

**LSU** | Museum of  
Natural Science

# NEWSLETTER

November 2020  
Volume 38 Issue 1

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Asian Vine Snake (*Ahaetulla prasina*) | Indonesia  
Photo by LSUMNS graduate student Matthew Brady

**Museum of  
Natural Science  
Director and  
Curators**

**Christopher C. Austin**

*Director  
John Stauffer McIlhenny  
Professor and Curator of  
Amphibians & Reptiles*

**Robb T. Brumfield**

*Director, Roy Paul Daniels  
Professor and Curator of  
Genetic Resources*

**Prosanta Chakrabarty**

*Curator of Fishes*

**Jacob A. Esselstyn**

*Curator of Mammals*

**Nicholas Mason**

*Assistant Professor  
Curator of Birds*

**Frederick H. Sheldon**

*George H.  
Lowery, Jr., Professor and  
Curator of Genetic  
Resources*

**Rebecca Saunders**

*Curator of Anthropology*

**Sophie Warny**

*AASP Associate Professor  
Curator of Palynology & Director  
of Education*

*Letter from the Director...*



Dear Museum Friends and Family, I hope this newsletter finds you well. We are currently experiencing a year like no other. As I am writing this letter hurricane Zeta just blew through Louisiana- the sixth hurricane to hit Louisiana in this record-breaking storm season. This is only part of the new abnormal. All of you reading this have been impacted by the COVID-19 pandemic and currently cases are rising in the US and Europe; science is more important than

ever to tamper this virus. Despite all these trials and tribulations I am proud to say the Museum is currently faring well. The Museum graduate students, the next-generation of scientists and the educational foundation of the Museum, were forced to defer much-anticipated and well-planned international field trips to Peru, Mexico and Papua New Guinea. However, our students pivoted gracefully and redirected their efforts to laboratory and museum data collection, data analysis, and importantly the writing of scientific publications and dissertations. 2020 has also brought many awards for our stellar graduate students including an unprecedented three NSF Postdoctoral Research Fellowships in Biology (see page 16).

We have also had some outstanding additions to our Museum family. Dr. Nick Mason, our new Curator of Birds, started in August. Nick is already accomplishing great things; he was a co-organizer of the virtual North American Ornithology Conference in August where he gave a plenary talk and was awarded the prestigious James G. Cooper Early Professional Award. We have also been able to hire some outstanding new staff. Emma Reynolds (Museum Public Outreach Coordinator) started in May 2020, and David Boyd (amphibian, reptiles and fishes Collections Manager) will be starting January 2021. In addition, we have five new PhD students and two new postdoctoral scholars that started in August.

I am happy to report that this year the Museum continued the expansion of our footprint in Foster Hall with much needed space for collections. Over the last two years we have seen the addition and renovation of almost 10,000 new square feet in Foster Hall. This expansion has allowed us to unite most of the Museum collections in Foster Hall. Last month we wrapped up renovation of 3,500 square feet allowing Curator Saunders to house her anthropology collections in Foster Hall. In addition, Curators Brumfield, Esselstyn, and Sheldon were awarded two extremely competitive grants: Board of Regents and National Science Foundation Collections in Support of Biological Research. These grants allowed us to complete the renovation of 6,000 square feet of space acquired three years ago when the LSU print shop vacated the east-wing of the basement. Importantly, these two grants double the capacity of our world-class genetic resources collection into modern vapor-phase liquid nitrogen tanks and also funded the installation of an external 5,000 liter liquid nitrogen tank.

In a normal year we would have 10,000 primary school kids tour our public exhibit, but because of the pandemic we have moved to online efforts to educate the public. Our ever-popular Science Saturday and Night at the Museum programs have been replaced with online content that has been very well received (see page 14) and we are generating more.

Finally, as you will see on page 15, Dr. Judith Schiebout, our Curator emeritus of Vertebrate Paleontology, passed away in September. She was hired at LSU in 1976 and retired in 2016 after 40 years of excellent service at LSU. She will be missed.

2020 has been a difficult year, but we look forward to the Holidays and wish the best to everyone in 2021! Many thanks to all who make the LSU Museum of Natural Science one of the best in the nation.

Chris Austin

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## Museum Honors

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### **Spenser Babb-Biernacki 2019 LSUMNS Outreach Award**

Congratulations to LSUMNS Ph.D. student, **Spenser Babb-Biernacki**, who received the 2019 LSU MNS Outreach Award. Spenser is the only mycologist in the Museum, and she studies *Pneumocystis* fungi, which are parasites that live exclusively in mammal lungs. Her first scientific paper, titled 'Rethinking host range in *Pneumocystis*' was recently published in the journal PLOS Pathogens.



