, but sadly we were unable to add a Great Horned Owl, which we were surprised to have missed. Our two biggest misses (by eBird frequency metrics for late April) were Black-and-white Warbler and Mississippi Kite! Our most notable finds were Ring-necked Duck, Brown Creeper, Hermit Thrush, and Scaly-breasted Munia (briefly seen by Jerry only), with Limpkin, Hermit Thrush, Scaly-breasted Munia, and Cape May Warbler being new for the LSU Big Day state cumulative list!

In total, we submitted 36 eBird checklists, birded in six parishes, and consumed lots of caffeine over the course of twenty-four hours, finishing with 169 species.

Though the day never felt slow, and despite having several species we missed last year, the lack of migrants and raptors really hurt us. Despite this we still had a ton of fun: we saw various habitats and species we could not find in Baton Rouge! So, what will the future hold for the LSUMNS Big Day? This was an excellent opportunity for the new cohort of graduate students to gain experience with the statewide Big Day route. Species' distributions have changed since 2019. Some species have become much harder to find, while other species are new arrivals in the state. Some tweaks were made to this year's route but larger tweaks are likely needed for the Big Day route, and with these tweaks, some scouting, and a lot of luck, might we break the statewide record next year? We also had a lot of fun with the East Baton Rouge Parish Big Day in 2022 and 2023 - so maybe we'll decide to alternate doing a statewide and parish-wide Big Days. Tune in next year to find out!

A huge thanks to all of you for your help in making the LSU Museum of Natural Science Ornithology graduate program the outstanding program that it is – your generosity is greatly appreciated!

The 57th Annual Meeting of the AASP-The Palynological Society, Our First Meeting in Africa, Was a Scientific and Cultural Gem!

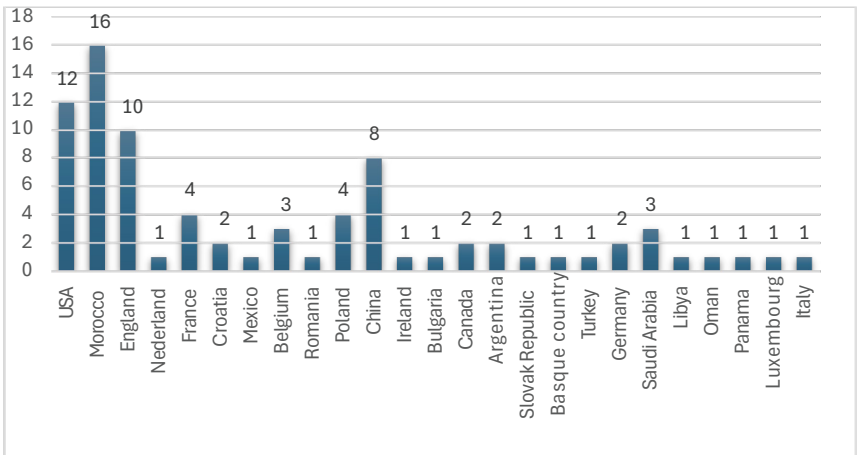
by Dr. Sophie Warny



The recent annual AASP-TPS meeting just took place from April 22nd – 26th, 2025 in the beautiful city of Rabat in Morocco. I wouldn't have been able to make this conference happen without the incredible leadership on site by Professor Hamid Slimani (Department of Geology and Remote Sensing, Scientific Institute, University Mohammed V of Rabat, Morocco) and his group of graduate students who worked tirelessly for months.

I also want to express my sincere gratitude to Pr. Touria Hssaida (Department of Geology, Faculty of Sciences Ben M'Sik, University Hassan II, Casablanca, Morocco), who, with her colleagues Pr. Nadia Barhoun and Pr. Naima Bachiri Taoufiq, provided important logistical help. Finally, thanks are extended to Pr. Ahmed El Hassani (Hassan II Academy of Science and Technology) for handling the conference field trip.

About 72 palynologists from around the world participated onsite in Rabat, and abstracts from 81 scientists were presented. We had a full schedule with 51 talks and 23 posters received.
The book of abstracts was published and can be accessed at the following link:



https://www.researchgate.net/publication/392063943_57th_Annual_Meeting_AASP_-_The_Palynological_Society_Rabat_Morocco_22-26_April_2025_Book_of_Abstracts

Ice Breaker



The conference opened up on the evening of April 22nd by a wonderful ice breaker in the Royal Club Nautique in the nearby city of Salé. We are very grateful to the President of the University Mohammed V in Rabat; Prof. Mohammed Rhachi, for loaning us two university buses. The financial savings allowed us to use the funding provided by our sponsors to cater some incredible Moroccan delicacies. The opening reception would not have been possible without the funding from our sponsors, especially Petrostrat, Hess and Ellington. Their support provided a fantastic venue for all participants to mingle, meet all friends and colleagues, and make new connections. From what we've heard, all had an amazing time and appreciated the fabulous Moroccan food and hospitality.

Above: Conference co-organizers Hamid Slimani, Sophie Warny, and Ahmed El Hassani with the Grand Theatre of Rabat, a new performing art center designed by Zaha Hadid, in the background. **Below**: A group of the next generation of palynologists with Dr. Hassani.



Above: the Royal Club Nautique. **Below, left**: Dr. Slimani welcoming all. **Below, right**: Moroccan delicacies served thanks to our sponsors.







The conference was held in the auditorium of the Institut Scientifique of Rabat, from April 23-25, with three days filled with lectures and posters, organized in eight sessions; 1. Mesozoic and Cenozoic Dinoflagellate cyst research; 2. Palynological data, climate reconstructions and model simulations; 3. Human-environmental interactions and vegetation changes; 4. Paleozoic and Mesozoic palynology; 5. Applied palynostratigraphy; 6. General palynology and new frontiers in palynology; 7. Neogene vegetation and climate in the Mediterranean region and 8. The role of palynology in carbon sequestration efforts and energy transition.

The importance of hosting our conference in Africa was immediately felt as we had the honor of having both the director of the Institut Scientifique; Prof. Omar Hniche and the President of the University Mohammed V in Rabat; Prof. Mohammed Rhachi, carving time out of their busy schedule to welcome us (see photo above).

Various newspapers from the capital and a national TV network sent reporters to cover the conference. Links to one of the article and the TV interview can be found at:

https://fr.hespress.com/420851-palynol-ogie-lum5r-accueillie-la-57e-reunion-an-nuelle-de-laasp.html

https://fr.le360.ma/societe/rabat-abrite-le-premier-col-loque-dafrique-sur-la-palynologie-science-de-la-veg-et at ion-et-du-c lim at_LMI6D CJUGVHLHB-MQ7B3Y4VHCEQ/

In addition to the local organizers, I want to express my gratitude to the board members who worked behind the scene; Dr. Vladimir Torres (who handles our finance), Dr. Stephen Stukins (our secretary who handles memberships, etc.) and Dr. Fabienne Marret (who helped me set up the conference website).




IODP
Coniacian-Paleocene dinoflagellate cysts and biomarkers from offshore South Africa
Biostratigraphy and paleoenvironmental change in a remarkable sedimentary sequence
Mohammed V University
Scientific Institute
Rabat
57TH ANNUAL MEETING AASP -
THE PALYNOLOGICAL SOCIETY
April 22-25, 2025
LSU


Reconstructing the evolution of Eocene ecosystems in southern Eurasia to better understand past mammalian dispersals
CR2P
cnrs
Benjamin Raynaud
PhD student - CNRS
erc
Mohammed V University
Scientific Institute
Rabat


57th Annual Meeting AASP – The Palynological Society
Session: Climate reconstructions and models
Holocene temperature variability based on pollen and δ13Corg signals on the southern Tibetan Plateau
April 23, 2025, Rabat, Morocco
Mohammed V University
Scientific Institute
Rabat
57TH ANNUAL MEETING AASP -
THE PALYNOLOGICAL SOCIETY
April 22-26, 2025


aramco
A marine palynological assemblage from the Late Ordovician of Saudi Arabia
aramco
Mohammed V University
Scientific Institute
Rabat
57TH ANNUAL MEETING AASP -


The role of palynology in understanding the origin and pollination biology of early angiosperms.
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Scientific Institute
Rabat
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PetroStrat
Harbour Energy
Reducing CCS Risks: The Application of Palynology in Seal Rock and Reservoir Characterisation
Fernando Mantilla-Duran (Principal Palynologist & Department Deputy Manager)
Mohammed V University
Scientific Institute
Rabat


LSU





Early Career (EC) Networking Dinner and Student Awards

Our society works really hard to make students and postdoctoral fellows feel welcome. We made sure once again to make the conference affordable for EC scientists. Over 30 EC scientists attended the dinner tailored for them to foster new collaboration. This event was offered to all students and postdocs thanks to generous donations from Dr. Cameron Henderson from Labstrat, Dr. Vladimir Torres, Dr. Francisca Oboh-Ikuenobe, and Ellington. We are grateful for our board's student representative, (now Dr.) Shaan Heydenrich, for the organization of this wonderful event (pictured above).

In addition to the EC dinner, the society offered travel awards to 5 graduate students, and four students won poster and oral presentations awards. The 30+ graduate students and early career professionals definitely showed us that the future of palynology is in great hands. We did not envy the job of the award committee as the bar placed by students in all talks and posters was very high, and a selection of winners was not an easy task. We are grateful to Dr. Marie Thomas and her team for handling all student travel scholarships and the various meeting awards.

This year, as Marie welcomed a baby boy in her family, she wasn't able to travel to Morocco, but as per her usual, she put together an excellent group of judges, led by Dr. Francisca Oboh-Ikuenobe (pictured below surrounded by this year's four winners). The judges reviewed all posters and talks given by students in order to select a top candidate and a runner up for the L.R. Wilson Best Student Paper Award and the Vaughn Bryant Best Poster Award. The Paper award is named after Leonard R. Wilson, University of Oklahoma, a pioneer in the field of palynology. Evaluation criteria include audibility, clarity, audience engagement, and pacing of the speaker, with emphasis placed on a clear statement of the problem, methods, and conclusions of the research. His prize includes a certificate, $250 cash prize, and a two-year membership in AASP- The Palynological Society. The Vaughn Bryant Best Poster Award is named after Vaughn Bryant (Texas A&M University), who was a world-renowned palynologist, respected teacher, long-time leader and member of The Palynological Society, widely recognized as the pioneer of forensic palynology and melissopalynology in the US. This year, Rafael Cabral won the L.R. Wilson Best Student Presentation Award for his presentation, and Tom Green received the honourable mention. Sokaina Tadoumant won the Vaughn Bryant Best Student Poster Award, and Imad Tmimne received the honourable mention.

For additional details and future applications, see this link:

https://palynology.org/student-support/student-awards/student-travel-awards/







Conference Dinner

The conference dinner was organized this year by the restaurant “Les Trois Palmiers.” This site was selected to show another view of Morocco, its coastal area, with very pleasant views of the Atlantic coast. Transportation was once again offered by the President of the University. The weather, food, and service were perfect and all enjoyed making new connections.









Post-Conference Field Trip

To wrap up this full week, a post-conference field trip was organized by Dr. Ahmed El Hassani (Hassan II Academy of Science and Technology). He proposed a geological overview of the Bou Regreg Valley, near Rabat. More specifically, the field trip was organized to visit the northernmost part of the Western Moroccan Meseta. There, Paleozoic formations are exposed in an E-W oriented structural zone extending over fifty kilometers (picture below and to the left). Three structural units were visited from north to south. Then Miocene marls and sandstones that cover these formations in angular unconformity were visited (pictured above).

We thank all our members and nonmembers who spent this very special week with us. We hope to see many palynological colleagues in 2026, in Trelew, Argentina, for our next meeting.



Mapping Parrot Evolutionary Tree to Protect Species and Curb Trafficking, Backed by $1.1M NSF Grant

by Dr. Bianca Scolaro

Parrots are among the most endangered groups of vertebrates on the planet. Admired for their vivid colors and intelligence, they face a deadly combination of habitat loss and relentless illegal trafficking. Of nearly 400 known species, more than 100 are listed as threatened by the International Union for Conservation of Nature (IUCN), with at least half of those endangered species directly impacted by poaching and the wildlife trade.

As conservationists work to save them, they face a fundamental challenge: we still don't fully know how many distinct species and subspecies exist—or where they fit into the parrot family tree. This lack of clarity makes it much harder to track parrot diversity, uncover illegal trade routes, and identify which populations most urgently need protection.



Beneath the colorful plumage lies the potential for genetic tools to fight illegal wildlife trade.Credit: Cameron Rutt.

"To protect parrots effectively, we need a detailed evolutionary map that shows how all these birds are related," said Dr. Gregory Thom, curator of genetic resources at the LSU Museum of Natural Science (LSU MNS). "Without knowing exactly what we have, it's impossible to know what to protect."

Thom's recently awarded $1,157,522 NSF Collaborative Research grant will support the creation of the most comprehensive parrot phylogeny to date. His team will sequence DNA from museum specimens representing nearly every known population of parrots—about 800 species and subspecies from around the world.

But unraveling their evolutionary history isn't as simple as just sequencing DNA.



A Tangled Tree of Life

Evolutionary trees might look like tidy diagrams where one species splits neatly into two, with branches steadily diverging. In reality, the branches of the tree of life often twist, overlap, and reconnect—because species don't always remain completely separate.

"A big challenge in phylogenetics is that when species exchange genes—what we call gene flow—it complicates our ability to accurately reconstruct phylogenetic trees," Thom explained.

Take, for example, the complexity of our own species' evolution: Many people of European descent carry small amounts of Neanderthal DNA—a relic of ancient interbreeding that happened after modern humans migrated out of Africa around 60,000 years ago.

That's because Neanderthals lived in Europe and western Asia. When modern humans encountered them, they interbred. But people whose ancestors stayed in Africa never met Neanderthals—so they didn't inherit those genes.

This creates conflicting signals in the human genome. "Say you want to draw a family tree of modern human populations and Neanderthals," Thom said. "Looking at the entire genome, all modern humans—regardless of ancestry—cluster together as one lineage. But if you focus only on the segments inherited from Neanderthals, it can look like Europeans are genetically closer to Neanderthals than to Africans, even though all modern humans belong to the same species."

Dr. Gregory Thom, assistant professor and curator of genetic resources, uses DNA from museum specimens—including century-old parrot skins—to study evolution. LSU's Museum of Natural Science houses one of the world's most comprehensive bird collections.

"That's the problem," he added. "The phylogenetic signal can vary a lot across the genome."

Parrots are known for hybridizing. When populations become separated—by rivers, mountains, or other barriers—and later reunite, they often interbreed. This flow of genes between populations leaves a complex pattern in their DNA that can obscure true evolutionary relationships.

With nearly 800 species and subspecies of parrots worldwide, these repeated cycles of separation and mixing have created a tangled evolutionary history. Large-scale genomic datasets add to the complexity: some parts of the genome reflect ancient ancestry, while others capture more recent gene flow between lineages.

To untangle this, Thom and his collaborators will explore parrots' genomic architecture—the structural and functional organization of the genome and how different regions behave and evolve over time. Not all stretches of DNA tell the same story. Regions on large chromosomes, where recombination occurs less frequently, tend to preserve older evolutionary relationships. In contrast, smaller, fast-recombining chromosomes are more influenced by recent gene exchange.

"We're building a phylogeny for all taxa of parrots, including species and subspecies, to understand the relationship between genomic architecture and phylogenetic signal," Thom said. "And by building this phylogeny, hopefully we will solve several problems with the taxonomy of parrots."

Thom adds that the new parrot phylogeny could guide future research into how complex traits like vocal learning, intelligence, and social behavior evolved. By tracing the genetic and neurobiological roots of these abilities, scientists could gain insights into human cognition and communication.

A Global Collaboration, Rooted in Museum Drawers

The team is combining insights with DNA extracted from museum specimens—some dating back to the early 1900s—primarily drawn from two major collections: LSU MNS and the American Museum of Natural History (AMNS).

LSU's own Museum of Natural Science houses one of the largest collections of Neotropical birds and the third-largest university-based bird collection worldwide, along with one of the oldest and most extensive genetic resources collections globally. Additional specimens come from the AMNS, home to Dr. Brian Smith, curator in the Department of Ornithology and a former LSU MNS postdoctoral researcher, who is a key collaborator on the project.

Together, the two collections provide most of the samples used for the grant, covering nearly the full spectrum of parrot biodiversity, from the Amazon to Australia.

Using refined genomic techniques, they'll extract and sequence thousands of genetic regions, even from degraded DNA in century-old museum skin specimens. "We already have about 90% of the samples we need," Thom said. "The rest we'll request from collections in South America, Australia, and elsewhere, where we have established collaborations over the years."

For a select group of parrots, they'll also sequence entire genomes to better understand how genomic architecture shapes the distribution of evolutionary signal.

The resulting dataset will not only clarify how parrots are related to one another—it could also correct outdated or inaccurate taxonomic classifications. In the long term, these methods could be applied to other organisms as well.

That alone would be a major contribution to evolutionary biology—but Thom's team is going further.

From Phylogenies to Forensics

In partnership with the U.S. Fish and Wildlife Service's forensic lab in Oregon, the team is working with Dr. Jessica Oswald—another former LSU MNS postdoc and currently a senior forensic scientist at USFWS—to design a set of molecular barcodes based on their new phylogeny. These genetic identifiers will help authorities determine the species or subspecies of confiscated parrots, feathers, or eggs—materials often seized from traffickers but difficult to identify. Because many parrot subspecies are found only in specific countries or even on single islands, the tool could also help trace trafficking routes and flag regional trade hotspots.

At its core, the project aims to untangle the parrot family tree—not just to understand where parrots came from, but to help protect this fascinating group of birds.



One of the largest macaws, the Red-and-Green Macaw (*Ara chloropterus*) is native to tropical forests across Central and South America, especially in Brazil, Paraguay, Bolivia, Colombia, Peru, and Venezuela. Credit: Cameron Rutt.

Chief Cougar Goodbear Visits the LSUMNS Anthropology Division

by Dr. Irene Martí Gil

The Anthropology Division of the LSU Museum of Natural Science was recently honored by the visit of Nant'a (Chief) Cougar Goodbear of the Canneci Tinné Apache Tribe. This engagement underscored the vital intersections between museum anthropology, Indigenous cultural heritage, and the revitalization of tribal traditions. The presence of Chief Goodbear provided a direct link between the museum's collection of historical artifacts and the living practices, philosophies, and narratives of the Canneci Tinné.

Historical and Ethnographic Context

The Canneci Tinné Apache (pronounced shaw-nehsh-eh tihn-neh) are members of the Lipan Apache (Ndáe) Nation and have maintained a continuous presence in Louisiana since the eighteenth century. Their lineage traces to two historical bands: Tcic n'ti óané ("Trees Tall Standing People") and Goctic Łit'xuné ("People of the Red Mud"). Over generations, the Canneci Tinné incorporated kinship with neighboring Indigenous groups—including Chiricahua, Padouca, and Vaquero Apache—while also integrating Ishak, Chahta, and Chitimacha peoples, among others, into their community. Cajun and Creole families, many of whom sought refuge within Indigenous settlements, also became interwoven into this cultural fabric.



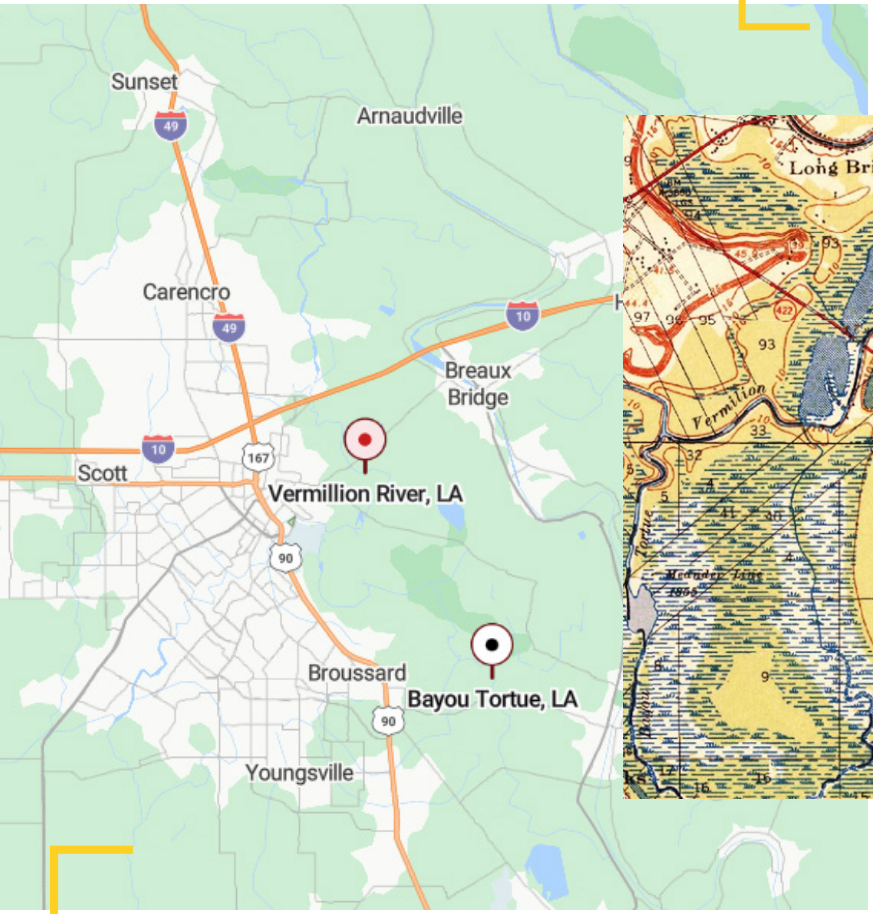
Nant'a (Chief) Cougar Goodbear of the Canneci Tinné discussing woven textiles in our collection.