### **Subir Shakya LSU MNS Outstanding Graduate Student Award**

Congratulations to LSUMNS Ph.D. student, **Subir Shakya**, who received the 2019 LSU MNS Outstanding Graduate Student Award. Subir completed his Ph.D. from LSU in 2020 working on the genomics and population history of Black-headed Bulbul (*Brachypodius atriceps*) color morphs. He has stayed on at the museum as a postdoctoral researcher under Dr. Nicholas Mason and is looking into the genomics of elevational adaptation in horned larks.

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## Alumni Spotlight : Shannon Ferguson

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### **Finalist Samuel J. Heyman Sercice to America Medals People's Choice (Sammies)**

Noted palynologist Shannon Ferguson is a finalist for the 2020 Sammies. The Sammies, were created to highlight excellence in the federal workforce and are considered the Oscars of government service. Ferguson earned a Ph.D. in geology at LSU and is currently a pollen analysis expert with the U.S. Customs and Border Patrol in Chicago. She shares her Sammies nomination with fellow palynologist Andrew Laurence. The 2020 Sammie went to Dr. Anthony Fauci.



# Micro-CT scanning at Duke University: Herpetology Edition

by Jackson Roberts

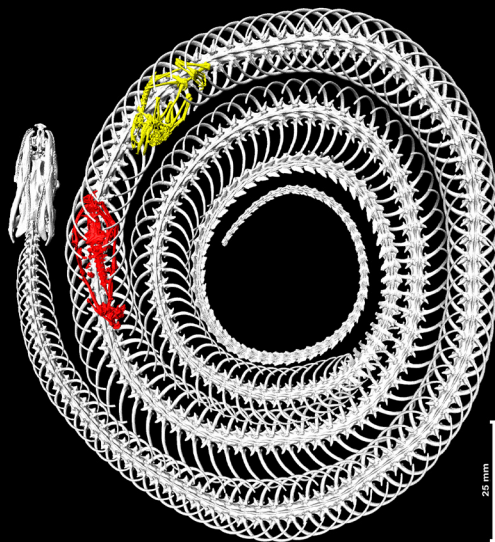
Within the 2019 LSU Museum newsletter (Vol. 32, Issue 2), one of my colleagues, Jon Nations (Esselstyn Lab - Mammalogy), described the fascinating applications of micro-computed tomography scanning (“micro-CT”) of Sulawesi mammals for his dissertation. As Jon explained, micro-CT scanning is a rapidly growing application for museum scientists to extract as much data as possible from specimen collections, especially those preserved in fluid (primarily isopropanol and ethanol). Micro-CT scanning uses the same 3-Dimensional imaging approach as a medical scanner in a hospital but differs in the vastly higher resolution it can provide for small objects and specimens. All zoological collections at the LSU-MNS have fluid collections of specimens, but the collections of

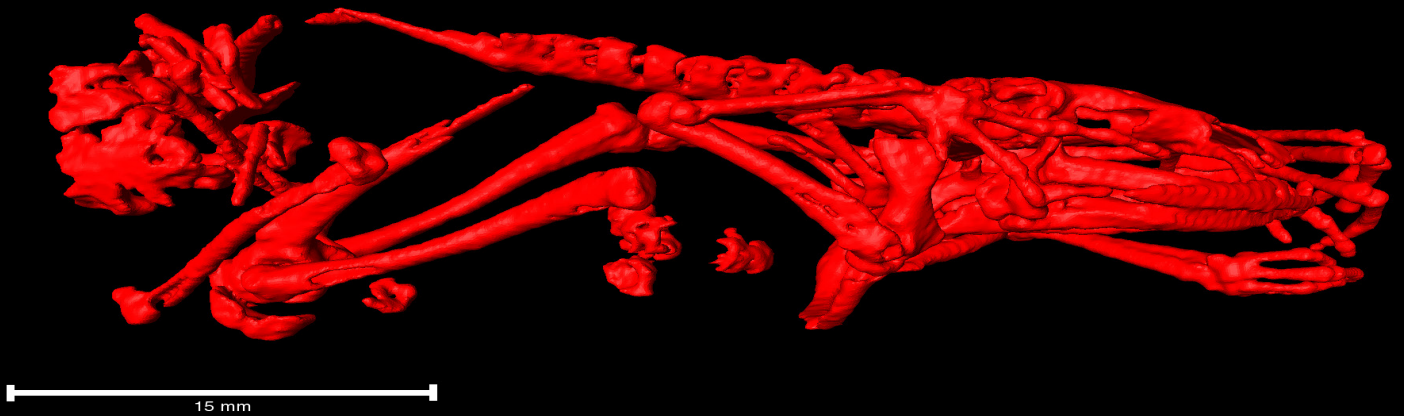
herpetology and ichthyology are different in that these collections are dominated by fluid preserved specimens, with fluid preservation being the “gold standard” for our divisions.