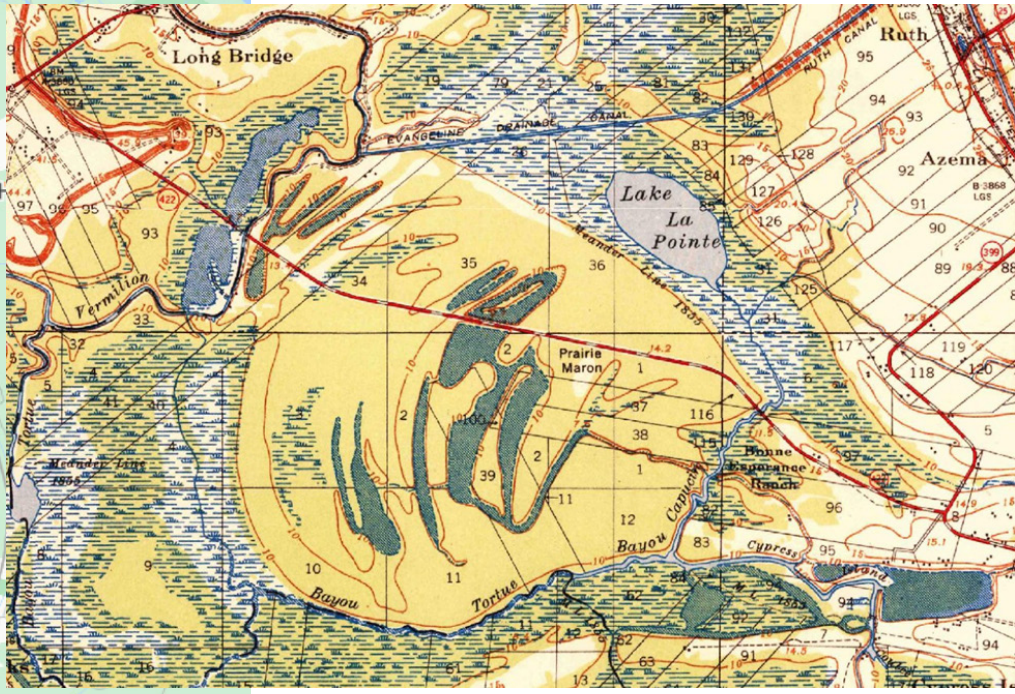
Historically, the Canneci Tinné were situated between the Vermilion River and Bayou Teche, in areas such as Prairie Maronne and Bayou Tortue. They were among the earliest Indigenous groups to trade with French colonists in Louisiana. However, the Grand Dérangement—the forced removal of Acadians from Nova Scotia between 1755 and 1764—accelerated settler encroachment into Canneci Tinné territory. Subsequent plantation agriculture, land clearing, and later extractive industries (lumber, oil, and gas) further diminished both habitat and homeland.

The historical record preserves traces of this territory under shifting orthographies. One persistent example is Lake Cannisnia, once marked on maps of Caddo Parish. Today, the lake itself has disappeared, replaced by wetlands and industrial activity, yet its surviving toponym reflects the former geographic extent of Canneci Tinné presence.



Canneci home near the Vermillion River in the 1800s. Credit: https://cannecitinne.com/history/





Left: Google map locating Vermilion River and Bayou Tortue. **Right:** 1939 map showing Prairie Maron and Bayou Tortue. Credit: https://cannecitinne.com/history/

Gifting Ceremony

Chief Goodbear's visit to the LSUMNS was received with respect and anticipation. Both Chief and I emphasized a shared understanding: that cultural objects are not inert "artifacts" but active conduits of history, spirituality, and community identity.

The event began with a formal exchange. Chief Goodbear presented the first Canneci Tinné Apache Dictionary, a work he has developed over many years as part of broader language revitalization efforts. The presentation was conducted through a ritual of transfer: the gift was placed over our open hands four times before Chief Goodbear confirmed its transference with the words, "this is now yours." The gesture highlighted not only the dictionary's symbolic and practical importance but also the sacredness of exchange protocols in Canneci Tinné tradition.

I reciprocated by presenting objects from the museum's anthropology collection that resonate deeply with the Canneci Tinné material culture.

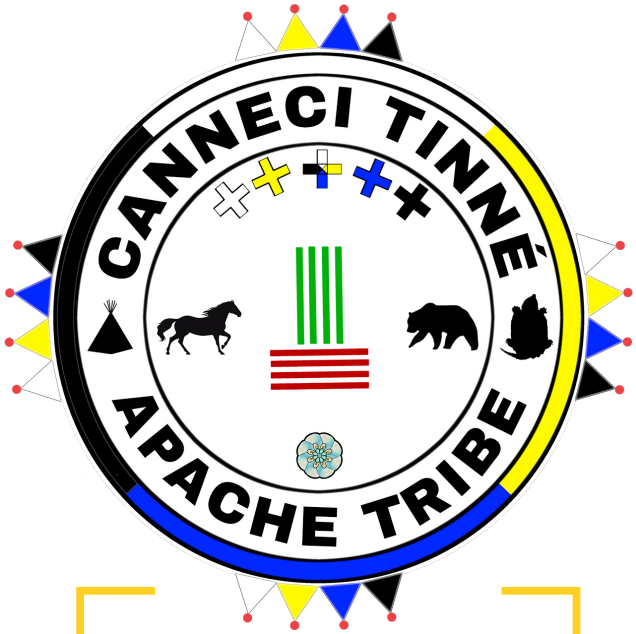


Chief Goodbear performing the gifting ceremony before giving Dr. Samantha Billing (ULL) the Canneci Tinné dictionary.

Ethnographic Engagement with the Collection

Foremost was a water drum, a wooden vessel covered with hide and partially filled with water. Chief Goodbear emphasized the drum's significance as an instrument of ceremony, whose resonant pulse symbolizes the heartbeat of the earth and the people. The acquisition or crafting of a water drum marks a transition from adolescence to adulthood, signifying maturity and responsibility.

The water drum's prominence is enshrined in the Tribal Crest, which encodes multiple symbolic elements: the circle (universe, world, drum); the bear (the Goodbear lineage sustaining culture through forced assimilation); the flower (ceremonial traditions rooted in Mexico and the U.S.); the horse (mobility and bison hunting); the alligator snapping turtle (resilience and adaptation across land and water, echoed in Bayou Tortue's turtle-shaped geography); and the tipi (the Southern Plains and Prairie lifeways).



Canneci Tinné tribal crest.

Pottery, Textiles, and Implements

When discussing pottery, Chief Goodbear remarked upon vessels formed from clay taken from crawfish chimneys. He noted hat offerings of gratitude are traditionally made to crawfish in acknowledgment of their gift. Pottery, he explained, embodies both earth and prayer, transformed through fire and artistry.

Discussion also extended to split-cane and Spanish moss basketry, metates used for grinding corn and acorn, the art of bow-making, and the significance of ritual pipes. Each object was contextualized not as an isolated artifact but as part of a larger ceremonial, subsistence, and ecological continuum.



Dr. Samantha Billing recorded the discussion on the Museum artifacts to create a tribal oral repository.

Beyond the Collection: Cultural Revitalization

Chief Goodbear's remarks situated the museum visit within a broader, ongoing program of cultural resurgence that extends well beyond the event itself. In recent years, the Canneci Tinné Nation has undertaken a series of initiatives aimed at reclaiming and revitalizing their linguistic, artistic, and communal traditions. Central to this effort is the publication of the first volume of the Canneci Tinné language dictionary, a milestone achievement supported by a Louisiana Project Grant. This foundational work documents vocabulary that reflects generations of lived experience

Complementing the linguistic revival are a number of community-centered programs, including regular language classes for both youth and elders, cultural workshops focused on traditional crafts, and the Canneciville project—an ambitious interdisciplinary endeavor that brings together pottery, basketry, drumming, and dance. These practices function not merely as artistic expressions but as vital conduits of memory and identity, reinforcing intergenerational connections and affirming the community's sovereignty through culture. Together, these initiatives embody a holistic vision of renewal—one in which art, language, and ceremony form the foundation for collective resilience and self-determination.

Reflections

The visit of Chief Cougar Goodbear underscored the evolving role of anthropology museums. Far from static repositories, they can serve as collaborative spaces for dialogue, recognition, and the reaffirmation of living cultures. The encounter between the Canneci Tinné and the LSUMNS demonstrated how objects such as drums, pots, baskets, and pipes continue to embody identity and memory—connecting the past with the present while ensuring continuity into the future.

Maliau Basin: Sabah's Lost World

by Austin Chipps

Research in the Esselstyn Lab had me return to Sabah, Malaysia (Borneo) for another expedition in January and February earlier this year. This trip was a continuation of our previous work in Borneo, where we at LSU are working with Dr. Melissa Hawkins of the Smithsonian National Museum of Natural History and Dr. Noor Haliza Hasan of the Universiti Malaysia Sabah to study patterns of small mammal diversity across the island. One of the things I enjoyed the most about this expedition was that we had a great mix of mammal expertise from both LSU and the Smithsonian. I was joined by Dr. Jake Esselstyn, and together we combined forces with Dr. Hawkins, Dr. Arlo Hinckley, Darrin Lunde, Megan Viera, and Mary Faith Flores. Each of us has unique skills and knowledge, and I think I can safely say that we all were able to learn from each other while in the field.



From left to right: Mary Faith Flores, Megan Viera, me, Darrin Lunde, Melissa Hawkins, and Arlo Hinckley.

Our team spent most of the time working in Maliau Basin Conservation Area, nicknamed "Sabah's Lost World" for its remoteness and limited history of organismal research. This park is located in southern Sabah near the border of Kalimantan in the Heart of Borneo. What makes this park so unique is its geology. The basin itself ranges in elevation from 200-400m, and there are scattered plateaus up to around 1000m elevation. The park is contained by a 1500m high semicircle of cliffs. Because of this, the basin has been relatively untouched by humans.

We found exceptional diversity of small mammals in Maliau Basin. In around four weeks of work, we collected specimens from 43 different species, representing 4 orders and 9 families of mammals. Notably, we collected 3 species of shrew (*Crocidura foetida*, *C. neglecta*, and *Suncus hosei*), 14 species of rodents which included a single Malayan porcupine (*Hystrix brachyura*), and 21 species of bats. Additionally, we observed 36 more mammal species, highlights included: a moonrat (*Echinosorex gynmura*), binturong (*Arctiticis binturong*), Sunda stink badger (*Myadus javanensis*), tufted squirrel (*Rheithrosciurus macrotis*), Sunda pangolin (*Manis javanica*), western tarsier (*Cephalopacus bacanus*), Kayan slow loris (*Nycticebus kayan*), and Bornean colugo (*Galeopterus variegatus*). Given the extent of deforestation for palm oil plantations across Borneo, Maliau Basin is a critical stronghold for small mammal diversity.

After our time in Maliau Basin ended, I continued to Deramakot Forest Reserve with Dr. Hinckley and Mary Faith to sample another strategic locality for our study. Deramakot is located in central Sabah among hectares of palm oil plantations. It is best-known for its large-mammal watching, which brings in tourists from across the globe. However, we found small mammal diversity in Deramakot to be quite low. This reserve has been selectively logged for over 50 years, making it almost entirely secondary forest. The terrain in Deramakot was not ideal for small mammals either – there were many steep hills and narrow ridges even though we were below 200m elevation. Despite the challenges, we still managed to collect 14 species in just 10 days. While our numbers were low compared to Maliau Basin, we were able to collect specimens of our focal species from an essential locality.

In the near future, we will return to Kalimantan, Borneo to continue sampling for our project...



I would like to thank Dr. Noor Haliza Hasan from Universiti Malaysia Sabah (UMS) and many other Sabahan collaborators for their help in planning and executing the expeditions to Sabah.

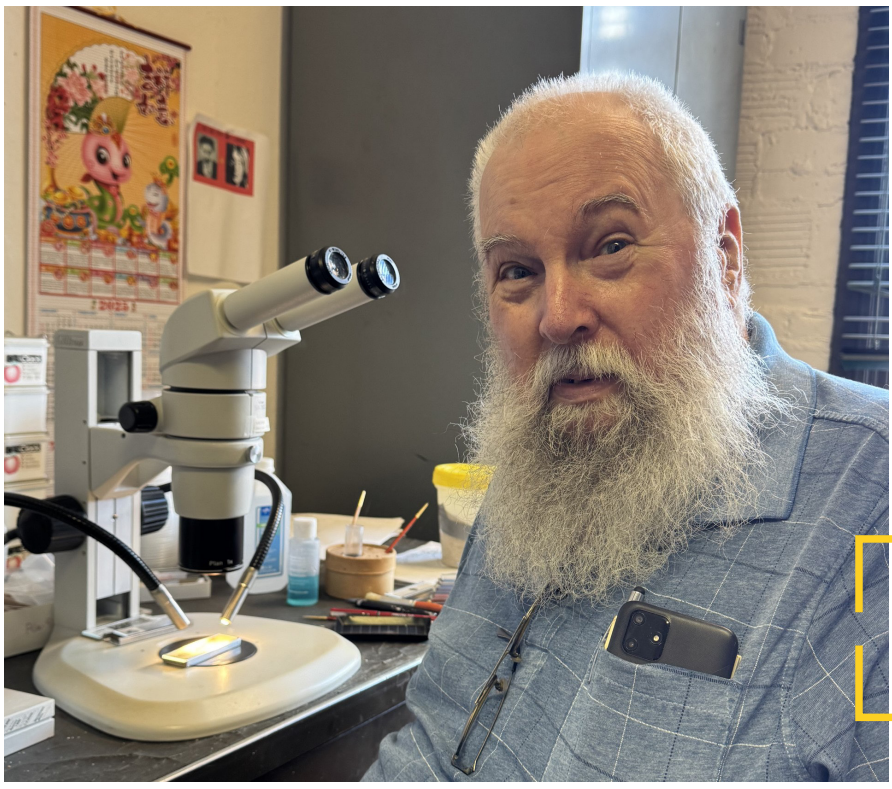
This bat is *Hipposideros cervinus* – the largest insectivorous bat in Borneo!

Discovery of New Species of Fossil Turtle Barnacle

by Lorene Smith and Ray Perreault

Ray Perreault, cirripede expert and frequent visitor to the collections of the museum's Section of Fossil Protists and Invertebrates, has recently described a new genus and species of fossil barnacle. Picking through washed sediments of the locality samples collection, Ray discovered the plates of a previously unknown turtle barnacle of the extant Family Platylepadidae. Most platylepadids can partially embed themselves in the skin or shell of their sea turtle host, but members of the family have also occasionally been seen attached to other marine vertebrates.

The holotype of *Alabamalepas cookei* was found by Perreault in early Oligocene sediments collected in 1941 from Monroe County, Alabama, by LSU Professor Henry Howe. Approximately 32 million years old, the new fossil taxon is the earliest known platylepadid barnacle. Other specimens of the species were identified from South Carolina Oligocene sediments collected in the 1930s. These localities were found to contain diverse and largely undescribed barnacle faunas that are currently under study.



Ray Perreault at microscope workstation in west Howe-Russell-Kniffen building. Credit: Lorene Smith.

The microfossil locality samples archived by the museum have been a valuable resource for Ray Perreault's research. Although *A. cookei*'s type locality (which Ray visited in 1984) can still be collected, the South Carolina localities are no longer available. One of the South Carolina samples provided a full suite of capitular plates of the fossil barnacle *Euscalpellum wheeleri* Zullo, Katuna, and Herridge, originally described from a single plate. Perreault is preparing a supplemental description.

Reference

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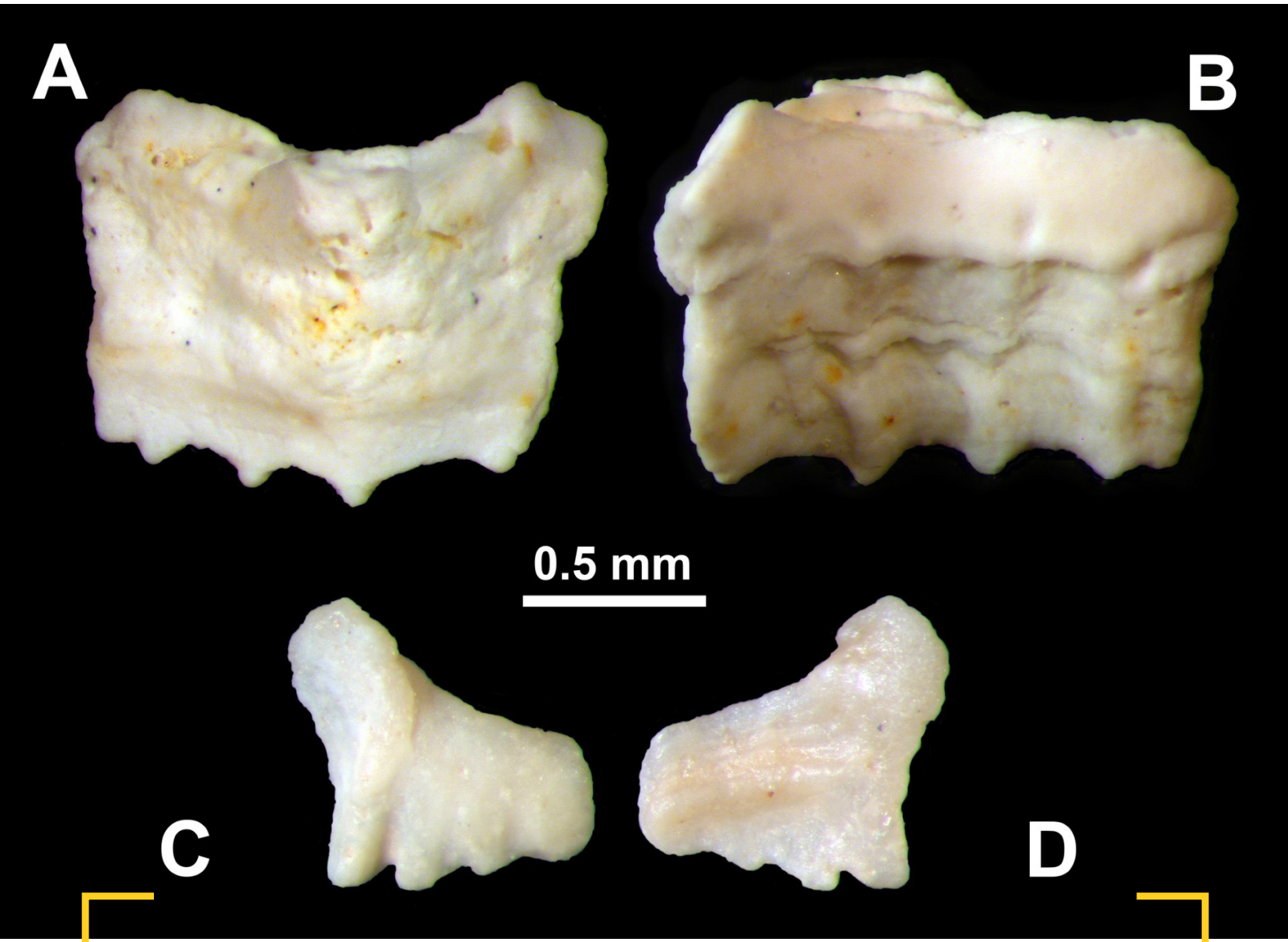

Alabamalepas cookei PERREAULT, COLLARETA, & BUCKERIDGE, 2025. External (A) and internal (B) views of the holotype, LSUMG-I-10843, carina. External (C) and internal (D) views of LSUMG-I-10846, right carinolatus. Credit: Ray Perreault.

Expedition to Oaxaca

by Dr. Toni Androski

LSUMNS mammalogists returned to Mexico in January, building on a recent trip in 2023, as well as the museum's substantial historical holdings from the country. This year, Darwin Morales Martínez met with collaborators from Mexico's National Autonomous University (UNAM) for a field trip to southeastern Oaxaca.

Mexico is the 13th largest country in the world, but it ranks fourth in mammal diversity. The country's complex topography has played an important role in generating this biodiversity. With two main cordilleras running the length of the country and a high, central volcanic plateau, Mexico has a wide range of desert, montane, temperate, and tropical biomes. Since the formation of the Isthmus of Panama in the late Cenozoic, Mexico has also been ground zero for the faunal mixing known as the Great American Biotic Interchange. The new continental connection enabled South American endemics like armadillos (Cingulata) and opossums (Didelphimorphia: Didelphidae) to expand into North America, and northern mammals such as shrews (Eulipotyphla: Soricidae), rabbits (Lagomorpha: Leporidae), squirrels (Rodentia: Sciuridae), canids (Carnivora: Canidae), and camelids (Artiodactyla: Camelidae, ancestors of llamas and alpacas) to disperse into South America.[1] For this trip, however, we had our sights set on another, lesser-known Isthmus.



Crossing the Isthmus of Tehuantepec.



Hiking through the cow pasture.

Our destination was the Isthmus of Tehuantepec, located in southern Mexico near the border of Oaxaca and Chiapas. The mountain ranges on either side of the isthmus are separated by just 50 km of hot, dry valley. This topography has shaped the distribution of montane mammals, with the valley acting as a barrier to dispersal in the warmer, drier periods of the Pleistocene and Holocene. However, the presence of shrews and other mountain-dwelling mammals past the Isthmus in Central and South America indicates that the Isthmus has been a corridor for dispersal in the past. Our collaborator, Dr. Lázaro Guevara, has been studying shrews on both sides of the Isthmus. Mexican small-eared shrews (*Cryptotis mexicana*) collected from east of the Isthmus in Chiapas appear to be distinctive from those to the northeast in the Sierra Madre Oriental.[2] Four *Cryptotis mexicana* were collected from close to the center of the isthmus in 1968 – this intrigued Lázaro, and he wanted to resample montane mammals from this locality and investigate these shrews' relationship to populations east and west of the Isthmus.

We departed from the city of Oaxaca, following a winding route between the Sierra de Oaxaca and Sierra Madre del Sur ranges. The landscape shifted from dry, grassy valleys with neatly planted rows of agave to pink granite cliffs bristling with enormous stands of columnar cacti. As we began our drive across the Isthmus, the highway became flat and straight, and the truck was buffeted by gusts of hot, dry wind. We passed a gauntlet of wind turbines and the aptly named city of La Ventosa. The *Tehuantepecer,* or Tehuano Wind, is caused by pressure differences over the ocean on each side of the Isthmus. At the narrowest point in the Isthmus, the Pacific Ocean was visible about 25 miles to our south, and the Gulf of Mexico was less than 150 miles north of us.

Nearing the foot of the mountains that we would ascend, we turned onto a dirt road and climbed through mango orchards to oak flats, then mid-elevation pine-oak forest. When we arrived in San Antonio, we spoke with the mayor and arranged a meeting for the next morning. After a good discussion with the local council, we were granted permission to trap. However, this permission came with two conditions, that we hire a local guide and pay for lodging in the town. While this was a great way to get to know people, it limited how high we could hike on the mountain.

Our daily hike consisted of a steep ascent through a cow pasture, following a ridgeline to reach cloud forest habitat at around 1,700 m. We collected shrews that are likely *Cryptotis mexicana* and four rodent species from *Heteromys, Peromyscus, Reithrodontomys*, and *Scotinomys*. We captured one marsupial, *Marmosa mexicana*. We also set some mist nets near our cabin and caught a few bats from the genera *Sturnira* and *Glossophaga*. Another mammal highlight happened when we were picking up traps – a few of us got to watch a family of spider monkeys retreating through the treetops near the high point of our traplines.



Pine forest on the drive up to San Antonio.



Hiking to set traps.



Alston's singing mouse (*Scotinomys teguina*).



Mexican mouse opossum *(Marmosa mexicana).*



A Mexican small-eared shrew (*Cryptotis mexicana*) in a pitfall trap.



Descending from San Antonio. Coastal lakes are visible to the south, and the Pacific Ocean is just over the horizon.

On our return trip, we passed through Oaxaca and continued to Mexico City. At the Universidad Nacional Autónoma de México, we worked with former LSUMNS postdoc Giovani Hernández Canchola to export specimens from our 2023 trips to Oaxaca and Hidalgo. Darwin also examined specimens of bats that he studied for his master's research, and I got to join postdoc Dr. Stephanie Ortega netting bats in the university's botanical gardens.

This trip was an important first step towards establishing relationships with people living in the area. I'm excited to see whether sampling higher elevations near this locality will yield new records of shrews in the genus *Sorex*. Inventorying and monitoring mammals in this part of Oaxaca is especially important given the lack of historical records from the area, as well as the rapid economic changes that have come with large infrastructure projects like rail lines and wind farms.[3] We are grateful to our local hosts in Oaxaca, and to our collaborators Lázaro Guevara and Giovani Hernández-Canchola for hosting us in Mexico City. Thank you to the donors who have contributed to the Al Gardner and Mark Hafner Mammalogy Fund for supporting this and our other fieldwork.



Touring the hide room in Mexico's National Collection.

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Into the Leck: A Manakin Journey through Northwestern Colombia

by Sara Velasquez

The birds' dawn chorus woke us up. It smelled of wood smoke, freshly brewed coffee, and wet earth because it had rained the night before. We got out of our hammocks and gazed at the horizon from the second floor of the wooden lodge that was our home during those days. The sun rose above the wax palms and trees of the humid tropical forest, its timid rays peeking through the lingering clouds that had not yet dissipated after the storm. There we were, in northwestern Colombia, in the northwestern foothills of the western mountain range, with a single goal: to find the little dancers of the forest, the Manakins.

It was the perfect place for such a quest, for Colombia is not only our backdrop but also the most bird-rich country in the world. With nearly 2000 recorded species, it surpasses every other nation in avian diversity, a richness made possible by its wide range of ecosystems—from high Andean páramos and cloud forests to lowland Amazonian and Pacific jungles and coastal mangroves. Of these species, about 84 are endemic, found nowhere else on Earth, while roughly 225 are migratory, arriving seasonally to share in Colombia's abundant habitats. Among this astonishing diversity, the manakins (Family: Pipridae) stand out: around 26 species of these small, brightly colored birds inhabit the country, famous for their elaborate courtship displays that give them the name "the little dancers of the forest."

Scientists are especially intrigued by manakins because their plumage and displays often evolve under strong sexual selection, producing vivid reds, yellows, and oranges that are based on carotenoid pigments. Recent studies have shown that in Panama, the golden collar of *Manacus vitellinus* has spread into a related species, *M. candei*, through hybridization, creating one of the clearest examples of a sexual trait crossing species boundaries. Genetic analyses revealed that this trait is linked to specific genes such as BCO2, which play a role in the deposition and conversion of carotenoids.

These discoveries sparked the question of whether similar genetic and phenotypic exchanges are taking place in other Manacus hybrid zones, especially in the northwestern and southwestern parts of Colombia where *M. manacus* and *M. vitellinus* meet and interbreed. These hybrid zones represent an opportunity to study how male plumage traits and female preferences interact with gene flow, potentially creating new combinations of color patterns. Consequently, by examining these hybrid zones, I aimed to understand how genetic mechanisms, sexual selection, and hybridization work together to produce the throat colors within *Manacus* manakins.

Furthermore, in northwestern Colombia, there is another species pair that have caught scientists' attention. The red-headed *Ceratopipra mentalis*

and the yellow-headed *C. erythrocephala* meet in a region that mirrors the unusual "leapfrog" pattern seen in *Manacus*—where a yellow form is sandwiched between two red relatives. More than 50 years ago, the German ornithologist Jürgen Haffer examined specimens from this contact zone and concluded that the two species did not hybridize. Yet, in recent decades, putative hybrids have been reported, suggesting the story may be more complicated.

My expedition sought to revisit this Northwestern Colombian contact zone with new tools—field observations and specimens collection combined with whole-genome sequencing—to ask whether hybridization is indeed happening here and whether secondary sexual traits like bright plumage are crossing species boundaries. I brought together a group of skilled professionals to help on this quest. Over the course of just 17 days, just as the phenotype of our birds was changing, the team's composition shifted dramatically, going from about 80% men to 80% women. Notably, we were joined by Yulissa Navarro Gandía and Carlos Bran, two local ornithologists whose deep knowledge of the region and strong connections provided invaluable support, both in the field and for the logistics of our expedition. The group also included Jenilee Maarit Montes and Andrés Sierra, researchers from our collaborator, the Instituto Alexander von Humboldt, as well as three researchers from LSU: Eryn Woernley, Genetic Resources Collection Manager; Robb Brumfield, Principal Investigator; and Diego Cueva, PhD candidate in the Brumfield Lab.



Field team for Mutatá, Antioquia. **From left to right, bottom-up**: Diego Cueva (PhD candidate, LSU), Carlos Bran (local guide and ornithologist), Leonor's Daughter, Doña Leonor, Sara Velasquez (PhD student, LSU), Leonor's grandchild, Andrés Sierra Ricaurte (Collection Assistant Instituto Humboldt), Robb T. Brumfield (PhD advisor), and Leonor's Son.



Field team for Córdoba. **From left to right**: Sara Velasquez (PhD student, LSU), Jennilee Montes (Collection Assistant Instituto Humboldt), Yulissa Navarro (Ornithologist, Sociedad Ornitológica de Córdoba), Eryn Woernley (Genetic Resources Collection Manager, LSU), Diego Cueva (PhD candidate, LSU).

Our journey began in Antioquia, in the bustling city of Medellín, where we set off on a long and thrilling road trip northwest. The winding roads carried us to Mutatá, a quiet, almost-forgotten town perched on the western slopes of the Colombian Andes at 700 m elevation, where the mountains seem to rise straight from the mist. There, we spent a full week under the warm hospitality of Doña Leonor, an 80-year-old woman whose stories and smiles welcomed us into the rhythm of life in this hidden corner of the world. But first, to reach Doña Leonor's humble wooden lodge, a four-hour hike awaited us, with the "hell grassland", –so was named by Dr. Brumfield–, standing as the final, daunting obstacle. Although it was a very active location, with dozens of *Manacus* vocalizing and displaying mating behavior, the individuals of the genus *Ceratopipra* tested our skills at setting up mist nets and pushed our patience to its limits.

We then drove to the northwest corner of the department of Antioquia, to the municipality of Apartadó, where the transition from humid forest to tropical dry forest occurs. There, once again, the *Manacus* proved why they are such a desirable study group. We learned about their behavior and perfected our technique for the area and time of the year, and within a few days we had the individuals we needed. Up to that point, every bird we had encountered sported throats of intense yellow, almost bordering on orange, paired with olive-green bellies. But we soon realized that this was about to change. Thirty kilometers east, in the foothills of Parque Nacional Natural Paramillo the *Manacus* were smaller in size, and the orange yellow had transitioned into a dull yellow shaded throat and a greyish belly. Noteworthy, *Ceratopipras* keep being elusive and hard to catch in mist nets, which keep testing our mist netting skills.

By the end of May, we found ourselves deep within a patchwork of cattle pastures, punctuated by small remnants of tropical dry forest. The heat was relentless, and we trekked long distances on foot. Yet we were sustained —and lifted—by the exquisite meals prepared by our host family, Los Morales, in the municipality of Montería, now in the department of Córdoba. Their warm hospitality became as essential to our expedition as water and shade, fueling our days in the field as we pursued the elusive little dancers of the forest. This locality lies within the hybrid zone between *M. manacus* and *M. vitellinus* species, and the forest reflected that unusual diversity. In some patches, the birds sported pure white throats, while just a short walk away, others displayed vibrant lemon-yellow collars, and in yet other areas, we even observed individuals with patchy throats, blending white backgrounds with streaks of yellow.

As our journey came to an end, it was clear that this expedition had been more than just a search for birds. The hybrid zones we explored —where colors blur and boundaries between species soften—remind us that evolution is not a finished story but an ongoing dance, much like the manakins themselves. All the materials we collected now reside in the scientific collection of the Instituto Humboldt in Villa de Leyva, Colombia, and the data still need to be analyzed to further explore the questions surrounding the striking diversity of colors within *Manacus manakins*. Just as meaningful as the science, however, was the chance to interact with local communities along the way. We learned from their deep knowledge of the land, shared meals and stories, and spent time with children who were eager to hear about our work and, in turn, taught us to see their forests through new eyes. None of this would have been possible without the dedication of everyone who joined the expedition—colleagues, collaborators, local guides, and host families—whose hard work and generosity made the journey both scientifically fruitful and personally unforgettable.



Manacus vitellinus individual from Apartadó, Colombia.

A Trip to Costa Rica in Search of Slate-throated Redstarts

by David Vander Pluym

I have long been interested in animal movement, from the amazing overwater flights of tiny songbirds to the mass movement of ungulates. Less known is the movement of organisms across elevational gradients, termed altitudinal migration. My first real taste of learning about altitudinal migration was in 2009 and 2010 when I worked for Alice Boyle on a project in Costa Rica with White-ruffed Manakins (*Corapipo altera*). Little did I know that 15 years later I would be back in Costa Rica for my dissertation on the role altitudinal migration plays in diversification of the Slate-throated Redstart (*Myioborus miniatus*)!

Slate-throated Redstart occurs from northern Mexico, south to Bolivia and east to the tepuis of north central South America. Some populations are sedentary, meaning they do not move, while in other populations some individuals may move downslope during the nonbreeding season. Even within populations there may be variation. For example, in Costa Rica, migratory status appears to vary from mountain to mountain! Migratory status is one part of my research with diversification being another major part. For this I need samples of DNA from throughout this species' range. Luckily, as it is widespread and common, nearly all described subspecies are well represented in natural history collections. A large gap in this sampling, however, was Costa Rica. Costa Rica is particularly interesting as it is home to an endemic subspecies (*comptus*) occurring in the mountains north of San Jose that potentially encounters a different subspecies (*aurantiacus*) found in the mountains south of San Jose and into Panama.

I hatched a plan to visit and obtain samples for my dissertation, and post doc and San José native Diego Ocampo was able to acquire the permits in late 2023, though the trip itself would have to wait until the spring of 2025. The plan was to spend two weeks in Costa Rica visiting five sites around San José with the hopes of collecting 20 samples, 10 of each subspecies. I also would have a chance to visit the museum of zoology at the University of Costa Rica and the National Museum of Costa Rica to measure specimens of Slate-throated Redstart. Logistics for the trip went smoothly thanks to Diego. Arriving on the 30th of March we picked up supplies Diego had left in Costa Rica before heading to our first site on the 31st.

Costa Rica has an amazing set of private reserves and national parks, and our first two sites were no exception! The Reserva El Copal southeast of San José also happened to be one of Diego's favorite birding locations in Costa Rica, and I was eager to see it! I soon could see why this was one of Diego's favorite places as shortly after arriving a Snowcap (*Microchera albocoronata*) visited the flowers planted around the reserve. The Snowcap is a small red wine-colored hummingbird with a striking white cap that is locally found at mid elevations of the Caribbean slope of Central America. Settling in and scouting around we were disappointed to not detect any Slate-throated Redstarts. We soon learned that within the reserve they only occur during the nonbreeding season, and we had just missed them! We decided to try the highest area of the reserve with the hopes of detecting one, but we did not detect any Slate-throated Redstarts.



While we were unable to capture any Slate-throated Redstarts at Reserva El Copal it was nice to once again see White-ruffed Manakins.

However, it was nice to once again see species I had not seen in nearly 15 years, including White-ruffed Manakin. Not to be deterred, we tried at higher elevations along public roads, but while we did have Slate-throated Redstarts we were unable to capture any (using fine mesh "mist nets" set up between poles to try and entangle birds that fly into them).

While we had no luck at El Copal we did learn a lot about targeting the species and were optimistic. Our next site was Tapanti National Park, one of my favorite places in Costa Rica, and a hotspot for the redstarts. The park was generous enough to allow us to stay with the rangers and to access parts of the park that are currently closed to the public. Without their generosity our time at the park might have gone quite differently! Starting early, we targeted birds we had previously tried without luck before deciding to split up and try all new birds. While I was busy with birds in the nets, including a Chiriqui Quail-Dove (*Zentrygon chiriquensis*), and watching often heard, but rarely seen, Black-breasted Wood-Quail (*Odontophorus leucolaemus*) run under the nets, my target redstarts eluded me again. Luckily Diego had excellent luck with capturing two different pairs which were our limit for the park! This gave us time to again try public roads above El Copal and there I finally was able to get one in my net! Feeling confident that we had unlocked the secrets of capturing Slate-throated Redstarts we headed to our third spot north of San Jose, but not before stopping for celebratory ice cream!

We had permission from the University of Costa Rica to work on their land near Cascajal. Specimens from this area were used as part of the type series of *comptus* so I was very eager to capture them there. We had found the best places to capture the redstarts were along roadside edges where there were low shrubs which forced the birds investigating our playback to come low to the nets. This location appeared to be ideal with strings of forest running next to rolling hills of pastures. The pastures are used to raise horses for creating snake anti-venom! Unfortunately, the weather did not cooperate with us and I quickly learned why the area was called Las Nubes or "the clouds" as we had wind and rain. While we were unable to capture any Slate-throated Redstarts on the University property, Diego captured the other species of *Myioborus* in Costa Rica, Collared Redstart (*M. torquatus*). This is an elevational replacement of Slate-throated Redstart and a well-known altitudinal migrant. Luckily, after such a cold and wet day, we had a very nice rental cabin to come back to and warm up in! We were staying close to Diego's master's advisor, Dr. Gilbert Barrantes, who graciously allowed us to try on his property. I was quickly able to capture a single individual, so we had captured at least one bird per site.



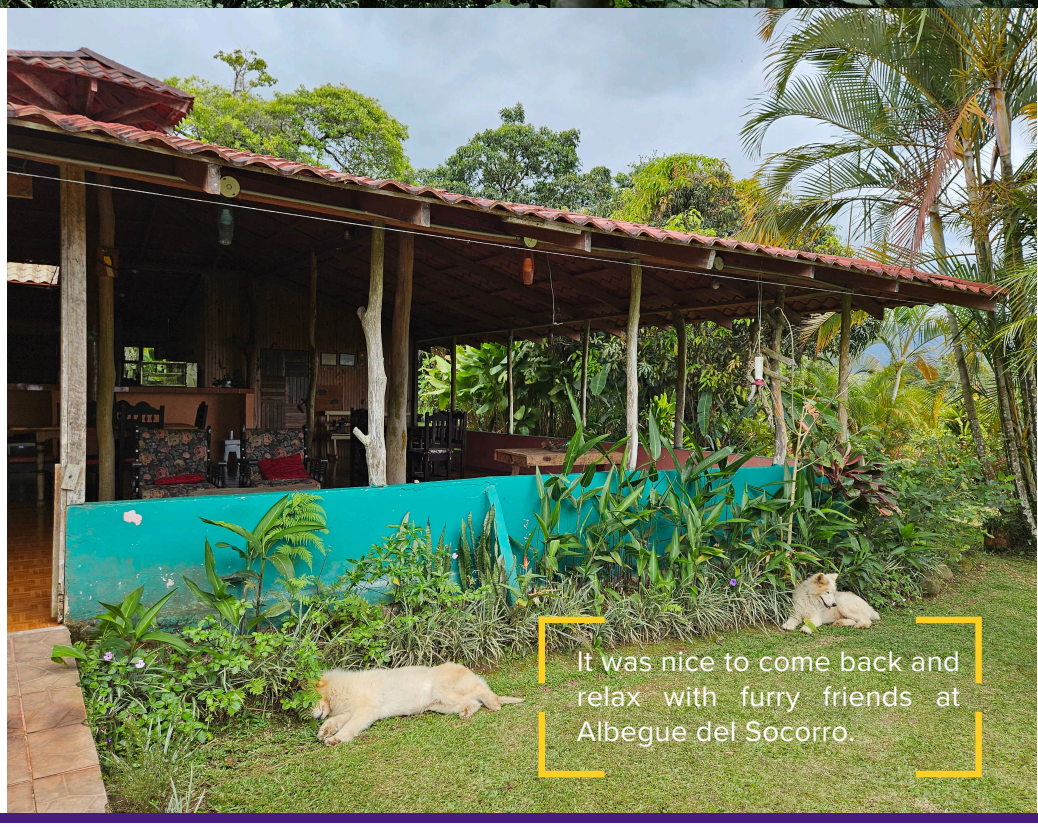
It took a couple days before we were able to lock in to the best way of netting Slate-throated Redstarts. **Above:** Diego Ocampo in Tapanti National Park. **Below:** David Vander Pluym above El Copal.



Setting up mist nets near Cascajal in the wind and rain.

Capturing a target species can be a challenge in dense tall forest, Albegue del Socorro.

Our last stop was another private reserve, Albegue del Socorro, our only site outside of the Central Valley region. We were nervous about this site as nearby Volcán Poás was erupting and there were rumors the road might be closed. Luckily by the time we arrived it had calmed down and we were able to get to the wonderful lodge. Our luck continued and while the redstarts eluded us at the reserve itself, despite being present, we did have luck further up a public road with a single individual.