Fall 2020 marks my fourth wonderful year as an LSU-MNS graduate student in the Austin Lab of the herpetology division. My dissertation research addresses the systematics, biogeography, and evolution of unique traits in a group of New Guinea snakes called the Australasian Keelbacks (genus *Tropidonophis*). To answer these questions, I use an integrative approach which relies on both large genomic DNA analyses to assess evolutionary relatedness, and morphology (external and internal) to provide

**Right:** Ventral view of Montane Keelback which has depredated two frogs (red and yellow segmentations – scale bar 25 mm).

**Above:** High magnification micro-CT scan of a Montane Keelback (*Tropidonophis statisticus*) collected in Papua New Guinea on 2019 expedition.





additional characters for species identification, new species descriptions, and for larger-scale studies of morphological evolution. I was fortunate to be a participant with my current lab mate Zach Rodriguez on Dr. Austin's 2019 Papua New Guinea Expedition, where I was lucky to collect ten specimens comprising four different species of Australasian Keelbacks.

Unfortunately, due to the COVID-19 pandemic, our 2020 Papua New Guinea Expedition was postponed. However, this provided a good opportunity at the end of July for my second trip to the Duke University Shared Materials Instrumentation Facility (SMiF) to CT scan some amphibians and reptiles from our 2019 expedition for my dissertation and for other LSU herpetology projects. My specimen list for this trip included snakes from multiple collections including the LSUMNS, Bishop Museum of Honolulu, and the Papua New Guinea National Museum and Art Gallery in Port Moresby, as well as some LSUMNS lizards and frogs from our 2019 expedition. The micro-CT scanner housed at

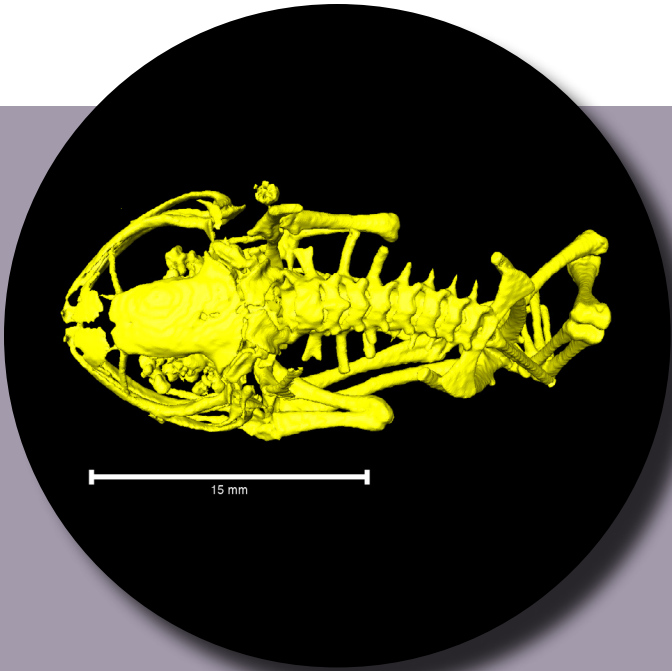
Duke-SMiF provides the ability to scan at incredibly high resolution, with my scans ranging between 15–70  $\mu\text{m}$  in imaging depth. For this trip, the large majority of specimens were intended for osteological scanning which achieves high resolution of just bones and strongly calcified (or keratinized) structures with densities similar to bones. On this trip however, three samples, two frogs and one snake, were brought to Duke for the intention of soft tissue visualization utilizing iodine-stained micro-CT scanning, or DiceCT.

For snake morphology, osteological scanning of the skull is the most important scan type because many of the species-specific characters reside in the skull, and micro-CT scanning allows us to visualize, measure and quantify fragile structures such as teeth and bone articulation, which could be destroyed or lost during classical taxonomic dissections. For this reason, all specimens are scanned twice, once for the whole body and once for the head at much higher magnification (title image). However, micro-CT scanning does not just

**Above and Left:**

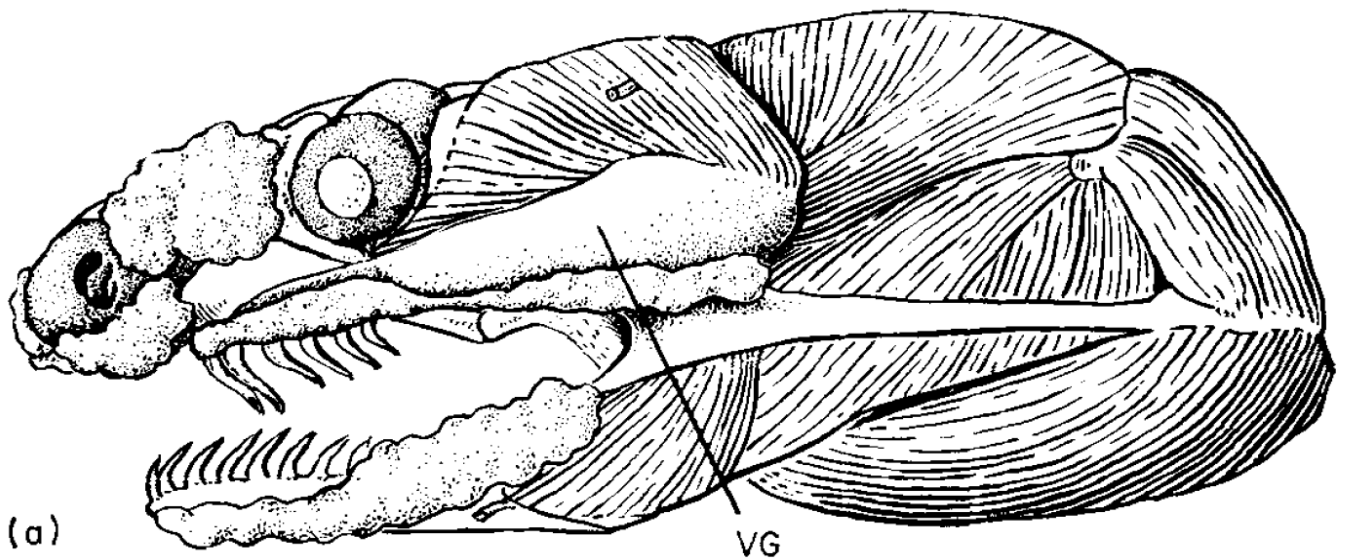
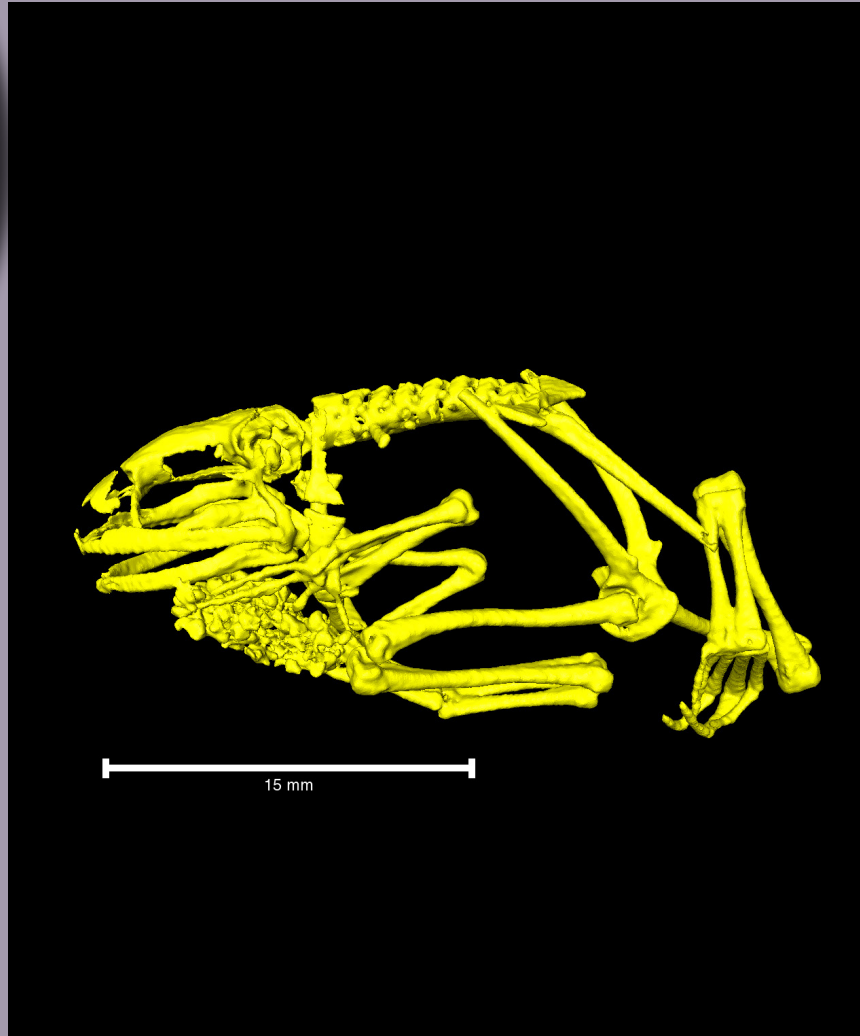
Ingested and partially digested frog that was eaten first. The large mass of bones to the left of the folded frog skeleton appear to be bones comprising this frog and possibly another much more digested prey item (scale bar 15 mm).