It was nice to come back and relax with furry friends at Albegue del Socorro.



We had spectacular views of Volcán Poás from Albegue del Socorro, but had to go further up the road to have success with redstarts.

Targeting a single species of bird that often is found in the mid to upper canopy can be tricky as you need to lure it close to where you set up the nets and hope they get captured. Though it can be frustrating to watch the birds fly just over the net, under the net, around the net, bounce out of the net multiple times, or even land on the net poles, persistence pays off. While I calculated our success rate to be around a third of the individuals we targeted, we did manage to get samples from every site including the first for *aurantiacus* from Costa Rica. This meant the trip was well worthwhile as it added important samples for my dissertation and for future research.

Significant Paleontological Discovery Found in Tunica Hills, Louisiana

by Mason Kirkland

On January 19th, 2025, myself, Dr. James P. Gregory Jr. (Director of the William A. Brookshire LSU Military Museum), and his spouse Stephanie Chan Yau headed into the muddy rivers and creeks of Tunica Hills in search of fossilized remains of megafauna that roamed the area over 10,000 years ago. The Tunica Hills area is part of two geological formations known as the Pascagoula and Citronelle Formations with the Citronelle being the youngest of the two. The Pascagoula was deposited during the Miocene epoch, consisting of mainly marine sediments. The Citronelle lies on top of the Pascagoula deposited during the Pliocene epoch and mainly consists of sand, clays, and substantial amounts of gravel. This is the formation most of our collecting focuses on. We frequent this area in the pursuit of fossils as independent collectors, self-funded collectors, who share a common passion for digging up Louisiana's extensive natural history.

Upon arriving that day, there was no indication of a large amount of fossil material apart from a small quantity of bone fragments that were deposited at the mouth of the creek that meets Bayou Sara. Venturing further into the creek, Stephanie found our first fossil of the day, the scapula of some sort of artiodactyl; this was a good sign of the possibilities of what was to come. After traveling down, the creek for a few hours finding various fossils along the way, such as *Equus* teeth, cow/bison teeth, limb bones, vertebra, and an array of other fossils, we reached a point of the creek that we had not previously treaded. High water and natural debris had previously obstructed our path but this time the obstacles were clear. With nothing stopping us and our anticipation for what treasures may lay ahead, we decided to continue into uncharted territory.

Stephanie Chan Yau holding the artiodactyl scapula.



After a few minutes walking down the creek, James walked over what appeared to be a piece of wood. Upon closer inspection, I realized the leaves covered a prehistoric treasure! With excitement in my voice, I yelled for James to return to return to the site. What we had discovered was none other than the tooth (upper M3) of an American Mastodon (*Mammut americanum*).

While we were excited about finding the tooth of this ancient animal, we would never have suspected what else was to come. Whilst holding the tooth in my hands, I looked at James and laughingly said, "Maybe now you will find one!" James enviously walked away but stopped 30 feet away and pointed toward something in the dirt. He had noticed what appeared to be enamel sticking through the mud. We excitedly began a careful excavation and quickly realized we had found another mastodon tooth still within a section of the mandible. After gently removing the mud and clay surrounding the specimen, we uncovered a section of the right mandible with the lower M3 still rooted. The mandible was also found with colonial period pottery cherts, which suggest that this specimen was not *in situ*. We searched the area for additional specimens, but none could be found, so left the creek that day in good spirits.



Mastodon lower M3 (tooth) with mandible before excavation.



James (left) and I (right) excavating the mandible with the lower M3 of the mastodon.

Over a month later, on March 26th, James and I returned to the creek. As usual many specimens were collected, but our focus was on returning to the site where we discovered the mastodon hoping that the high-water levels because of the recent rain had eroded more of the specimen out.

After several hours of hiking, we did not immediately notice any changes from the last visit. However, as James scoured the left side of the creek, I looked to my right at something and spotted what I initially assumed was a tree root protruding from the dirt. I pointed at the object and asked, "James, what is that?" He walked over, hunched down, and looked back at me with a look that, without words, conveyed that my childhood dream had been realized – it was a mastodon tusk.

To say we were excited would be an understatement. We dug around the specimen to reveal, to our immense surprise, what was the entire tusk with just the very tip missing. It is uncommon to find mastodon tusks, and even more uncommon to find them complete. As we slowly uncovered the tusk, we wrapped zip ties around the specimen to ensure that, when picked up, it would not break. We then wrapped it with aluminum foil to retain moisture. This specimen was very waterlogged, and as a result could not be immediately exposed to air for an extended period. Hence, wrapping the specimen in aluminum foil provided the best chances for it to survive the return trip whole. Tusks are notoriously fragile and grow in independent "ringed" layers, so every precaution must be taken when excavating/transporting them. With the tusk and several other fossils in tow, James and I proceeded to carry the tusk several miles out of the creek until we safely reached the car.



Tusk as it was found in the creek.



James wrapping the tusk in zip ties to stabilize the it.

Preparation

When the specimens were safely brought home, the slow and tedious process of preparing (cleaning) the fossils began. I began with the teeth and mandible. Using a dental pick, I meticulously scraped a thick amount of clay off the mandible and in the hard-to-reach crevices of the singular tooth. After about five hours of clearing the specimens of clay and rock, I applied a paleo bond adhesive to stabilize them. The preparation of the tusk was an exceedingly more arduous task to undertake. The tusk was first laid out on a table and a damp towel was draped over it to slow dry the specimen so that it would not crack. After about three weeks of allowing the specimen to slow dry, I removed the towel and the process of removing the matrix began. I used a sturdy pick similar to a dental pick to remove the matrix, and for certain sections of the tusk, I used a small hammer and pick to remove the matrix very slowly. Based on our analysis, we can comfortably assume that this mastodon was most likely female.



Clay being scraped off mandible during preparation.



Matrix of tusk being removed with pick.



Mandible with lower M3 (bottom right), singular molar (top right), and tusk (left) after preparation.

Display

All the mastodon specimens are now on display at the Louisiana Art and Science Museum for educational purposes. Louisiana has an extensive and rich natural history. This mastodon is a prime example that illustrates just a small percentage of the significant finds that can be made in the Tunica Hills region. Mastodons roamed Tunica Hills during the Pleistocene epoch (Ice Age) until their extinction approximately 10,000 years ago. There are many other, sometimes smaller, specimens that are arguably rarer than the mastodon, such as osteoderms of giant armadillos, saber-toothed cat teeth, fragments of long extinct unidentified species of tapirs, and an abundant assortment of many others. With each discovery it becomes increasingly important that the natural history of our state needs to be discovered, researched, and displayed, to not only further our understanding of the history of our state but also to educate the public, inspiring future generations of paleontologists that follow in our footsteps.



Stephanie Chan Yau (left), Mason Kirkland (middle), and Dr. James P. Gregory Jr. (right) with mastodon display at the Louisiana Art and Science Museum.

The Ant Trail: Birds, Smells, and Scientific Discovery

Field insights into olfaction and ant-following behavior

by Juliana Damasceno

In the depths of the Colombian Amazon, a remarkable interaction unfolds between a specialized group of birds and nomadic predatory army ants. These birds rely on swarms of nomadic predatory ants to flush out insects, capturing a substantial portion of their diet from this interaction. While much is known about the antbirds' foraging behavior and adaptations, one intriguing question has remained largely unexplored: could these birds be using their sense of smell to locate the ants?

This project focuses on the ant-following behavior of bivouac-checking (which involves locating and tracking an army ant bivouac, temporary nests constructed of the ants' living bodies, to facilitate foraging) and investigates a hybrid zone where two closely related antbird species, *Gymnopithys rufigula* and *G. leucaspis*, interact. Olfaction has been an unexplored sense in birds, and its significance in species ecology has been historically ignored and misunderstood. Validating the importance of olfaction in this system will establish a new paradigm in ornithology and open the doors for exciting discoveries and engage in novel interdisciplinary perspectives between ecology, evolution, and avian biology.

With support from the National Geographic Society Level I Explorer Grant, we designed a 30-day field expedition in Guainía, Colombia, to explore the role of chemical cues in this fascinating system and the underexplored region with potential for new scientific discoveries. This expedition was made possible through the Louisiana State University, National Geographic Society, and American Museum of Natural History funding, and a collaboration between Louisiana State University (LSU), Instituto SINCHI, and Instituto Alexander von Humboldt (IAvH).

The birds

Obligate ant-following birds, mostly observed in the Thamnophilidae family, have developed morphological, behavioral, and cognitive adaptations that allow them to exploit swarms of army ants more efficiently than other birds. They have evolved strategies to locate and remember the temporary bivouacs of army ants, ensuring a steady food supply from these dispersed and ephemeral resources, and to communicate with each other where the bivouac is. Bivouac-checking behavior, in which birds visit ant nests in the evening and return in the morning to track activity, enables them to monitor multiple colonies simultaneously and navigate the ants' cyclical raids.

Despite these observations, the mechanisms behind how birds detect new or displaced colonies are largely unknown. Army ants relocate their bivouacs at night, leaving birds with no visual cues

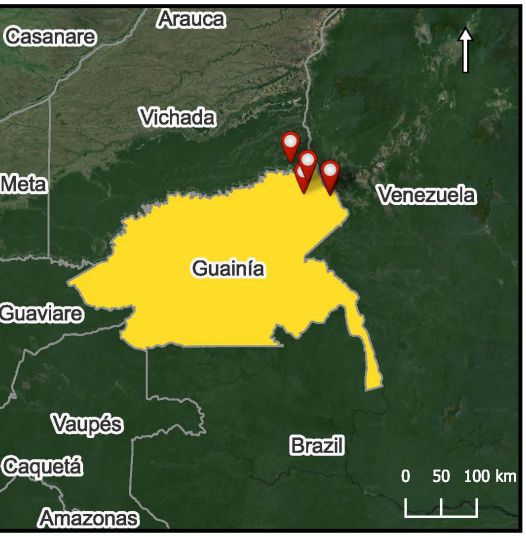
in the morning. We hypothesized that olfaction could play a critical role, based on preliminary results obtained by the Thom Lab, where obligatory ant-following birds possess an expanded set of olfactory receptor genes, suggesting that smell may guide their foraging decisions. Although these genomic results support olfaction as an important sensory mechanism for the ant-following birds, no one has ever tested in the field whether olfaction is something that these birds might be relying on.

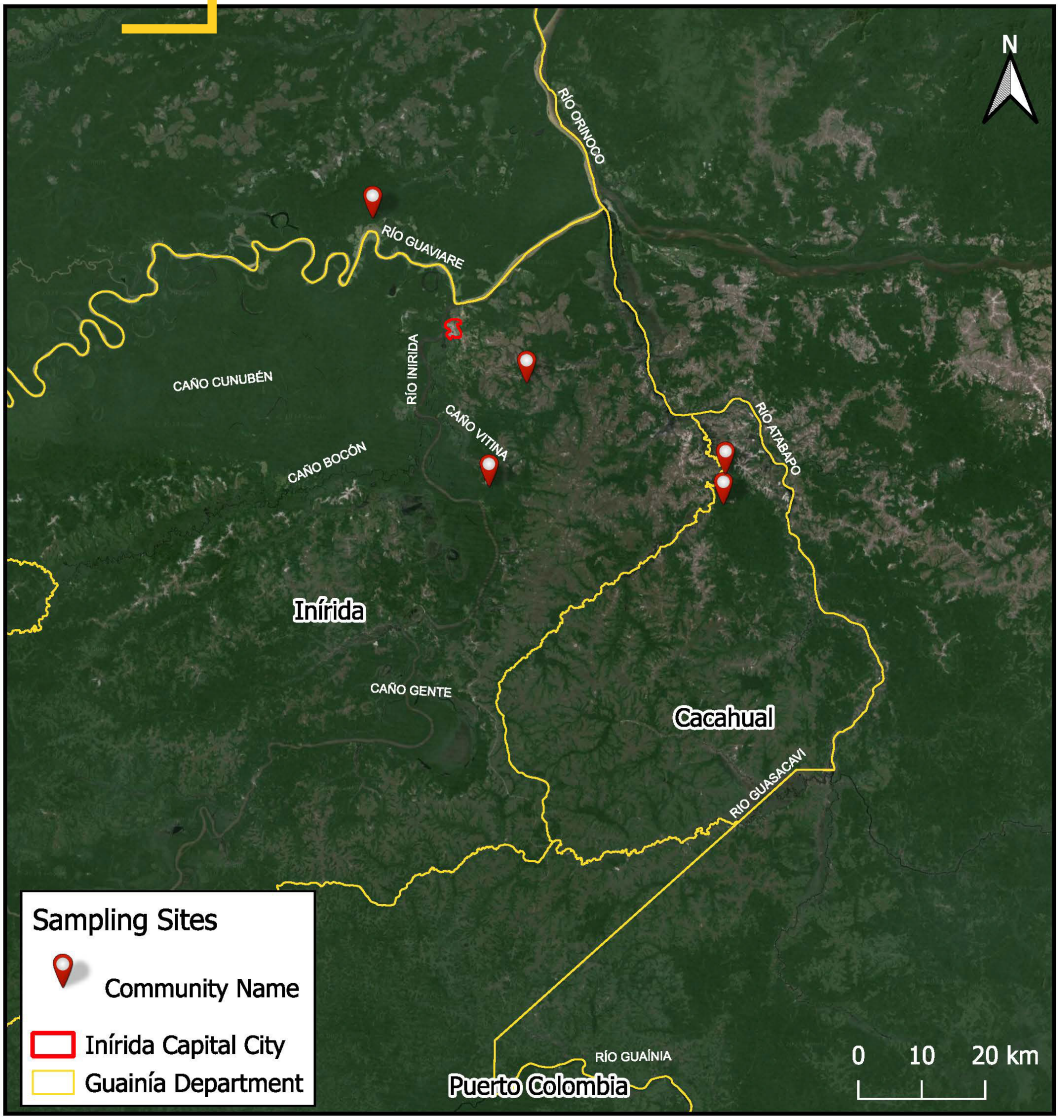
Into the Field: Guainía, Colombia

Guainía, located at the headwaters of the Rio Negro, offered a unique and underexplored landscape. This region presents both logistical challenges and scientific opportunities, including around a dozen taxon pairs with hybridization evidence, including *G. rufigula* (rufous plumage, dominant at ant swarms) and *G. leucaspis* (white plumage, submissive). Interestingly, these two species are not the closest relatives, providing a rare opportunity to study hybridization and phenotypic variation in an ant-following system.

Map with sampling localities visited during the fieldwork for the project "Olfactory Adaptations Underlying Bivouac Checking Behavior in Antbirds" in June 2025. Map Data © Google 2015.









Methods applied in the fieldwork. **Above, left**: Active search for the *E. burchellii* bivouac, **upper right. Below, left:** Mistnet setup. **Below, right:** Chemical bait setup. Credits: Andrés Sierra.

We set up mist nets and camera traps, surveyed bird diversity, and actively searched for army ant *Eciton burchellii* bivouacs to collect visual and odor cues. To test the olfaction hypothesis, we used volatile chemicals found in army ants to bait mist nets in four different sites, using two control lines with ethanol and two experimental lines with the natural ant volatiles.

Challenges and Adventures

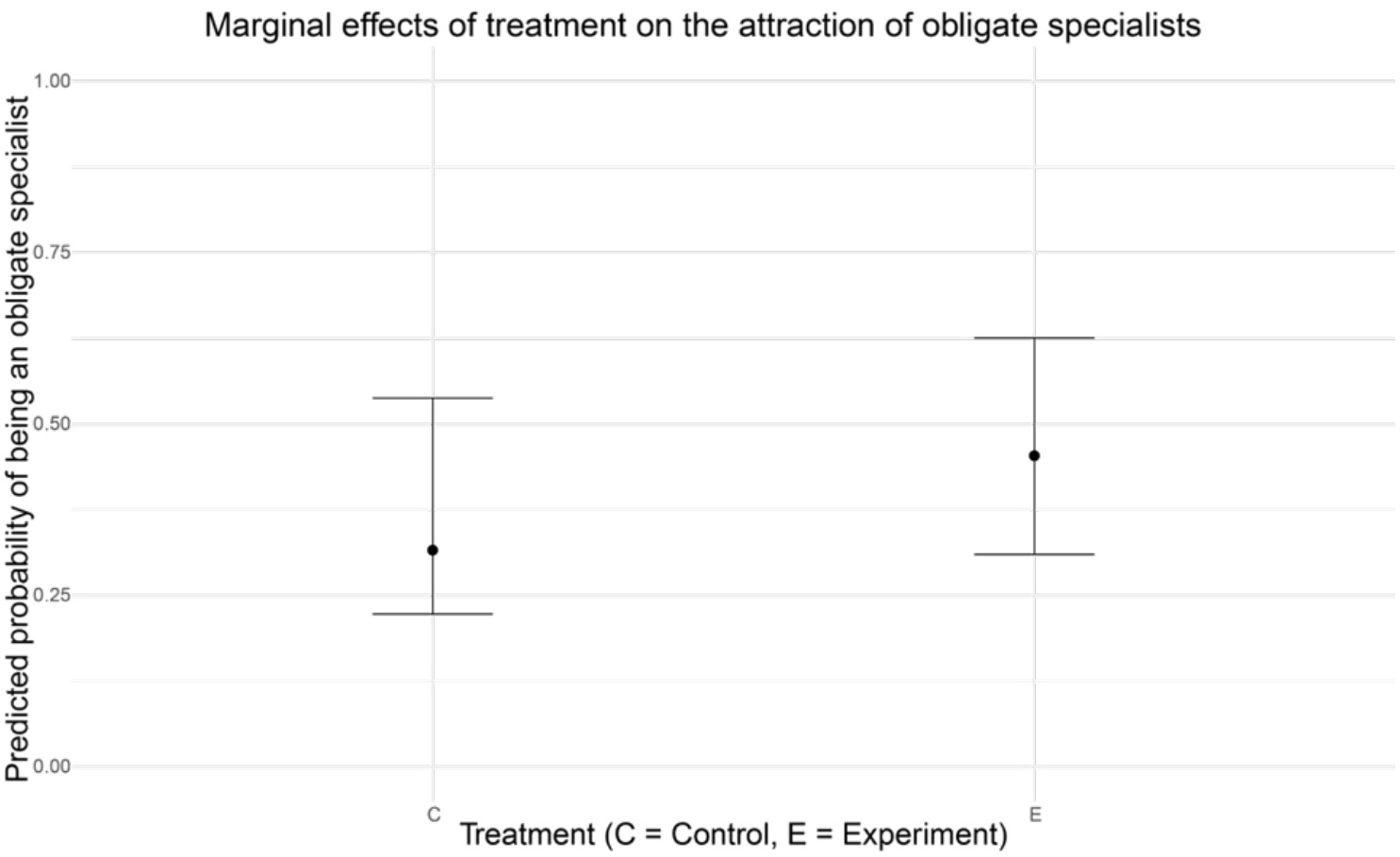
Working in the rainforest comes with unpredictable conditions. The rainy season, while facilitating river access, brought heavy morning downpours, particularly in Chaquita, sometimes lasting for three hours and affecting our sampling. Some areas, as Vitinia, were surrounded by white-sand savannas, limiting continuous stretches of dense terra-firme forest. Despite these challenges, the fieldwork offered rewarding experiences: collaborating with local communities, navigating rivers and trails, and witnessing the complex dynamics of ant-following birds in real time.

Our camera traps, unfortunately, did not capture birds at the bivouacs, but we were able to document other wildlife, including armadillos (*Dasypus novemcinctus*) and squirrels (*Notosciurus* sp.).

Above: White-sand entering the terra-firme forest. We hypothesize that localities as La Ceiba and Vitinia (picture) had different environments around the patches of terra-firme forest where we sampled, which impacted the local biodiversity, consequently impacting the bird assemblage sampled. Credit: Andrés Sierra. **Below:** Local fauna capture by camera traps. **Left**: *Dasypus novemcinctus* from Veraniego. **Right:** *Notosciurus* sp. from La Ceiba.







Binary Generalized Linear Mixed Effects Model (GLMM) to test the effect of treatment (presence or absence of the volatile compounds) on the probability of observing the obligatory specialists, controlling for variation among sampling points as a random effect.

Preliminary Results and Discoveries

We captured 191 bird specimens—108 in control nets and 82 in experimental nets with ant volatiles. Analyses suggest a trend where the presence of volatile compounds may attract obligatory ant-following specialists. While this effect was marginally non-significant, it hints at a potential role of chemical cues in guiding these birds' foraging marginally non-significant, it hints at a potential role of chemical cues in guiding these birds' foraging behavior.

Smell Experiment Highlights

- Birds exposed to ant volatile compounds showed a trend toward increased presence (from ~16% to ~33%).
- Chemical cues may play a role in ant-following behavior.
- Further analysis with GC-MS will identify specific compounds for future experiments.

New Species Records

Pteroglossus viridis – first record for Colombia



A male *Pteroglossus viridis* observed and collected in Chaquita. A female and a juvenile were also collected and are now housed at the Colombian Institutions IAvH and at the Ornithological Collection of Universidad Nacional de Colombia. Credit: Juliana Damasceno

Asio stygius – previously undocumented in the Colombian Amazon. Recorded only in Columbia's Andes.



Register of *Asio stygius* in Veraniego. Credit: Juliana Damasceno

Specimens may represent contact zones and will go through genetic analysis.



Differences between two *Xiphorhynchus* collected in Veraniego: we identified the bottom one as *X. ocellatus*. The top specimen is believed to be a hybrid from a contact zone between *X. ocellatus* and *X. pardalotus*. Both are housed at IAvH. Credit: Juliana Damasceno

Contact Zone Surprises

We also observed unusual phenotypes:

Pithys albiforns with a potential hybrid phenotype.



A potential hybrid phenotype between *P. a. peruvianus* and *P. a. albifrons*. Credit: Andrés Sierra.

Expansion range of *Gymnopithys rufigula*, which highlights the dynamic interactions between dominant and submissive ant-following birds. These observations enrich our understanding of bird diversity in the region and provide critical context for ongoing genetic and ecological analyses.





Intermediate phenotype between *G. leucaspis* and *G. rufigula*. **Left**: *G. leucaspis* from Guainia, Colombia. **Center**: *G. r. pallidus/pallidigula* from Guainia, Colombia. **Right:** *G. r. rufigula* from East Berbice-Corentyne, Guyana. Credits: Diego Cueva, Juliana Damasceno, and Cameron Rutt, respectively.

Communities

Most of the communities we visited are actively engaged in bird conservation and observation. The SINCHI Institute has been conducting outstanding work in supporting these efforts, particularly in the communities of Veraniego and Chaquita. Residents are familiar with the use of platforms such as eBird to record bird sightings, and they showed great enthusiasm in participating in our activities.

It was remarkable to witness their excitement upon encountering less familiar species such as *Pithys albifrons* and *Onychorhynchus coronatus*. Every time we captured a bird in the mist nets, we took the opportunity to show it to the community members and teach them how to identify the species using field guides.



Diego Carantón, Yelcin Camico, Jaider Camico, and Matias Gomez observing a White-plumed Antbird (*Pithys albifrons*) caught in the mist net in Chaquita, Colombia.

In addition to their practical knowledge, many communities also shared rich oral traditions related to birds and army ants. For example, some myths explain why certain birds follow ant swarms, while others associate characteristics of the ants with human outcomes. One story suggests that if a person is bitten by an *Eciton* with a red head, they will marry a young man; if bitten by one with a white head, they will marry an older man.

In one of the communities, children kept a parakeet as a pet, further illustrating the close and culturally significant relationship these communities maintain with their local avifauna.



Kids from Veraniego watching cartoons on a smartphone with 'princesa' (princess), a cobalt-winged parakeet (*Brotogeris cyanoptera*) on her hand. Credit: Juliana Damasceno.

Next Steps

Back in the lab, the volatile compound samples will be analyzed using gas chromatography–mass spectrometry (GC-MS) to identify the specific chemicals that may attract ant-following birds. Future field experiments will synthesize these compounds to rigorously test their ecological role in bird detection and attraction.

The genetic analyses of uncertain specimens will clarify species identity and assess potential introgression in hybrid zones. Additional experiments planned by colleagues in Inírida during the dry season will further explore ant-following behavior in varied habitats.

We also plan to return to the communities visited during this expedition to share our findings and engage with local collaborators, highlighting the connection between scientific discovery and community involvement. The scientific results will be presented at conferences in Colombia and the United States, as well as in written reports.

Looking Ahead

This research is part of a broader effort to uncover the hidden sensory ecology of ant-following birds. Understanding how these species use odor to track army ants opens a window into the complex evolutionary pressures shaping their behavior, physiology, and ecology. I aim to expand this work, incorporating tracking devices and additional field experiments to reveal how these birds navigate and exploit ephemeral food resources.

The ant-following birds represent a unique behavioral system, with much yet to be discovered. From chemical cues to hybridization, every day in the rainforest offers a glimpse into a world where scent becomes a map and birds follow the march of ants, uncovering nature's hidden strategies one step at a time.

Acknowledgments

In addition to all the institutions that funded this research and offered all the support with logistics and documentation, I am grateful to all the scientists who joined me in this adventure: Andrés Sierra, Diego Carantón, Diego Cueva, Gregory Thom, Gustavo Bravo, Héctor González, Lilibeth Palacios, Sebastian Peréz-Peña, and Socorro Sierra and to all the communities that opened their doors to us.



Part of the team on the last day of the expedition. Credit: Andrés Sierra.

Tai–where? Two Trips in One to Taiwan and Thailand

by David Boyd, Angela Haggard, and Madelein Hamlin

On June 1st, members of the museum's ichthyology division departed from New Orleans for a four week trip to Taiwan and Thailand. Our team included graduate student Angela Haggard, undergraduate Madelein ("Maddie") Hamlin, and collections manager David Boyd. We set out to make market collections of marine fishes and attend a conference in Taiwan before flying to Thailand to catch freshwater fishes for ongoing research projects.

The first days of the trip were spent visiting markets, fishing ports, and set nets in and around beautiful Yilan County in northeastern Taiwan. Our guide and driver, Yan-Ling Chen, knew exactly where to go along the rocky coastline to find interesting and unusual specimens at vendors' stalls and in crates of bycatch destined to be ground into fish food.



Northeastern coast of Taiwan at Nanfang'ao Fishing Port.

Dr. Yung-Che Tseng and his colleagues at Academia Sinica Marine Station graciously provided lab space and arranged for the chemicals and equipment we would need to preserve our collections. Accompanying us was Dr. Harutaka Hata from Japan, who in 2023 visited the LSUMNS to examine shads and herrings from Kuwait. We repeatedly found ourselves in the lab until after midnight taking tissue samples and sorting and photographing oddities including brilliant red coffinfish, cartilaginous chimaera, and a rare remora with a peculiar aberration: *two* adhesive discs. On our second night, after a full day of collecting and processing fishes, we drove into Taipei at 2 AM to browse the Keelung Night Market, where restaurant and hotel managers in the city bid on the largest and freshest catches to stock their kitchens the following morning.

In some ways, our entire trip would be a retread of ground (or water) covered by Curator of Fishes and expedition benefactor Prosanta Chakrabarty, who collected in the north and south of Taiwan in 2008 and in Thailand in 2020. We were eager to bolster these existing collections with additional specimen-vouchered data points from 2025, and especially keen to bring back species new to the LSUMNS fish collection. Taiwan boasts some 3,400 species of fish, more than 9% of all fish species on earth, so this seemed like an attainable goal.



Fish market vendor in Yilan, Taiwan.



Porcupinefish among flying fish collected by set net.

On June 6th, we traveled south from Taipei by high speed rail to the city of Kaohsiung. In addition to our bright yellow Bass Pro equipment duffels and personal luggage, we hauled onto the train carriage a styrofoam cooler full of fresh fish on ice—specimens we had collected too greedily and run out of time to process in Yilan. Three hours later we were greeted at the station by Dr. Hans Ho, a long-time friend and colleague of Prosanta and our host in the south. At his lab at Kaohsiung National University we joined Dr. Katherine Bemis and her team from the Smithsonian and over two days we split into two groups and made further collections at southern ports and markets. Again we found ourselves working late preserving interesting fishes, but this time with more friends and one night with a takeout dinner of swamp eel noodle soup to keep us going.

The following week we were back in Taipei for the joint meeting of the Asian Society of Ichthyologists and the Indo-Pacific Fish Conference at National Taiwan University and Taipei Zoo. Maddie gave a well-received talk on the taxonomy of *Devario minnows* in Thailand, her first such presentation at an academic conference, and early one morning took the first train to a mangrove swamp north of the city to photograph mudskippers in their natural habitat. Dave spoke about the biogeography of the catfish genus *Glyptothorax*. Angela presented a poster on her incipient research into the systematics of bagrid catfishes, a family with a messy taxonomic history and a broad distribution across Asia and Africa.



Keelung Night Market in Taipei at 2 AM

One such genus within Bagridae, *Tachysurus*, is present in Taiwanese rivers but underrepresented in US specimen and tissue collections. Happily, Dr. I-Shiung Chen from National Taiwan Ocean University knew where and how to collect it and generously offered to take Angela on short notice. Angela spent a day electrofishing in mountain streams and arrived late to the close-of-conference dinner that night, still in her field clothes amid the banquet… *Tachysurus* in hand!

Also in attendance was Jirasin "Jay" Limpichat from Prince of Songkla University in southern Thailand, who presented his work on larval fish assemblages in Thailand's largest lagoon. On June 14th, Jay flew with the LSU team to Bangkok to join us for the second leg of our trip. After linking up with our driver, P'Ahd, our team headed to a nearby snake-themed café replete with live serpents. There, we waited for one of Jay's contacts, an aquarium dealer, to drop off some translucent *Pseudeutropius* catfish pertinent to Angela's research that we were unlikely to be able to collect ourselves from peat swamps in the south. Ultimately, the dealer couldn't come in person and so took the obvious approach of having the live fish delivered to us by courier: they arrived in a cooler tied to the back of an Uber Eats motorcycle. Another mission accomplished.

The same day, we stopped in Ayutthaya to pick up gear, supplies, and a kind donation of freshly-caught specimens (from localities we would not be able to sample ourselves) from our friend and talented angler Dr. Weerapongse Tangjitjaroen. From there, we drove west to Mahidol University in Kanchanaburi to pick up regular LSU collaborator Dr. Sampan Tongnunui. The following morning, properly equipped for fieldwork with seines, dip nets, minnow traps, a backpack electoshocker, and insulated chest waders, we set off south down the Malay peninsula. The 1000 km journey to Satun Province took three days. Along the way we made collections in Gulf of Thailand-draining basins, catching a rare Betta species in a roadside ditch off a busy highway, and, importantly, *Devario regina*, a species integral to Maddie's research, from its type locality in the mountains of Nakhon Si Thammarat. (We are sorry to report that in a friendly overnight fish trapping competition at the same location, Prince of Songkla University trounced LSU.) Finally, we arrived in Sampan's hometown near the border with Malaysia.



Processing specimens at a temple in Satun, Thailand.



Fishes collected in Thailand, **from top to bottom**: Minnow *Devario* sp., Spanner Barb *Striuntius lateristriga*, Bumblebee Catfish *Pseudomystus siamensis*, Priapium Fish *Phenacostethus smithi.*

The southern province of Satun is thought to occupy a distinct freshwater ecoregion relative to other areas of the peninsula, and fishes from its rivers are rare in US museums. We collected in the area for two days, including at the outflow of a subterranean mountain stream, shocking when the weather permitted and using seines and dip nets without electricity during frequent rainstorms. We netted leaffish, spiny eels, loaches, and a strikingly-patterned spanner barb we found to be ubiquitous and abundant throughout the peninsula, and we will be interested to learn if the Satun populations do in fact differ significantly from those in adjacent regions. We were reluctant to leave, not only because of the diversity of fishes, but because Sampan's family spoiled us with delicious homemade meals each night, and fruits like the notoriously pungent durian and local delicacy santol or cotton fruit for dessert.

We made our way back up the peninsula, working rivers draining west into the Andaman Sea. In our final days of fieldwork, we returned to Kanchanaburi to collect in the Mae Klong River, familiar territory for several members of the team. Excitingly, we caught the bumblebee catfish *Pseudomystus siamensis*, the species that sparked Angela's interest in science from her home aquarium. As we were finishing up at our last site, an eagle-eyed student spotted in our bucket a single *Phenacostethus smithi*—a diminutive fish no more than 2 cm long as an adult with a copulatory organ on its chin—from a new and northernmost locality in the well-sampled river basin.



Top: Collecting with seine net and backpack electroshocker. **Bottom:** Following monks to the market in Thong Pha Phum, Kanchanaburi, Thailand.



Although the hundreds of fish we collected in Taiwan were left in Kaohsiung pending export, more than 1000 specimens from Thailand would be returning with us in our luggage. At Mahidol University we wrapped them carefully in moist cheesecloth and triple-bagged them in plastic—standard protocol for transporting fluid-preserved specimens. We took tissues from about 300 specimens in each country, adding more than 600 samples in total to the LSUMNS fish genetic collection. Even on our last morning in Bangkok before our flight home, we couldn't resist acquiring a few more catfish from the famous aquarium district of Chatuchak Market.

Collecting at 28 sites across two countries in a single month was a logistical challenge and would not have been possible without assistance from so many friends and colleagues. We are tremendously grateful for all their help in making the trip a pleasure and a success.

Collecting Amphibians and Reptiles in the Upper Fly River Region of Papua New Guinea

by George H. Lambert

New Guinea is the world's largest and highest tropical island with the third largest most intact portion of contiguous tracts of tropical rainforests in the world. Mainland New Guinea and its associated satellite islands harbor incredible biodiversity and high degrees of endemism, meaning that many of its taxa are found nowhere else on Earth. Some of the most charismatic members of its biodiversity include birds-of-paradise, cassowaries, and tree kangaroos. The astonishing biodiversity and biogeographic patterns have inspired evolutionary biologists including Alfred Russell Wallace, Ernst Mayr, and Jared Diamond to formulate their groundbreaking ideas on speciation and the evolution of community assemblages. While the avian and mammalian diversity of the region is relatively well described, biodiversity researchers are only scratching the surface when it comes describing the diversity of amphibians and reptiles of the world's third largest island.

In the Spring of 2025, I embarked on my first expedition to Papua New Guinea, which encompasses the eastern portion of mainland New Guinea. The expedition was led by my advisor and curator of herpetology at the LSUMNS, Dr. Christopher C. Austin and Dr. Sara Ruane, the curator of herpetology at the Field Museum in Chicago, Illinois. We were also accompanied by Dr. Austin's longtime collaborator at the Papua New Guinea National Museum and Art Gallery, Bulisa Iova. The objective of the trip was to collect amphibians and reptiles from the North Fly District of the Western Province, encompassing the rainforests of the southern lowlands and the central mountain ranges.

The region represents a gap in genetic sampling for amphibians and reptiles on mainland New Guinea because most of the material collected on previous expeditions were taken before it was common practice to collect and preserve tissue for genetic analysis, including a species that is the subject of my dissertation, Müller's crown snake (*Aspidomorphus muelleri*). *A. muelleri* is the largest and most widespread species within its genus, but genetic sampling of this species has been restricted to eastern New Guinea. Acquiring fresh tissue and venom samples from populations from this region would provide a much clearer picture of the evolutionary history and venom evolution of this species. While these snakes are not known to be implicated in serious envenomations to humans, basic research on venom composition and evolution within this genus of overlooked snakes may lead to the discovery of novel therapeutics.

Within seven days, we traveled via airplane, land cruiser, and boat to three separate localities throughout the northern versant of the Western province, Kiunga, Tabubil, and a remote river camp three hours' boat ride north of Kiunga.



Lowland tropical rainforest, River Camp, North Fly District, Western Province, Papua New Guinea. Credit: George H. Lambert

Snakes can be extremely difficult to find even in the right habitat, especially in the topics where there are plenty of places for them hide. Therefore, we asked our main guide on the expedition, Samuel, to help spread the word to the local community that we could use help in the collection efforts. While we were especially interested in collecting *A. muelleri*, we made it clear to those helping us that they not attempt to capture either of the two dangerously venomous snakes known to occur in the region, New Guinea small-eyed snake (*Micropechis ikaheka*) and death adder (*Acanthophis* sp.), to avoid any potential of a serious envenomation while assisting us in our endeavors."

We explored the surrounding forests where we heard the calls and loud wing flaps of Blyth Hornbills (*Rhyticeros plicatus*) on our morning hikes. The presence of the hornbills was promising considering these magnificent birds typically nest in healthy forest stands. While the forest seemed healthy and intact, we noticed the lack of skinks, lizards that are extremely diverse and densely populated in the Australo-Papuan region, scurrying among the leaf litter and soaking up the sun's rays breaking through the crowded forest canopy. We were also taken aback by the silence of the forests at night, where we heard very few frogs calling. According to Dr. Austin and Bulisa, this was in stark contrast to the forests of the north coast of New Guinea, where frogs and skinks are diverse and plentiful. We collected three snakes at this locality all representing two species of the genus *Candoia*, New Guinea tree boa (*C. carinatus*) and the New Guinea ground boa (*C. aspera*), all of which were brought to us by local collectors. Frogs and lizards collected at this locality included Red Mawatta Frog (*Hylophorbus rufescens*) and a potentially undescribed species of giant bent-toed gecko (*Crytodactylus* sp.).



Above: Pacific tree boa (*Candoia carinata*). Kiunga, Western Province, Papua New Guinea. Credit: George H. Lambert. **Below:** New Guinea ground boa (*Candoia aspera*) from Kiunga, North Fly District, Western Province, Papua New Guinea. Credit: Sara Ruane.



We were not having much luck in Kiunga, so we decided to drive three hours' north to Tabubil, a mining town located in the Star Mountains. The paved and well-maintained Kiunga-Tabubil Highway leading to the town made for a smooth ride and provided us an opportunity to road cruise for snakes. Road-cruising is a popular collecting method used by herpetologists, where one simply drives around at night hoping to come across any reptiles thermoregulating on asphalt that has been baked by the tropical sun.

We thought for sure we would come across at least some snake roadkill, but unfortunately, we had no luck in acquiring snake specimens from Tabubil. The only specimens we collected from this locality were invasive Marine Toads (*Rhinella marina*) in the hotel garden. These are large and extremely toxic toads are native to South America that were introduced to the Australo-Papuan region during the 1930's to control sugar cane beetles that were destroying sugar cane crops. Because there are no native true toads (Family Bufonidae) many species (including endemic snakes) found here have not evolved resistance to their toxins, with many species dying after a predation attempt. While these are not New Guinea endemics, collecting them is essential for a better understanding their impacts on native wildlife populations and monitoring their spread through New Guinea.

Our final destination was a river camp three hours' north of Kiunga in the upper reaches of the Fly River. This camp was built by Samuel and his employees to host birders from all over the world to get chance to observe the magnificent avifauna that calls this region home. This was our most productive and beautiful locality where we collected several species lizards including (*Gekko vittatus*), and several species of skinks (*Emoia* sp.). This locality was also special to me because within five minutes of our first night excursion, I found and collected my first New Guinea snake, another Ground Boa (*C. aspera*) under a large palm frond lying on the ground alongside the trail. The river camp and the boat ride back to Kiunga gave us more glimpses of New Guinea's biodiversity in the form of giant fruit bats (*Pteropus neohibernicus*) sulfur-crested cockatoos (*Cacatua galerita*), black palm cockatoos (*Probosciger aterrimus*), electric blue kingfishers, and brahminy kites (*Haliastur indus*).

While this expedition did not yield the snake diversity or numbers we were hoping for, it was a valuable lesson that fieldwork is unpredictable and does not always go according to plan. It would have been great to acquire new Muller's crown snake specimens, tissues, and venom samples from this locality, but I am far from disappointed. I am grateful to have to opportunity to be one of only a handful of researchers studying the biodiversity of this incredible place and it only encourages me to go back for more.

The lizards and frogs collected on this expedition have all been deposited in the herpetology collection at the Louisiana State University Museum of Natural Science in Baton Rouge, Louisiana, and the four boa specimens were deposited at the Papua New Guinea National Museum and Art Gallery in Port Moresby, National Capital District, Papua New Guinea.

Mason Lab Goes to Mason Mountain, Texas, and Catahoula Parish, Louisiana

by Quinn McCallum

While the Ornithology collection at LSUMNS is globally recognized for our Neotropical holdings, the roots of the collection are right here in the Southeastern United States. George Lowery, founder of the LSUMNS, was an expert on the fauna of Louisiana, and our Ornithology curators have continued to build our collection of local birds, with a focus on Louisiana and Texas. However, biases based on where LSUMNS collectors live, go birdwatching, and the timing of international field work has led to uneven geographic and seasonal sampling of these states over time. This year, the Mason Lab and LSUMNS collections managers set out to fill in some gaps in our Texas and Louisiana holdings as part of our annual spring local collecting and training trip.

On May 8th, 2025, ten ornithologists from the LSUMNS, Dr. Nicholas Mason, Dr. Diego Ocampo, Dr. Ashish Jha, Eryn Woernley, Sebastian Pérez Peña, Quinn McCallum, Amanda Harvey, Samantha Rutledge, Brett Kincade, and Melissa Salazar, piled into three vehicles and caravaned from Baton Rouge, Louisiana, to Mason County, Texas, at the heart of the Edwards Plateau.