**Above and Right:** Second depredated frog which was eaten after the red frog (scale bar 15 mm).

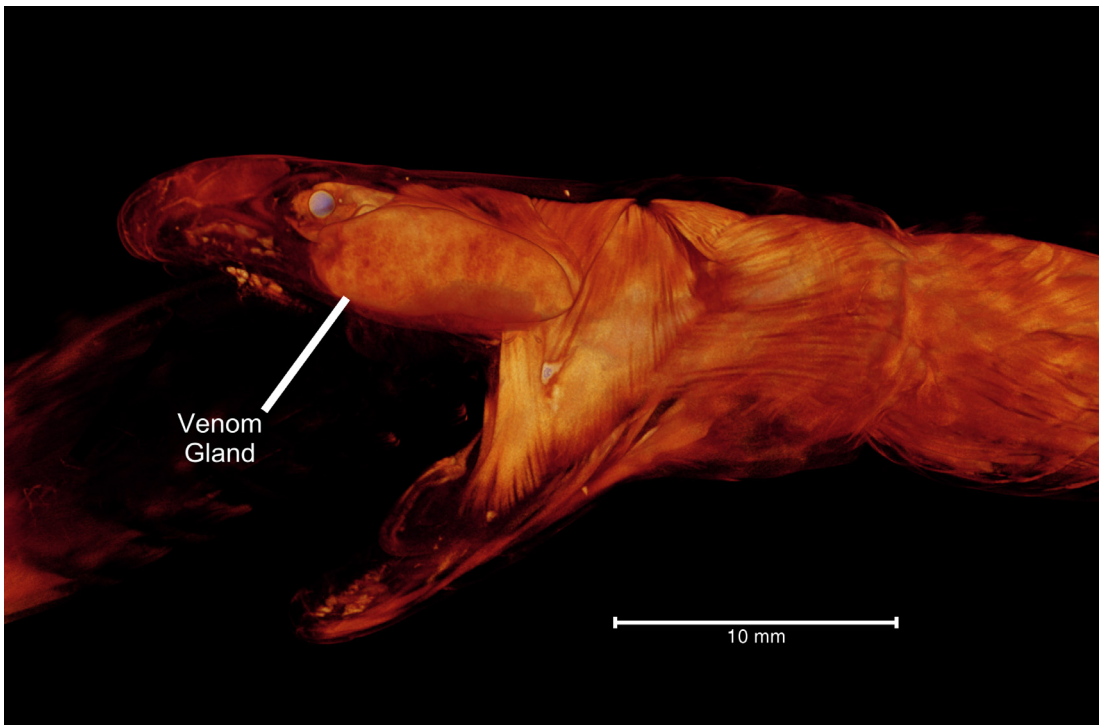
**Bottom:** Image from McDowell (1969) highlighting venom gland morphology of *Toxicocalamus loriae* through destructive dissection.



provide valuable taxonomic information. Sometimes, CT scans can even provide ecological and natural history data. For example, one snake collected during our 2019 trip to Papua New Guinea was collected at mid-to-high elevation (1800 meters) during an extended dry spell. The lack of rainfall combined with the successful collection of three snakes actively foraging at this site led us to suspect that these snakes were depredating the abundant skinks we were collecting at this camp. However, after scanning this snake we noticed that it had a stomach filled with two adult frogs. So, while the herpetologists on the mountain struggled to find frogs in the dry conditions, the snakes were having no difficulties.