The Mason Lab at Mason Mountain WMA. **From left to right, back row**: Brett Kincade, Quinn McCallum, Nicholas Mason, Samantha Rutledge, Ashish Jha, Sebastian Pérez Peña. **Front row**: Eryn Woernley, Amanda Harvey, Melissa Salazar, and Diego Ocampo. Credit: Amanda Harvey.



Habitat at Mason Mountain WMA. Credit: Quinn McCallum.

The Edwards Plateau, part of the Texas Hill Country, is a biogeographical transition zone for birds. There are several cases where an eastern species overlaps with its western or southwestern congener. In one such instance the southwestern *Baeolophus atricristatus* (Black-crested Titmouse) and eastern *Baeolophus bicolor* (Tufted Titmouse) form a stable hybrid zone along the edge of the Edwards plateau. In 2019, a group of LSUMNS graduate students sampled in that hybrid zone. Recent research on the hybrid zone has uncovered extensive hybridization and backcrossing between the two species, so we were interested in getting a series of *Baeolophus atricristatus* from nearby the hybrid zone. Additionally, we were interested in acquiring series of both western and eastern species from the edges of their distributions, as these samples would be invaluable for phylogeographic studies.

We spent three days sampling at Mason Mountain WMA. The habitat was a beautiful Oak-Mesquite scrub, with an understory of grasses and cacti. The most encountered birds were *Passerina ciris* (Painted Bunting), *Cardinalis cardinalis* (Northern Cardinal), *Piranga rubra* (Summer Tanager), *Aimophila ruficeps* (Rufous-crowned Sparrow), and our target, *Baeolophus atricristatus*. Other notable species included *Amphispiza bilineata* (Black-throated Sparrow), *Chondestes grammacus* (Lark Sparrrow), *Dryobates scalaris* (Ladder-backed Woodpecker), *Geothlypis tolmiei* (MacGillivray's Warbler), and *Melozone fusca* (Canyon Towhee). Additionally, the WMA is home to a breeding population of *Vireo atricapilla* (Black-capped Vireo), a federally endangered species that we of course did not sample, but were privileged to hear singing throughout our mornings. After spending our mornings collecting, we returned to our home base to

prepare specimens. Here, new lab members received hands on training from veteran preparators, and gained experience preparing multiple specimens back-to-back, which can be difficult to do during the busy semesters at LSU. In total, we collected 112 specimens from 31 species, creating a nice series of representative specimens from the Edwards Plateau.

While most of the lab returned to Baton Rouge after our short Texas trip, Nick, Amanda, Brett, and I continued onwards. Originally, we planned on going to a site on the gulf coast of Texas to obtain samples for Amanda Harvey's work on Gulf Coast birds. Unfortunately, our permissions fell through, so we pivoted and returned to Louisiana to sample at JC "Sonny" Gilbert WMA (formerly Sicily Island Hills WMA) in Catahoula Parish, Louisiana. Catahoula Parish is in the northeastern part of the state, and prior to this trip we only had a single specimen from this parish, a *Junco hyemalis* (Dark-eyed Junco) collected in November 1939 by P. Ambrose Daigre. Our goal here was to collect a small series of breeding birds from the WMA, which consists of a small upland region that is isolated from more contiguous upland regions in central Louisiana (eg. Kitsatche National Forest) by the Ouachita River floodplain.

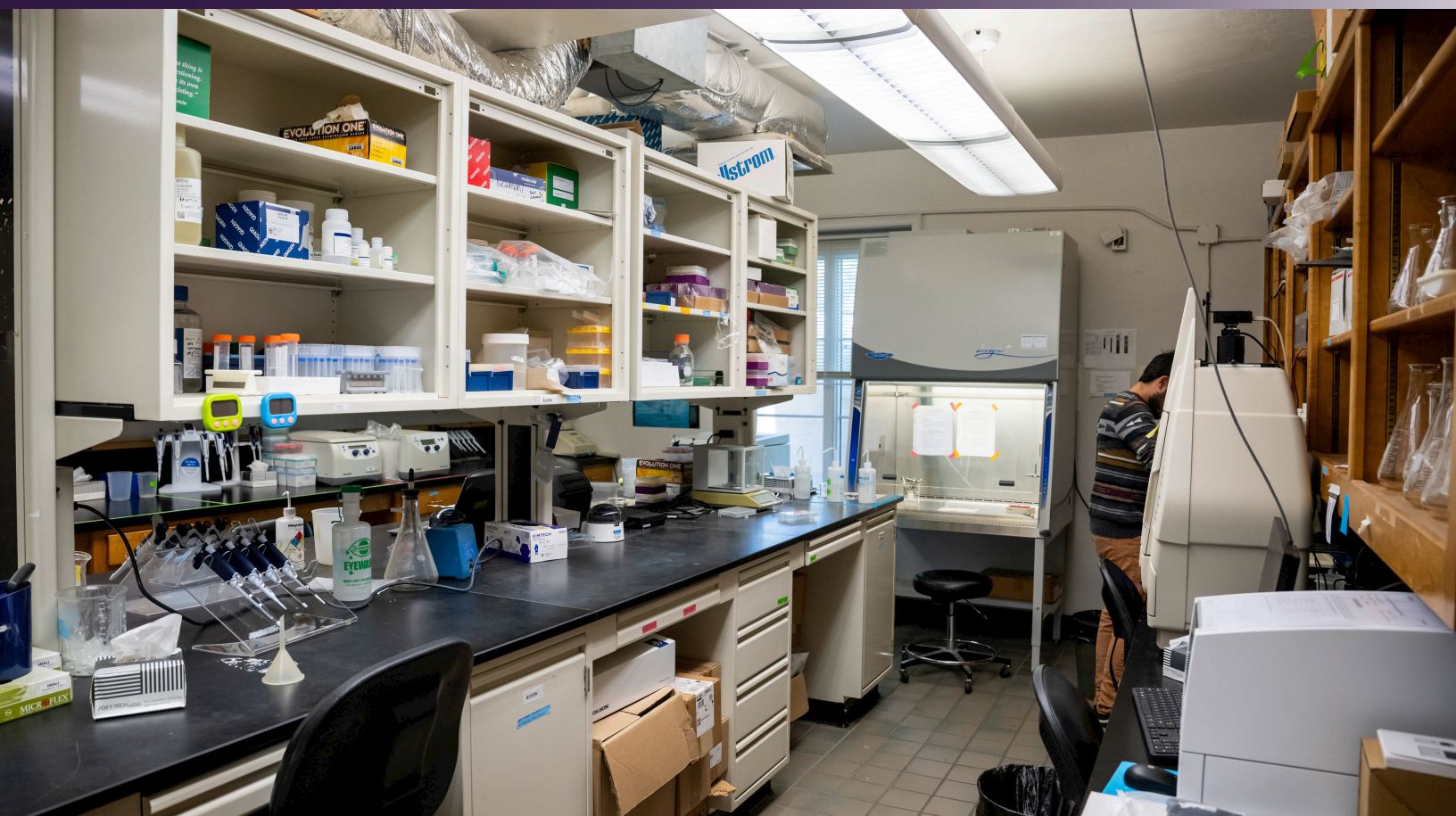
Since this region is poorly covered by bird watchers, we weren't sure what species we would encounter. We were delighted to find the mixed upland forests filled with the buzzy songs of *Helmitheros vermivorum* (Worm-eating Warbler) and the more musical trills of *Setophaga pinus* (Pine Warbler). In addition to these, we encountered many of the expected species for Louisiana, such as P*asserina cyanea* (Indigo Bunting), *Piranga rubra* (Summer Tanager), *Baeolophus bicolor* (Tufted Titmouse), *Vireo griseus* (White-eyed Vireo), and *Empidonax virescens* (Acadian Flycatcher). We spent two mornings collecting at this WMA, once again returning to our base in Jonestown in the afternoons to prepare some of the specimens, while freezing the remainder for later preparation back at LSU. With our smaller group, we were unable to set up as many nets as we did in Texas, but we still managed to collect a respectable 51 birds from this site, putting Catahoula Parish "on the map" in terms of representation in our collection!

Amanda Harvey (**left**), Quinn McCallum (**middle**) and Brett Kincade (**right**) preparing bird specimens in Catahoula Parish, Louisiana. Credit: Nicholas Mason.





News



Awards & Achievements

Curators



Dr. Robb Brumfield received the prestigious Elliott Coues Award from the American Ornithological Society! This award recognizes outstanding and innovative contributions to ornithological research. Shortly after, he was honored at LSU's 2025 Presidential Laurels Ceremony for his exceptional leadership and contributions to research, education, and the LSU community. Honorees are nominated and selected by LSU's Boyd Professors, the university's highest academic rank, making this distinction both highly selective and deeply meaningful. Dr. Brumfield's work continues to advance our understanding of biodiversity and evolution while inspiring the next generation of scientists at LSU and beyond.



Dr. Prosanta Chakrabarty earned the LSU College of Science's Excellence Mentoring Award. The award recognizes exemplary service in mentoring groups persistently underrepresented in science and mathematics, thereby recognizing faculty who serve as catalysts of change. Congratulations!



Dr. Greg Thom was awarded $1,157,522 NSF Collaborative Research grant to create the most comprehensive parrot phylogeny to date. His team will sequence DNA from museum specimens representing nearly every known population of parrots—about 800 species and subspecies from around the world. Read more about this grant on page 16. Congratulations!



Dr. Sophie Warny was awarded a $399,199 NSF grant for her project, "Characterizing the evolution of Messinian Mediterranean-Atlantic exchange and deciphering their impact on global climate." The goal is to reconstruct marine and terrestrial conditions across the Messinian Salinity Crisis to evaluate how the opening and closing of the Gibraltar Strait influenced global ocean circulation and climate. Congratulations!

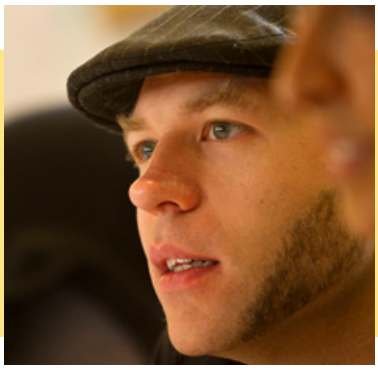
Awards & Achievements

Staff



Dr. Irene Martí Gil received the LSU Family Council Campus Collaboration Grant to launch the new LSUMNS educational program, called "Naturally Talented." She also obtained the Richard Guidry Cajun and Creole Language Fund (RGCCLF), managed by the Community Foundation of Acadiana, to launch a Louisiana French language revitalization project here at the LSUMNS (Read more on page 9). In addition, Irene obtained the National Center for Science Education's Sound Science Fellowship. This highly competitive fellowship (only six awards are given yearly across the US) is not only a recognition to her work but also an incredible opportunity for growth and collaboration with extraordinary thinkers from varied backgrounds.

Museum Associates



Dr. Brandon Ballengée presented the exhibit The Sea of Lost Children in the Galveston Arts Center (Galveston, TX) in observation of the 15th commemoration of the 2010 Deepwater Horizon (DWH) oil spill. This exhibit blended art and science to spotlight the fragile beauty of marine life in the Gulf of Mexico.

Students



Spenser Babb-Biernacki (Esselstyn Lab) won the prestigious Ernst Mayr award from the Society of Systematic Biologists for her talk "Discordant topology, concordant chronology: Coevolutionary history of Pneumocystis fungi and their mammal hosts" at this year's Evolution Meetings! The Mayr award is given to outstanding student talks in the field of systematics at the annual meetings of the Society of Systematic Biologists (SSB). This is SSB's premier award, and is judged by the quality and creativity of the research completed over the course of the student's Ph.D. program. The award consists of $1,000, a certificate of distinction, and a two-year subscription to the journal Systematic Biology.



Amanda Harvey received the Louisiana Ornithological Society's "Steve W. Cardiff and Donna L. Dittmann" scholarship ($2,500), an annual honor recognizing outstanding ornithology students for their academic excellence and research potential. Congratulations!



Brett Kincade received the the Pinkie Gordon Lane Graduate School's LSU Future Scholars Fellowship ($14,000 per year), which aims to remove barriers to graduate education while providing holistic support and resources essential for the successful completion of doctoral and professional programs. Congratulations!



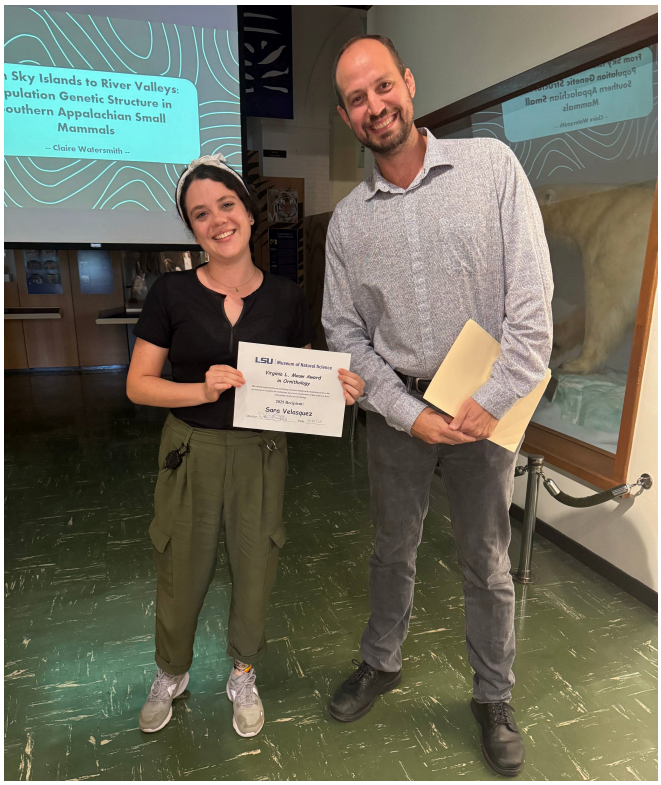
Gustavo Martins received the AOS Research Grant from the American Ornithological Society to support his project on the evolutionary adaptations of ant-eating (myrmecophagy) in Neotropical woodpeckers, with a focus on Celeus genus. The study combines stable isotope, genomic, and chemical analyses to understand how diet and glandular secretions are linked to dietary specialization. Congrats, Gustavo!



Quinn McCallum earned the Stearns Graduate Award from the Journal of Evolutionary Biology, which recognizes the best graduate papers published in the journal in that calendar year. Quinn's paper is titled "Pronounced differentiation on the Z chromosome and parts of the autosomes in crowned sparrows contrasts with mitochondrial paraphyly: implications for speciation," and you can read it here: https://doi.org/10.1093/jeb/voae004. Congratulations, Quinn!



Dan Sinopoli received, for the second time, Louisiana Sea Grant's Dr. Jack and Annagreta Hojhdal Van Lopik Superior Graduate Student Research Scholarship ($10,000). This award supports graduate students whose work is aligned with the Sea Grant mission of furthering the wise and sustainable use of ocean and coastal resources. Geaux Dan!



Sara Velasquez received the Virginia Mouw Award, which celebrates an exceptional graduate student in the ornithology division of the LSUMNS who has just completed their first year.



Claire Watersmith received the Pinkie Gordon Lane Graduate School's Huel D. Perkins Fellowship, which provides four years of funding at $25,000 per year and carries a tuition and non-resident fee waiver. Congratulations, Claire!

Expanding the LSUMNS Community

Postdoc Researcher



Dr. Kristen Wacker completed her bachelor's degree at the University of Chicago, and then worked as a genetics lab technician at the Field Museum of Natural History, where she fell in love with museum ornithology. She completed her PhD in Evolutionary Biology at the University of Michigan, where she studied the diversification of Neotropical birds under the guidance of Dr. Ben Winger. She will be a LSUMNS and NSF Postdoctoral Researcher, working with Drs. Greg Thom and Nick Mason on antbird and tanager comparative genomics. She is thrilled to be joining the large and vibrant LSUMNS community!

PhD Students

Phoebe Gordon is a first-year ornithology student and lifelong birder pursuing a PhD in the Thom lab. She graduated with a B. A. in Organismal Biology and Ecology from Colorado College, where she spent time on a research crew studying the population demography of Colorado's Flammulated Owls. During a research experience for undergraduates, she studied Puerto Rican mayflies in the genus *Neohagenulus*. In Dr. Thom's lab, she plans to research the biogeography and genomics of South American birds.





Brett Kincade is an ornithologist with a B.S. in Biological Sciences and an M.A. in Teaching from the University of New Orleans. He previously worked as a high school biology teacher before transitioning into research through LSU's LAGNiAppE post-baccalaureate program, where he studied the comparative phylogeography of Geospizopsis tanagers from South America. As a PhD student in Dr. Nicholas Mason's lab, Brett plans to continue his research on Geospizopsis while also exploring the phylogeography and systematics of high Andean Neotropical birds.



Kike Neyra is a marine palynologist with a B.Sc. in Biological Sciences. His research focuses on dinoflagellate cysts (dinocysts) and their application in paleoceanographic reconstructions. He has been a research fellow at the Smithsonian Tropical Research Institute and a former member of the Pollen Digitization Project. He is now a PhD student in Dr. Warny's Lab.



Claire Watersmith is a mammalogist with a B.Sc. in Environmental Sciences from North Carolina State University and an M.S. in Biology from the University of North Carolina Wilmington. During her undergraduate career, Claire interned in the mammalogy collection at the North Carolina Museum of Natural Sciences and researched several endangered small mammals native to Florida. During her master's degree, she studied population genetics of the woodland jumping mouse in the Southern Appalachian Mountains. In Dr. Esselstyn's Lab, she plans to investigate the comparative phylogeography of small mammals in Borneo.

Lagniappe Students



Emma Powers earned a B.Sc. in Animal Science with minors in Biology and Chemistry at Berry College. During their undergraduate studies, he looked at campus bat biodiversity through audio recordings. Currently, Emma is working in the Mason Lab researching possible thermoregulatory effects on feather reflectance in common ravens. Outside of their current research, Emma is interested in the foraging and social behavior of bats and small mammals, as well as their divergent evolution. He is also interested in museum curation and research.



Trayvond Russ earned a B.Sc. in General Biology and received a minor in Marine Sciences from the University of South Alabama. As an undergraduate, he assisted with data collection on Eastern Bluebirds at nesting sites across campus. His current research focuses on Antbirds and the evolutionary diversification of avian skin coloration. More broadly, his interests include the evolution of birds and reptiles and the role of conservation in protecting biodiversity. Outside the lab, Trayvond enjoys wildlife photography particularly of birds and he is eager to collaborate with local community groups on conservation projects.

Graduations, Defenses & Farewells



On August 15 we proudly celebrated the incredible achievements of our LSU Museum of Natural Science community!

- Master's graduate: Ryan Klutts (Brumfield-Faircloth Lab)
- PhD graduates: Sheila Rodriguez Machado (Chakrabarty Lab) & Heru Handika (Esselstyn Lab)
- Museum Associate & PhD graduate: Roberta Canton (Faircloth Lab)

Your dedication, curiosity, and passion for science have inspired us all. We can't wait to see the amazing paths you'll take next—whether in research, education, conservation, or beyond.
Congratulations, graduates—you make us proud!



Master's Defense



Daniel Geldof (Chakrabarty Lab) defended his MA Thesis on October 28. He investigates the unique morphology of the Rockhead Poacher, *Bothragonus swanii*. This small, armored benthic fish found in the northeastern Pacific Ocean bears such a rare trait atop its head. Its posteriodorsal skull surface features a deep, bowl-shaped cavity, known as the cranial pit. The pit occupies approximately the same volume as the fish's brain, and contains complex microstructures of unknown function.

The Rockhead's morphology has been previously explored, with hypotheses made regarding the function of its cranial pit. However, no focused examination has taken place in nearly two decades. With modern micro-computed tomography techniques and supplemental histology, he examined the morphology of *B. swanii* (and a congener, *Bothragonus occidentalis*), at an unprecedented level of detail. he found strong evidence that the pit is multifunctional. The first set of ribs are free-moving, enlarged, and flattened against the pit—an ideal setup for stridulatory vocalization. The pit's shape and differential mineralization is excellent for ground-based amplification of vocalizations in the noisy intertidal. We also found a major branch of the posterior lateral line nerve that enters the pit, as well as patches of foramina that likely host neurovascular bundles. The pit internal microstructure is arranged in a manner consistent with directionally-sensitive mechanoreception. He discusses these functions in the context of *B. swanii*'s ecology and evolutionary background, as well as in the context of its survival as an armored fish.

PhD Defenses



Spenser Babb-Biernacki's (Esselstyn Lab) defended her PhD research on October 7th, 2025. She investigates the diversification and evolution of host specificity in *Pneumocystis*, a little-studied genus of obligately parasitic fungi found in mammal lungs. She re-examines historical assumptions that *Pneumocystis* has arisen through strict cospeciation and one-to-one host specificity by re-analyzing existing single locus data. Her results support neither assumption, and that there are likely between 4,500 and 6,000 *Pneumocystis* species, despite only six having been described.