DiceCT is a rapidly growing technique that allows researchers to view soft tissue structure and articulation at high resolution. DiceCT requires the soaking of fluid preserved specimens in liquid iodine, which permeates and replaces ethanol in soft tissues, allowing CT scanners to image the now denser iodine-stained soft tissue. In addition to the Australasian Keelbacks, Dr. Chris Austin and I are interested in another group of snakes called the New Guinea Worm Eating Snakes (genus *Toxicocalamus*), a group of venomous burrowing snakes found only in New Guinea. These snakes are extremely diverse and exhibit tremendous variation in venom gland morphology, with one species, *Toxicocalamus buergersi*, having the second longest venom gland of any known snake. Late herpetologist Dr. Sam McDowell (Rutgers University - Newark) in his 1969 monographic revision of *Toxicocalamus* first demonstrated this amazing venom gland variation, but his comparisons were made through destructive dissections of specimens. However, DiceCT has allowed Dr. Austin and me to visualize the venom glands noninvasively (iodine stained photo) of five type specimens, and our dataset is growing! The best part about DiceCT is that it is reversible. Simply washing the specimen repeatedly in 70% ethanol will cause the iodine in the body to be replaced with ethanol, restoring the specimen to its original external coloration and internal composition.

Overall, the trip to Duke was a massive success, scanning 25 snakes, 6 frogs, and 5 lizards for projects of my own dissertation as well as those of the division as a whole. The data collected from all my scanning visits will be deposited in the LSUMNS Herpetology scanning database, as well as the open source depository Morphosource. For a community of collection-based scientists who rely on fieldwork, the COVID-19 pandemic has introduced many hurdles and temporary blocks to continuing the growth of our collections across all divisions. However, this pandemic highlights the resiliency of collections-based research. There are endless dissertations and research projects waiting to be explored in our current collections, and micro-CT scanning is one of the many methods available to extract invaluable data from the collections we already have.



**Left:** Iodine stained snake showing noninvasive characterization of the venom gland of *Toxicocalamus spilolepidotus*.



# News from Mammalogy

by Jake Esselstyn

Normally, the Fall Newsletter gives us an opportunity to tell the stories of our summer fieldwork. But as you all know, this year is unusual and we've not traveled at all since February. As it turns out, there's plenty of curatorial and research work to do and the pandemic has given us a chance to get caught up on projects that might not otherwise rise to the surface. So, in the spirit of making progress during difficult times, here's snapshot of some of our recent activities and accomplishments.

PhD student Spenser Babb-Biernacki recently published her first paper on the topic of co-evolution between mammals and fungal pathogens that live in mammalian lungs. Her paper is open-access and available here:

<https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1008824>.

In this work, Spenser reviews what we know and don't know about the diversity and host specificity of the organisms that cause fungal pneumonia in humans and other mammals. She suggests that there are many undiscovered species of this fungus living across the diversity of mammals, but that individual fungal species may be capable of living in more than one mammalian host species. While it is clear there is a lot we don't about these mammalian lung fungi, there is no time like the present to launch a research career on zoonotic pathogens.

Heru Handika, our ever-busy graduate curatorial assistant, has been rapidly organizing and databasing the specimens we collected during 2019 and earlier, as well as fixing up some previously neglected aspects of the collection. Our



**Above:** Spenser Babb-Biernacki, out collecting mammals and fungi.

**Tital Image:** Indonesian rats that have been prepped and are waiting to be cataloged and placed into the main collection storage.





earlier fieldwork had produced a backlog of incoming specimens needing to be cleaned, identified, labeled, databased, etc. But with the pause in travel, Heru has made substantial progress on this front and the pile of accumulated curatorial work is rapidly diminishing. Throughout this process, Heru has been training undergraduate student Emily Bowers in the many details of managing a museum collection. After just a few weeks of working in the collection, Emily told me she “wants to be around bones”. She is quickly becoming one of us.

Jon Nations, now Dr. Jon Nations, successfully defended his dissertation on October 7th. For the past five years, Jon has been studying the functional morphology, biogeography, and community ecology of rats and mice from Asia and Africa. Jon’s dissertation research has been published in the *Biological Journal of the Linnean Society*, *Evolution*, and *Mammalia*, with more to come. In the spring, Jon will leave LSU and begin a new post-doctoral research project at the University of Chicago, Field Museum, and Chicago State University. His work will be supported with funding from the National Science Foundation’s extremely competitive Postdoctoral Research Fellowships in Biology program. While we’re all sad to see Jon leave, we’re very proud of his many successes and excited to see his future achievements.



**Top:** Heru Handika (left) and Emily Bowers (right) organizing specimens from one of our 2019 expeditions.  
**Directly Above:** Jonathan Nations, taking a break with some durian during one of his field excursions to Sumatra.