She then tests cospeciation in a pair of deermouse sister species (*Peromyscus*) by sequencing single mitochondrial and nuclear loci, finding that both hosts share two distantly related *Pneumocystis* taxa. To expand available molecular data, she then designs a target capture probe set targeting thousands of ultra-conserved elements (UCEs) in *Pneumocystis* genomes. After testing this probe set across multiple mammal orders, she generates a resolved phylogenetic hypothesis, with divergence time estimation supporting an origin of the genus *Pneumocystis* contemporaneous with placental mammals. Finally, she samples *Pneumocystis* across the continent-wide distribution of New World rodents in the subfamily Neotominae, finding that relaxed multi-host associations are common. Her results indicate that codiversification followed by parasite evolutionary inertia, rather than strict cospeciation, best explain the phylogeny and host specificities of extant *Pneumocystis*.

Austin Chipps' (Esselstyn Lab) defended his PhD research on October 13th, 2025. He uses genomic insights to study shrew evolution and better understand rapid radiations and morphological innovations. He sequenced low-coverage whole genomes from two individuals of all 21 species of *Crocidura* shrew found on the island of Sulawesi in Indonesia. This helped him answer questions from his first two chapters investigating 1) phylogenomic resolution and 2) the evolutionary processes underlying the rapid, recent radiation of Sulawesi Crocidura. In his first chapter, he found that whole genome variant sites carry more phylogenetic signal than UCEs and aided in inferring a robust species tree for Sulawesi *Crocidura*. In his second chapter, he found that a common assumption of appreciable interspecific gene flow in rapid radiations isn't necessarily the case for Sulawesi *Crocidura*. Rather, gene flow between species appears to be exceptional, rather than widespread. His other results show that there are shared selective pressures driving the evolution of immune, sensory, and metabolic genes in these shrews, which might help explain how there came to be so many species in a relatively short period of time. In his third chapter, he assembled and annotated a genome for the hero shrew, *Scutisorex somereni,* which has perhaps the most unique axial skeleton of any vertebrate animal. His comparative genomics approach found that positive selection on genes associated with skeletal development may help explain this enigmatic phenotype.



Farewell



This fall, our former postdoctoral researcher and manager of the molecular lab, **Dr. Diego Ocampo**, began a new position as Staff Curator of Ornithology at the Museum of Vertebrate Zoology (MVZ), University of California, Berkeley. Diego was a postdoc at LSUMNS from 2022 to 2025, where he studied the phylogenomic relationship among Seedeaters and pursued several other projects in avian population genetics. He is excited to manage a natural history collection like the MVZ, continue museum-based research, and maintain active collaborations in Latin America.

"LSUMNS was a great experience, where I met many colleagues and friends. I am honored to be part of the LSUMNS legacy and to take with me all the positive memories. I am confident this will foster exciting collaborations in the future."

In Memoriam

Barun K. Sen Gupta, PhD



Dr. Barun K. Sen Gupta, retired adjunct curator of micropaleontology (Foraminifera) for the section of Fossil Protists and Invertebrates, died September 19, 2024, at the age of 93. A few months before his passing, Barun and his wife Poree had moved from Baton Rouge to live near family in Maine.

A graduate of Presidency College, Calcutta University (B.Sc., M.Sc.), Barun earned an M.S. degree from Cornell University and his Ph.D. from the Indian Institute of Technology. During a postdoctoral fellowship at the Bedford Institute of Oceanography in Nova Scotia, he developed his research interests in ecological studies using benthic forams. After ten years with the Geology faculty at the University of Georgia, Barun was invited to join the LSU faculty in 1979. He was appointed the H.V. Howe Distinguished Professor of Geology and Geophysics in 2001. Barun was an award-winning educator and mentored numerous graduate students. An excellent writer, he authored over 100 journal articles, book chapters, and reports, and he edited *Modern Foraminifera*, a book on foram systematics, biology, and ecology. Although he retired in 2003, Barun was an active professor emeritus, teaching short courses on micropaleontology in Brazil and giving presentations at international meetings. A winner of the 2005 Joseph A. Cushman Award for Excellence in Foraminiferal Research, Barun was also awarded the 2011 Raymond C. Moore Medal in Paleontology from the Society for Sedimentary Geology.



Barun with the DSV ***Alvin*** in 2001; aboard the R/V ***Atlantis*** in 2000.

I first met Barun aboard the R/V *Pelican*, an oceanographic research vessel operated by the Louisiana Universities Marine Consortium (LUMCON) where I worked as a research associate. During night shift sampling with the box corer, I spotted Barun on deck in one of the yellow-painted areas. I shouted over the engine and winch noises for him to move out of a crushing-injury hazard zone near the ship's A-frame. He later recalled (during my LSU job interview) his first impression of me "yelling" at him on the ship. I was still hired. (After all, the yelling had been for his safety.)

For his studies of hydrocarbon seep communities, Barun had used deep-sea submersibles such as the *Johnson Sea Link* and the DSV *Alvin*. I was amazed at Barun's great generosity when he gave me one of his coveted seats aboard the *Alvin* for a half mile-deep dive in the Gulf of Mexico. His generosity also included an offer to co-author a paper about forams attached to cold seep tubeworms, the first of many happy research collaborations. He will be greatly missed as a friend and colleague.

Lorene Smith,
Collections Manager of Fossil Protists & Invertebrates

In Memoriam

Ms. Alice Joyce Fogg



The LSUMNS community was deeply saddened by the recent death of its former long-term administrative assistant Alice Fogg. She was essential to the functioning of the Museum from 1959 to her retirement in the early 2000s. Competent, caring, and calming, she helped all of us navigate the complex bureaucracy of a state university. Her overall reduction in stress levels of staff and students cannot be measured except by the overwhelming gratitude everyone felt for her, from directors to students. We always knew that Mrs. Fogg would somehow patiently find a way to get us through problems. Her congeniality contributed immeasurably to the atmosphere of the Museum. Many graduate students considered her a surrogate "mom" who helped them not only with logistics but also with personal problems. To say that she will be missed does not adequately express our communal gratitude and her essential contribution to the success of the Museum.

Alice was born to British immigrant parents in British Honduras (now Belize), where she spent most of her childhood. Her distinctive, charming accent defied categorization. She also spoke Spanish, evidently learned from her Spanish mother, and this often provided crucial help with logistics in our Neotropical field research.

In 1990, I was forced, kicking and screaming, to take a three-year turn as Director of the MNS. Temperamentally unsuited to dealing with bureaucracy, the only way I survived was by Alice holding my hand through those years. I began calling her "Boss," and that term of affection became the way I addressed her forever afterwards, including socially at Museum Christmas parties long after she retired. Speaking of which, she retired from full-time work at the Museum in 1993 at the end of my directorship. Draw your own conclusions.

When I spread the news about Alice's death to our ornithology alumni, the outpouring of emotion was remarkable. Here are just a few samples:

> "Alice Fogg was a wonderful lady, very capable in many ways. I always thought of her as the glue that kept the museum together. She was without doubt a huge asset to the growing museum." (Alan Feduccia)

To this day, she is my measure of what kind of person you want running your office, from the public coming into the museum, to the students who didn't know the ropes, to the curators who depended on her for all kinds of things, she treated everyone well (no matter how dumb their question was) and she was the go-to source for problem-solving for us. I know I told many incoming graduate students that the one thing they should never do was pester Mrs. Fogg unnecessarily, but at the same time, she always helped everyone no matter what. She was such a treasure while I was part of the LSUMNS." (John Bates)

"She was a wonderful person, sure to brighten one's day, and much loved by all of us." (Terry Chesser)

"Sad indeed. And soooooo many fond memories. She was a cross between being my Mother and grandmother. She always made sure to set aside some food for me if I wasn't there at the beginning of some "food event." " Or she would simply bring something for me and Angelo. Sweetest person ever." (John Gerwin)

"Hard to imagine anyone not thinking she was their favorite person." (Bob Zink)

"Alice was a very special person for Erika and me. When Erika was pregnant with David, Alice organized a baby shower for her. Alice was always a calming presence when things occasionally went awry at the museum. We are very fond of her." (Dan & Erika Tallman).

"Mrs. Fogg was one of the sweetest, kindest people I've ever known. She was the heart and soul of the Museum with no problem she couldn't solve-this included sending the first faxes from the Museum to South America. An angel on earth." (Shannon Hackett)

"I am so sorry to hear this. She was truly special. The people like her that I have met in my life can be counted in one hand." (Carlos Quintela)

"Alice was Dr. Lowery's secretary when I matriculated at LSU. Although I was not involved with the museum, I often visited with Dr. Lowery when time permitted. Alice always received me with a big smile and friendly greetings. During a trip to Baton Rouge in 2018, Alice and Peter were visiting the museum, and we reminisced about the days when Dr. Lowery was active. Although nearly 45 years had passed, Alice had barely aged. She very kindly sent some photos of our rendezvous that also included Steve Cardiff. The museum was very fortunate to count her as a member of staff. She will be dearly missed." (Jim Bishop)

Her obituary in the Advocate is here:
https://obituaries.theadvocate.com/obituary/alice-fogg-1092817693?proxy=original.

I encourage all of you to leave remembrances and notes of appreciation at that site. It was a privilege to attend her funeral at Resthaven and to see the love from her extended family, including several great-grandchildren.

Dr. Van Remsen,
Emeritus Curator of Ornithology and former Director at the LSUMNS

Foster Hall Renovations



Dunkleosteus Exhibit

We are pleased to introduce Dunkleosteus, the striking new centerpiece at our main entrance and one of the most formidable predators to have ever inhabited the oceans. This remarkable species thrived during the Devonian Period and belonged to the placoderm lineage—the earliest jawed vertebrates, which first appeared more than 450 million years ago. All modern jawed animals, including humans, trace their evolutionary ancestry to these ancient fishes.

With estimated lengths ranging from 13 to 30 ft., Dunkleosteus ranked among the largest predators of its time. It possessed an extraordinarily powerful bite force, rivaling that of the later *Tyrannosaurus rex*. As one of the last surviving placoderms, Dunkleosteus disappeared approximately 350 million years ago.

We invite you to experience this extraordinary specimen first-hand and encounter one of the most ancient relatives in the history of vertebrate evolution.

New Door to the Basement

We recently replaced the door to the basement collections as part of our continued efforts to improve safety and security in the building. The new door provides stronger protection and better access control, helping safeguard both the materials housed in the collections and the people who work in or visit the space. By upgrading this entry point, we are ensuring compliance with safety standards, reducing potential risks, and creating a more secure environment for valuable resources and the community that relies on them.





Publications



Recent Publications

Anthropology

Martí Gil, I., 2025. More than Looting: Ethnographic Perspectives on Huaquería in Peru. Submitted to *Journal of Ethnography* for publication.

Martí Gil, I., 2025. 130 Years (1894-2024) Protecting the Cultural Heritage of Belize. A Historical Approach to the Development of a Sustainable Heritage Management System. Submitted to *International Journal of Cultural Property* for publication.

Martí Gil, I., 2025. Ancient DNA Under Scrutiny: Review of Interdisciplinary Reflections on Knowledge, Power, and Identity [Review of the book *Critical Perspectives on Ancient DNA* by Strand, D., Källén, D.A. and Mulcare, C., eds. 2024]. *Anthropology Book Forum*, 11.

Martí Gil, I., 2025. Fisher-Hunter-Gatherer Complexity in North America [Review of the book *Fisher-Hunter-Gatherer Complexity in North America* by Sampson, C.P., Thompson, V.D. and Fitzpatrick, S.M., eds, 2023]. *Anthropology Book Forum*, 11.

Herpetology

Bernstein, J.M., **Austin, C.C.,** Soto-Centeno, J.A., Huang, T., **Roberts, J.R.,** McGuire, J.A., Frederick, J.H., Weinell, J.L., Brown, R.M. and Ruane, S. (submitted 2025). Diversification and Colonization in the Indo-Australian Archipelago: Genomic Insights from Colubrid Snakes.

Oliver, P.M., Laver, R.J., Lee, M.S.Y., Kraus, F., Matzke, N.J., **Austin, C.C.,** Fisher, R.N. and Moritz, C.C., (submitted 2025). Very limited dispersal and differing evolutionary trajectories across proximate continental and insular regions in a widespread lizard radiation (*Gehyra*).

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Mammalogy

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Palynology

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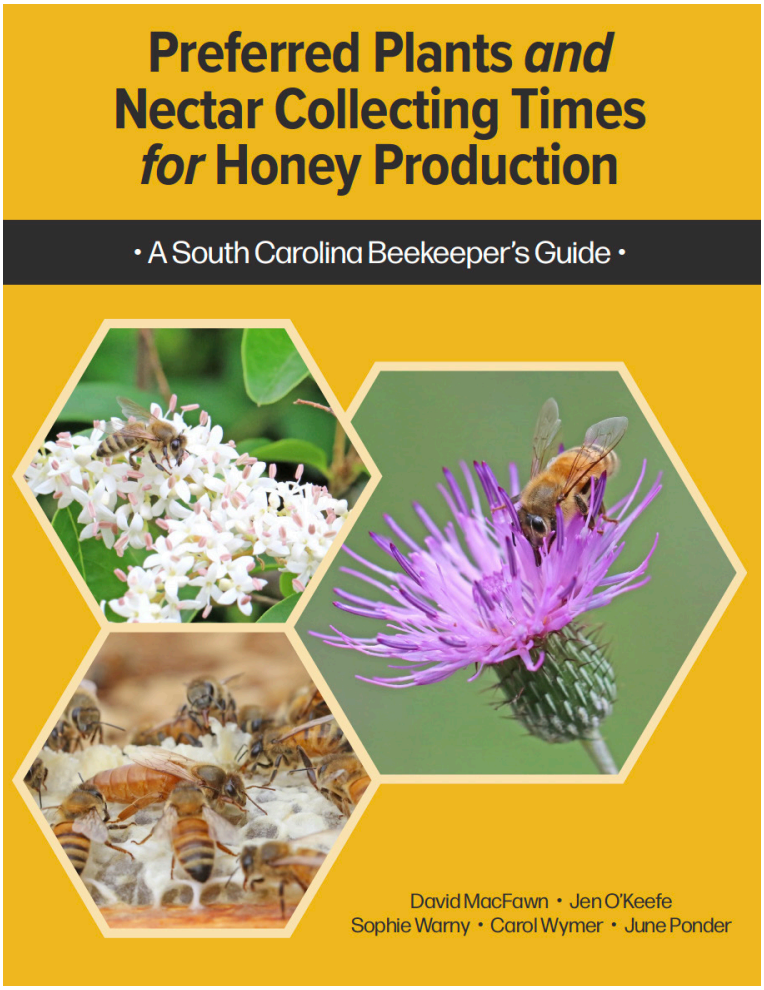
MacFawn, D., O'Keefe, J.M.K., **Warny, S.**, Wymer, C. and Ponder, J.R., 2025. *Preferred Plants and Nectar Collecting Times for Honey Production*. Clemson Extension Publishing.

Published books

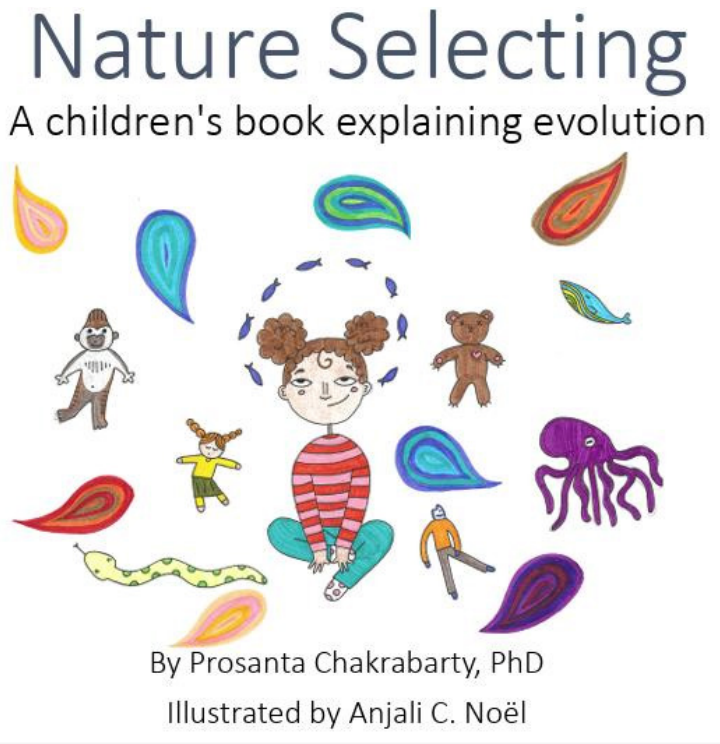
Preferred Plants and Nectar Collecting Times for Honey Production addresses three important questions for South Carolina beekeepers (although many of these data are applicable to the Southern states) – which plants are bees in South Carolina using for nectar-foraging, when do these plants bloom, and how can understanding nectar foraging habits inform beekeepers as they work to gather specific types of premium honey? In 2021, the South Carolina Beekeeper's Association, led by David MacFawn, designed and implemented a statewide pollen study led by Warny and O'Keefe. This three-year-long palynological analysis, the first in any state in over fifty years, was designed to answer the above questions. Informed by data gathered from 19 apiaries across the state, this book contains the results of that study, including large-scale melissopalynological analyses of collected pollen, weekly dynamics of seasonal nectar flows broken down by ecoregion, and recommendations for how beekeepers can implement this information into yearly honey production planning. As the preeminent reference work for beekeeping in South Carolina, this book will prove valuable to beekeepers and also those interested in becoming beekeepers, and non-beekeepers interested in growing bee-friendly plants alike.



All proceeds will go towards bee conservation efforts, and you can now purchase your copy here : https://www.amazon.com/Preferred-Plants-Nectar-Collecting-Production/dp/1638041679/ref=sr_1_1?crid=38HZSVS0QXIVT&dib=eyJ2IjoiMSJ9.ZIow0Q2mwo4wY1mQH4iPtw.ZbOAoDrtRoQNqIzsiY0GY8w82JYDhiEqf36ZoN7Va7g&dib_tag=se&keywords=Preferred+Plants+and+Nectar+Collecting+Times+for+Honey+Production&qid=1752734848&sprefix=preferred+plants+and+nectar+collecting+times+for+honey+production%2Caps%2C223&sr=8-1

Nature Selecting is a children's book that explains evolution and natural selection for middle school and elementary school age kids. The protagonist 'Nat' is charged with cleaning up her room, which is cluttered with stuffed animals. As she goes through the process of 'selecting', she devises a scheme to help her keep most of them, while still following her mom's guidance to 'just keep the fish toys.'

Curator Chakrabarty explains: "The book was born out of my 2018 TED talk, 'Four Billion Years of Evolution in Six Minutes' that first became a trade book for adults published with MIT Press in 2023, 'Explaining Life Through Evolution.' Some of the folks from TED and MIT Press encouraged me to think about doing a kids' book.



After working on the text, I reached out to some publishers but thought it would be best if the book could be distributed for free: The problem was I needed an illustrator. Luckily my 14-year identical twins are wonderful artists and when I asked one of them, Anjali, for help, she enthusiastically said yes. It took her several months, but I loved watching her follow the text and come up with a drawing for each page. I think her drawings really bring life to the story. After getting comments from education experts, I'm proud to have it published it as a Special Publication of the LSU MNS." And it is now free to download from our website: https://www.lsu.edu/mns/news-and-publications/chakrabarty_evolution.pdf



Suyin Ting, Lorene Smith, Connor White, and Irene Martí Gil are the co-editors of this publication. **Vertebrate Fossils of Louisiana** offers a comprehensive overview of the state's rich fossil record, shedding light on the ancient ecosystems that once thrived in the region. Through a series of expertly curated chapters, the book explores the diverse array of vertebrate fossils discovered across Louisiana, ranging from prehistoric marine reptiles and giant mammals to ancient fish and amphibians.

Contributions from leading paleontologists and researchers provide detailed analyses of fossil specimens, offering insights into their ecological significance and evolutionary context. The volume also highlights the importance of Louisiana's unique geological formations in preserving these remarkable remains. With an emphasis on recent discoveries and advances in fossil research, Vertebrate Fossils of Louisiana serves as an essential resource for scholars, students, and enthusiasts interested in the region's paleontological heritage.



Outreach



New Grants, New Opportunities



I'm pleased to share that in 2025, I was awarded two grants to enhance the Museum's educational programs. These funds will allow us to expand our offerings while staying true to the Museum's values and mission, and ensuring that all activities remain completely free to participants, encouraging broad community engagement.

I received the LSU Family Council Campus Collaboration Grant to launch the new LSUMNS educational program: the Naturally Talented Program. The goal is to celebrate and explore the rich interconnections between the natural sciences, the arts, and the humanities. This program provides a dynamic platform where both amateur and professional artists, writers, and creators can express their creative visions inspired by nature and scientific discovery. It is primarily targeted to LSU students and all events will be free of cost. Core components of the program include the Art After Dark events, workshops to explore botanical illustration, gyotaku, scientific sketching, and other disciplines while using specimens from the museum's collections as reference points; the Poet's Corner, a dedicated space for poetry and creative writing that reflects the intricate beauty of the natural world; the Naturally Talented Award, aimed at recognizing outstanding contributions that integrate scientific insight with artistic expression; and an artistic outreach strategy that leverages our biannual newsletter, website, social media channels, and physical exhibits to provide broad exposure to participating artists.

I also received the Richard Guidry Cajun and Creole Language Fund (RGCCLF), managed by the Community Foundation of Acadiana, to launch a Louisiana French language revitalization project here at the LSUMNS. My goal is to update our interactive digital exhibit displays with bilingual educational content in English and French to ensure equitable access and representation for native French-speaking Cajun and Creole communities. As the Educational Outreach Coordinator and Anthropology Collections Manager, I am deeply committed to ensuring that our programs and exhibits reflect and support the rich linguistic and cultural heritage of Louisiana. This is aligned with the Museum's overall priority of raising awareness on conservationism, as Cajun French is now considered an endangered language. With support from the RGCCLF, this project will unfold over four phases across nine months. In Phase 1, the museum will compile and review all educational materials, form a translation and education committee, and purchase tablets for exhibit use. Phase 2 will focus on translating content ensuring linguistic accuracy and cultural relevance, overseen by an editor to guarantee consistency and quality. During Phase 3, the museum will install the tablets, upload content, and test the materials by gathering feedback from French-speaking visitors. Phase 4 will introduce the necessary changes and launch the translated materials publicly, promoting them through our various channels.

I would like to thank the LSU College of Science–Communication Division, the LSU Division of Marketing & Communications, The Reveille, and The Advocate for covering the endowment of these grants in their media outlets. I am also deeply grateful to our Director, Dr. Prosanta Chakrabarty, and former Director, Dr. Chris Austin, for their continued support of my outreach endeavors.

Irene Martí Gil, PhD
Educational Outreach Coordinator and Anthropology Collections Manager

Audubon Day - May 3

LSU's Hill Memorial Library, in collaboration with the LSU Museum of Natural Science, celebrated its annual Audubon Day. Graduate students David Vander Pluym, Sam Rutledge, Brett Kincaid, and Quinn McCallum (all in Mason's Lab), along with Dr. Nick Mason, Curator of Ornithology, took part as featured bird experts.

Throughout the day, they engaged visitors by sharing ornithological insights in the McIlhenny Room, where the historic *Birds of America* folios were on display, and led behind-the-scenes tours of the LSUMNS Ornithology Collection, offering a closer look at LSU's world-class avian specimens.





John Miles, Curator of Books and Head of Instruction at Hill Memorial Library, shared with us some of the feedback received: "We also really enjoyed our tour of the Natural History Museum [*sic*] to see the specimens as well!", "(we) loved the tour of the natural history museum [*sic*]," "I enjoyed seeing the extensive collection of birds at the Natural History Museum [*sic*]. Thank you all for sharing your knowledge. Thank you for such a lovely day!"

Atelier de la Nature Bioblitz - May 10



PhD candidate George Lambert (Austin Lab) joined fellow herpetology experts for a lively Bioblitz at Atelier de la Nature (Arnaudville, LA), where the team surveyed local reptiles and amphibians as part of a community science effort. After a successful morning in the field, participants celebrated with a classic Louisiana crawfish boil while enjoying live music from a local band—blending science, culture, and community in true South Louisiana style.





Top left: American Bullfrog (*Lithobates catesbeianus*) metamorph.
Top Right: Squirrel Treefrog (*Dryophytes squirrellus*).
Bottom: Gulf Coast Toads (*Incilius nebulifer*).



Teach for America - May 14

This year marked our second consecutive time participating in Teach For America's STEM Demonstration Day at Lowery Elementary School in Donaldsonville, LA. Representing the museum, PhD Candidate George Lambert engaged seventh-grade students with an enthusiastic introduction to herpetology, sparking curiosity about reptiles and amphibians. The students were full of great questions—and we had a blast sharing the excitement of science with them!







Old LSU Site Excavation - June 24

The LSUMNS Anthropology Division hosted an Open House Day to discuss Louisiana's rich history through the remains recovered from the historic Old LSU Site (16RA49). This field school was led by MA student in Archaeology, Conan Mills, affiliated to the LSU Department of Geography and Anthropology, and the archaeological remains have been studied and housed in our LSUMNS Anthropology Lab.

LSU Future Scholars - August 1

This is the second consecutive year that eighty students from seventh to twelfth grade participating in the LSU Future Scholars (LSUFS) visited the LSU Museum of Natural Science. This event was part of the required summer camp that Future Scholars complete before graduating from the Program, which aims to provide a transformative experience for talented young minds from economically disadvantaged, historically underserved backgrounds. LSUFS also provides support and resources to finish high school and attend and graduate from LSU.





College of Science Open House - August 20

We were excited to take part in this event, which provides an excellent opportunity to connect with over 1,300 incoming College of Science freshmen and undecided Science & Engineering students. This was a chance to share resources, answer questions, and help students explore their academic and career pathways!

Grad Student Orientation - August 20



The LSUMNS participated in the New Graduate Student Orientation – Informational Table Gallery for Campus & Community Organizations. This event offered a valuable opportunity to welcome incoming graduate students, introduce them to the museum's research, collections, and outreach initiatives, and highlight ways to get involved. By engaging with students at the informational table, LSUMNS aimed to foster connections, share resources, and showcase the museum's role as both a research hub and a community resource. This participation reflects our commitment to supporting graduate education while building awareness of the museum's contributions to science, scholarship, and public engagement.

Tour to LSU-based museums CMs - August 22



David Boyd led an engaging tour of the Fish and Herpetology Collections to all LSU campus-based museums' Collections Managers, giving us an inside look at the scope and significance of these holdings. He highlighted the depth of LSU's research materials, the importance of proper preservation, and shared fascinating stories behind key specimens. The tour offered a great opportunity to better understand the connections between our collections and how they collectively support LSU's mission.

Museum & Curatorial Studies - September 3



Dr. Nick Mason, together with Birds Collection Manager Sebastian Pérez Peña, PhD candidate Quin McCallum, Fishes and Herps Collection Manager David Boyd, and Outreach Coordinator Dr. Irene Martí Gil, welcomed Art History students taking the Museum & Curatorial Studies course. Each year, at the request of Courtney Taylor, Director of Galleries in the College of Art + Design, the Museum hosts this visit to introduce students to the curatorial and museological practices behind the curation, management, and preservation of our collections, as well as to highlight our educational mission and programs.

Honorific Reception to Manuel and Marta Sánchez - September 5



We had the incredible honor of welcoming Marta Chávez and Manuel Sánchez to the LSU Museum of Natural Science for the first time! After decades of collaboration with LSUMNS curators, collections managers, and students—from the 1970s through the 2000s—, doing fieldwork together across Peru and Bolivia, this reunion was long overdue and deeply meaningful.

Marta and Manuel's support for groundbreaking fieldwork in South America, including the expeditions chronicled in J. O'Neill and T. Parker's "A Parrot Without a Name," has left an indelible mark on our museum's history.

Marta Chávez and Manuel Sánchez at the LSU Museum of Natural Science.

The event was filled with moments of reflection and recognition, as we celebrated their immense contributions to both our museum and to ongoing scientific collaborations. Among the guests, we were especially moved by Dr. Van Remsen's words, who shared emotional and personal memories of his work with the Sánchezes over the years. Greg, Donna, and Jonathan Schmitt also joined in honoring their legacy, as well as Museum's former Collection Managers Donna Dittmann and Steve Cardiff. In conjunction, they collected and prepared about fifty thousand bird specimens, every one of them data-rich, beautifully made, and housed at the LSUMNS. Their joint contribution adds up to nearly 25% of the LSUMNS bird collection and way, way over 25% in terms of data label fields, including DNA samples.

The evening concluded with the presentation of a certificate recognizing Marta and Manuel as Honorary Museum Associates, honoring their enduring contributions to the LSUMNS. This was followed by the unveiling of a stunning artwork depicting Turdus sanchezorum, created by a local artist as a tribute to their remarkable work in advancing the study of South American wildlife. A slide show chronicling their decades of expeditions was shared, and the event wrapped up with a social hour where friends and colleagues gathered to reconnect and celebrate Marta and Manuel's extraordinary legacy. It was a truly unforgettable event that reminded us all of the power of long-lasting partnerships and the importance of celebrating those who have shaped our shared journey in science.



Left to right: Greg Schmitt, Donna Dittmann, Donna Schmitt, and Steve Cardiff.

CC&E's LSU Resource Fair - September 10



The College of the Coast & Environment's LSU Resource Fair for Academic Success, held on September 10 in the ECE Rotunda as part of Fall Success Week, brought together CC&E students, faculty, and campus organizations to highlight academic resources and support services. The fair served as a one-stop hub where students connected with advising, tutoring centers, the Center for Academic Success, supplemental instruction programs, and student organizations while also enjoying interactive activities and giveaways. Designed to promote academic achievement and student engagement, the event was praised as a big success for helping undergraduates discover tools, strategies, and opportunities to strengthen their academic journey at LSU.

College of Science Block Party - September 11

The Block Party, hosted by LSU's College of Science as part of Fall Success Week, was a tremendous community-building kickoff event. With a record-breaking 844 participants, including 762 students and 82 faculty/staff, the event featured food, music, branded merchandise, and interactive giveaways that energized attendees and encouraged connections across departments and organizations within the College. It served as an enthusiastic welcome to the semester, blending academic resource awareness with a celebratory atmosphere that promoted student engagement and college pride.



Master Naturalist Workshop - September 14



we were thrilled to host the Master Naturalists of Baton Rouge for their Fall Workshop at the LSU Museum of Natural Science! Participants spent the afternoon exploring Louisiana's natural history, engaging with our collections and exhibits, and sharing their passion for conservation and education. A huge thank you to David Boyd (Fishes and Herps Collections Manager) and David Vander Pluym (PhD Candidate in Mason's Lab) for generously volunteering their time and expertise—you helped make the day a wonderful success! We're so grateful to the Master Naturalists for bringing their energy and curiosity to the Museum—what an inspiring day!

CoS Staff Tour - September 18

We had the pleasure of hosting the College of Science staff members for an exclusive tour of our labs and collections. Guests got a behind-the-scenes look at the amazing work happening at LSUMNS, exploring specimens, learning about ongoing research, and seeing how science and curiosity come to life every day.

It was a wonderful opportunity to connect, share knowledge, and celebrate the incredible resources and talent within our museum. Thank you to everyone who joined us — your enthusiasm made the day truly special!



Science Café - September 30



Recently retired State Archaeologist Dr. Chip McGimpsey delivered a fascinating talk at the LSU Science Café on the topic of the LSU Campus Mounds, exploring their ancient origins, cultural significance, and preservation. The event drew a big crowd, highlighting the community's strong interest in LSU's deep history. The mounds, among the oldest known human-made structures in North America, are closely associated with the LSU Museum of Natural Science, which plays a key role in their research and stewardship. The LSUMNS hosted a table at the event to promote the mission and scientific value of the LSUMNS, and Museum's Anthropology Division in particular.

Kickoff LSU



Once again we collaborated with the LSU Office of Admissions to offer the LSUMNS as one of the landmarks featured in the campus-wide university tour called Kickoff LSU. Kickoff LSU is an open house event for all high school seniors and juniors, as well as their parents and guardians, and a great opportunity to explore our beautiful campus and state-of-the-art facilities, learn about our amazing range of academic choices, and meet world-renowned professors. This Fall Semester, the Museum opened its doors for the registered guests on September 5 and 27, October 4 and 13, and November 1, 2025; and we have scheduled many more days for 2026!

Art After Dark: From Harm to Art - October 2

In October, we hosted the first Art After Dark workshop under the new Naturally Talented Program, bringing together art, science, and community for an evening of creativity and discovery! The event explored the theme of botany and printmaking, focusing on how invasive plant species can be transformed into sustainable materials for art. Dr. Irene Martí Gil opened the evening with an introduction to the Naturally Talented Program and the Museum's educational mission. Jennie Kluse, Shirley C. Tucker Herbarium Collections Manager, shared insights into Louisiana's invasive flora and their ecological impact, setting the stage for a thoughtful conversation about conservation and creativity. Leslie Koptcho, LSU Professor of Art in Printmaking, Papermaking, and Arts-of-the-Book, along with her students, guided participants through the fascinating process of papermaking with invasive species, followed by a hands-on printmaking activity where attendees created their own botanical-inspired artworks. Special thanks go to MFA student Nick Roberts, whose expertise and enthusiasm greatly enriched the workshop experience. Guests enjoyed light refreshments and meaningful dialogue, leaving inspired by the many ways art and science can come together to promote environmental awareness and creative expression.

This successful kickoff marks the beginning of the Museum's Naturally Talented Program — a series designed to highlight the natural connections between creativity, research, and community engagement.









Bayou Bonanza - October 5



We had an amazing time at the LSU Museum of Art's "Bayou Bonanza" event, part of their Free First Sunday series, celebrating Louisiana's vibrant bayou culture! Visitors enjoyed an afternoon filled with art, music, and hands-on learning, from creating beautiful bayou-inspired lanterns with artist Jamey Grimes to enjoying live music by Two's A Crowd. The LSU Museum of Natural Science was proud to join the fun with a specimen table showcasing Louisiana's incredible biodiversity. Guests got to explore native wildlife, learn about local ecosystems, and talk about the importance of conservation and ecology.

World Archaeology Day - October 15



The LSUMNS Anthropology Division had a great time joining LSU's Lambda Alpha Anthropology Honor Society chapter "Alpha La," for their World Archaeology Day event at LSU Geography and Anthropology! The event brought together students, faculty, and professionals to connect, share experiences, and discuss opportunities in archaeology and anthropology. We're always excited to share the wonders of anthropology and archaeology with the LSU community!

LSU Museum of Natural Science

Special Saturdays 2025-2026

Life in Balance: Exploring the Diverse Ecosystems of the World

Special Saturdays is a free STEM program for children aged 5 to 10. Through expert talks and hands-on activities, this series explores ecosystems around the world, showcasing the diversity of life and the unique ways organisms adapt to their habitats. Come to learn how ecosystems work, why they matter, and how all living things are connected!

Fall 2025

August 23 - Freshwater Biomes
Dan Sinopoli

September 27 - Wetlands
George Lambert

October 18 - Marine Environments
Daniel Geldof

December 6 - Tropical Forests
Dr. Laura Lagomarsino's Lab and Diego Cueva

Spring 2026

January 24 - Tundra
Dr. Sophie Warny

February 28 - Grasslands
Dr. Anita Simha

March 28 - Urban and Suburban Ecosystems
Dr. Christine Lattin

April 25 - Deserts
Quinn McCallum

May 16 - Temperate Forests
TBD

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IN LOUISIANA FOR THE WORLD



Special Saturday "Freshwater environments" - August 23





PhD Candidate Dan Sinopoli (Chakrabarty Lab) delivered an engaging presentation on freshwater biomes during our Special Saturday event! Covering lessons on lakes, rivers, wetlands, and streams, his talk sparked thoughtful questions from the audience and fostered a lively exchange of ideas. PhD student Angela Haggard (Chakrabarty Lab) further enriched the program by showcasing an impressive collection of specimens, offering both children and adults the opportunity to observe nature up close. Following the presentations, families participated in a creative activity by building cubes featuring images of freshwater biomes — a fun and interactive way to reinforce learning about these habitats. We were delighted to welcome a full house, with more than 30 children and 40 adults joining us for an afternoon of discovery, exploration, and hands-on science.

Special Saturday "Wetlands" - October 4



We hosted an incredible talk on wetlands led by PhD Candidate in Herpetology George Lambert (Austin Lab). Participants explored the fascinating ecosystems that wetlands provide — from the unique plants and animals that call them home to their crucial role in maintaining biodiversity and supporting the environment.

The learning didn't stop there! Attendees got hands-on with a table of wetland specimens, observing and touching real critters, and making the science tangible and memorable.

Then, creativity took center stage as everyone built finger puppets of wetland animals, from frogs and turtles to birds and fishes, bringing the ecosystem to life in a playful, imaginative way. The event was a perfect blend of education, creativity, and community, giving our youngest guests (and their wonderful families) a chance to connect with nature, science, and art all at once. A huge thank you to George Lambert for sharing his expertise, and to everyone who joined — your curiosity and enthusiasm made the day truly special!





Special Saturday "Saltwater biomes" - October 18

Special Saturday on Saltwater Biomes was a splash! MA student Daniel Geldof (Chakrabarty Lab) joined us to share his expertise on ocean ecosystems — and even brought along his diving gear for a closer look at how marine scientists explore beneath the waves.

Families learned about the amazing diversity of saltwater biomes, from coral reefs to the deep sea, and created some fun ocean-themed crafts to take home.



Fall 2025 - Museum Seminar Schedule

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

September 5	**Claire Watersmith,** LSU Museum of Natural Science *From Sky Islands to River Valleys: Population Genetic Structure in Southern Appalachian Small Mammals* **Dr. Toni Androski,** LSU Museum of Natural Science *In pursuit of shrews and new world views: a year of mammalogy at LSUMNS*
September 12	**Quinn McCallum,** LSU Museum of Natural Science *Travelogue: Mason County, Texas and Catahoula Parish, Louisiana* **Angela Haggard,** LSU Museum of Natural Science *Travelogue: Sea Monsters & River Rarities: Collecting Fishes in Taiwan & Thailand*
September 19	**Keith Andringa,** Texas A&M University *Microplastic Pollution and Ecological Risk in Birds: Linking Field Techniques and Bioindication Across Biological Scales*
September 26	**Dr. Henry Bart,** Tulane University *A technological solution to the Taxonomic Impediment*
October 3	**Dr. Stephen Baca,** Louisiana State Arthropod Museum *Little beetles, big landscapes: Neotropical phylogeography of the aquatic beetle family Noteridae (Coleoptera: Adephaga).*
October 10	**Diego Cueva,** LSU Museum of Natural Science *Travelogue: Colombia, not Columbia: a historical and biological overview* **Sara Velasquez,** LSU Museum of Natural Science *Travelogue: Into the Lek: A Manakin Journey Through Northwestern Colombia*
October 17	**No Seminar – Fall Break**
October 24	**Dr. Ethan Gyllenhall,** Texas Tech University *Using Museums and Simulations to Understand Speciation in Island Birds*
October 31	**Dr. Justin Bernstein,** American Museum of Natural History *Islands of Opportunity: Patterns of Diversification and Distribution through Time in Southeast Asian Snakes*
November 7	**No Seminar – Museum Retreat**
November 14	**Dr. Paul L Leberg,** University of Louisiana at Lafayette *Raising Resilience: Seabird Nesting Ecology in a Changing Coastal Landscape*
November 21	**Dr. Caz Taylor,** Tulane University *Connecting Worlds: Network Population Dynamics of Migratory Birds*
November 28	**No Seminar – Thanksgiving Break**
December 5	**Dr. Mark Henry Sabaj Pérez,** The Academy of Natural Sciences of Drexel University *Diversity and Systematics of Catfishes, the Most Prevalent Vertebrate in Freshwaters*

LSU | Museum of Natural Science

For further information, contact Amanda Harvey: aharv36@lsu.edu

Support the Museum



Dear Museum friends and family,

It is such an honor to be named the new director of the LSU Museum of Natural Science, a place that I fell in love with ever since I started working here as the Curator of Fishes seventeen years ago. One of the things I love about this place is that it continues to improve and move forward; it consistently punches above its weight class in terms of research and productivity.

It is an excellent time to be at the LSU MNS. We have wonderful curators and students traveling around the tropics. In the last year alone, we've been to Mexico, Papua New Guinea, Brazil, Colombia, Taiwan, Thailand, Malaysia and Costa Rica. Dr. Irene Martí Gil, our fabulous educational outreach coordinator, runs free outreach programs, including Special Saturdays, Master Naturalist Workshops, and Night at the Museum events, among others, which have taught hundreds of kids about our natural history work. We've published dozens of important scientific papers in the last year, as well as books — including the nearly 500-page *Vertebrate Fossils of Louisiana* by Ting et al. 2025, available for download from our website and published in memory of Dr. Judith A. Schiebout, Curator Emerita of Vertebrate Paleontology.

As the saying goes, "The building of a museum is a never-ending work. A finished museum is a dead museum." At the LSU Museum of Natural Science, our momentum has never been stronger. With three new National Science Foundation grants, thanks to Curators Warny, Thom, and Mason, our research productivity is soaring — and so are our ambitions. To keep pace, we are excited to expand our research space in Foster Hall and enhance opportunities for student and staff travel, teaching, and outreach. These efforts are only possible through the generosity of our community.

Your gift this year will play a part in shaping the future of discovery and education at the LSU Museum of Natural Science.

Sincerely,



Prosanta Chakrabarty

LSU | Museum of Natural Science

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