# The Anthropology Collection has moved to Foster Hall

by Rebecca Saunders

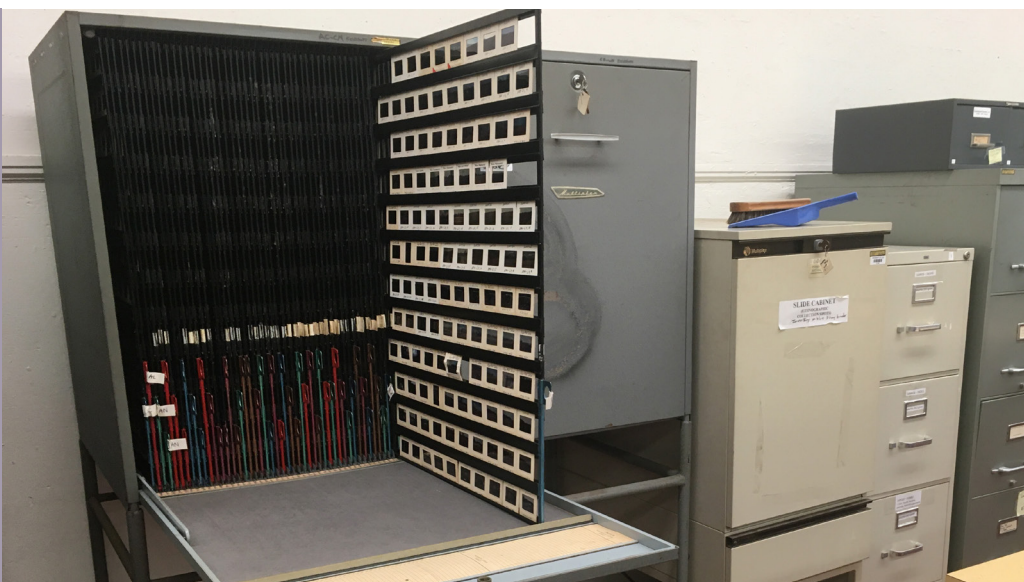
The Anthropology Division of the LSU MNS has new digs! Planned for decades, we have finally moved from the basement of the Gym-Armory building (our main collections were in the Armory part), to a portion of the east wing of the first floor in Foster Hall. This area was previously occupied by Art and the Art Gallery. The back gallery is perfect for our ethnographic collection; archaeological materials and our lab are in the nicely refurbished front gallery and art studios.

We completed a small part of this move last December, although that was the predominantly newer (and relatively unproblematic) archaeological collections stored in rooms acquired after 1994. Our core collection goes back to the early 1900s, although the bulk of it was generated by excavations done in the

1930s and 1940s under the auspices of the Works Project Administration (and related programs). Much of that material was still in its original boxes. Thus, we (Beverly Nuschler, Irene Martí Gil, Ken Tremblay, and I, along with special appearances by Dr. David Chicoine and Eli Cruzado Carranza), did an enormous amount of re-boxing and re-taping of box bottoms; we removed and boxed all the zooarchaeological collection (modern animal skeletons used to identify bone recovered from archaeological sites) specimens from their cabinets; we removed hundreds of pottery and other specimen type drawers from their cabinets, stabilized the contents, and boxed those.

**Right:** Slide racks hold the majority of the slides for the collection. Photo by Rebecca Saunders.

**Above:** Lab (in progress); along the wall to the right you can see the Potter Type Collection. Photo by Rebecca Saunders.



Our extensive photographic collections include slides stored in racks within cabinets. Slides were loose in the racks of the older cabinets, so we removed, bagged by rack row, and boxed them, too. Slide racks from newer cabinets were secured between flattened boxes. To lighten the load, I discarded all Cultural Resource Management reports (similar to Environmental Impact Statement reports) and other items in our Anthropology library that are available online, and still ended up with over 60 boxes of books.

While most of the aforementioned boxes, along with office equipment and furniture, were ably moved by Facility Services, we packed and moved all ethnographic items, fragile archaeological items, and laboratory equipment like microscopes in the Department of Geography and Anthropology passenger van (sans seats). Use of the van for the entire summer is greatly appreciated.

We began preparation of the main collection in March, anticipating a move in early May. A variety of factors,

including a global pandemic, forced rescheduling. We ended up being 'essential personnel' and worked on campus throughout the summer. Most of the move was completed by the end of August; and the last stick of furniture was moved into Foster Hall on September 22. We've still got a lot of organizing to do, but we are happy to be home.



**Above:** Zooarchaeological collection, one of ten banks of drawers.

**Left:** Portion of one of three curation area, with excellent new ladder.

# The importance of preserving Louisiana's paleontological and archeological patrimonies

by Sophie Warny, Rebecca Saunders, Lorene Smith and Suyin Ting

Once in a while, curators at the LSU Museum of Natural Science receive phone calls from the public because somebody found what could be bones or archeological artifacts on their properties. We are always extremely grateful for these types of calls as from time to time, they lead to the discovery of unique specimens that need to be excavated using professional techniques, each unique to the specific field, in order to preserve the various fossils and artefacts. Drs. Schiebout and Warny received such a call recently, and that led to some discussions between Dr. Ting (Vertebrate Paleontology -VP- Collections Manager), Dr. Rebecca Saunders (Curator of Anthropology), Dr. Sophie Warny (Curator of Palynology) and Ms. Lorene Smith (Invertebrate Paleontology -IP- Collections Manager) about the way forward with that site. The single artifact we have seen so far is a projectile point. Its shape and size indicate it was used with a spear and atlatl, and could have been made anytime between about 5000 and 1500 years ago. Preliminary evaluation suggests that the point was made from stone exotic to Louisiana,

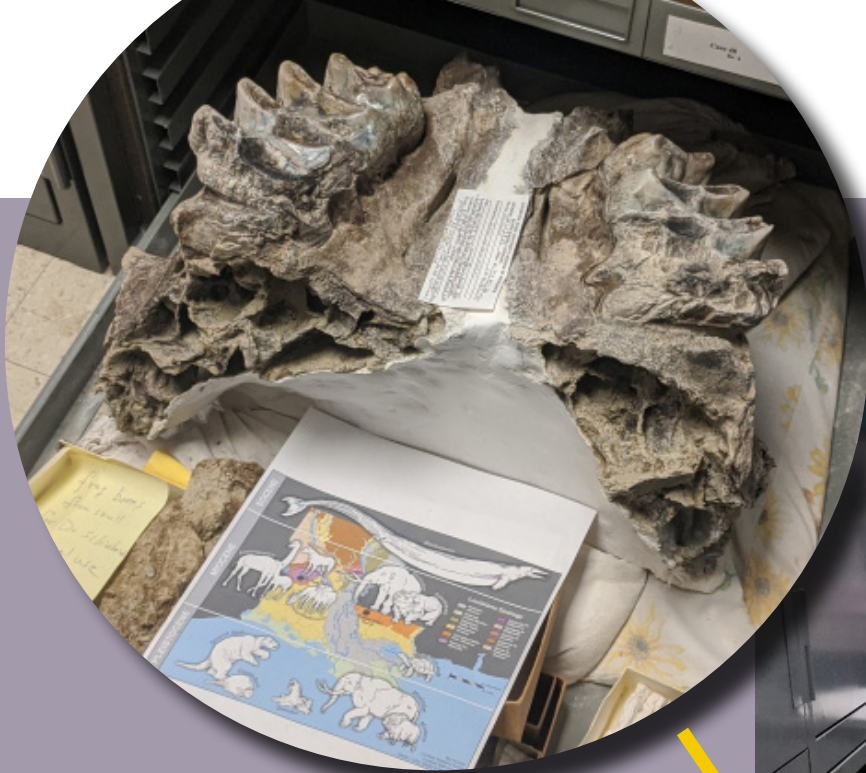
which would put it closer to the older than the younger age range. It is unfortunate that at the moment, both heads of collections for Micropaleontology and VP are unfilled as both curators (Dr. Barun K. Sen Gupta and Dr. Judy Schiebout) retired and their expertise is greatly missed.

Some of our graduate students got very excited about the idea of helping with a potential excavation, so, to prepare them, we visited the VP collections in the Howe-Russell-Kniffen Geoscience Complex after the introduction of Dr. Warny's GEOL 7130 Permian Basin class. VP Collections Manager Dr. Suyin Ting gave the students a tour, highlighting some of the most important specimens. She briefly discussed collecting techniques and demonstrated how to wrap smaller specimens for transport from the field. Although the VP fossils in the LSU collections are much younger than Permian (mostly Cretaceous to Plio-Pleistocene), the students were able to get a sense of what has to be done when finding VP specimens.

**Right:** Dr. Suyin Ting demonstrated how to wrap small fossils to prevent damage. Students (left to right) Nick Culligan, Lance Riedlinger, Peter Moutevelis, Allison Barbato, Tiffany Nordstrom, and Dr. Sophie Warny (far right). Photo by Lorene Smith.

**Above:** Family property where new specimens were recently discovered. Photo provided by the owner.





**Above:** Close up view of a mastodon palate with two molars recovered from the Pascagoula Formation of southeast Louisiana. Photo by Allison Barbato.

**Right:** Students Allison Barbato and Lance Riedlinger get a closer look at the palate and teeth of this Louisiana mastodon. Photo by Lorene Smith.

**Bottom:** An extra-large case was required to house this mastodon tusk, seen here cradled within its plaster jacket. The tusk, five to seven million years old, was collected in southeast Louisiana, north of Baton Rouge. Photo by Allison Barbato.

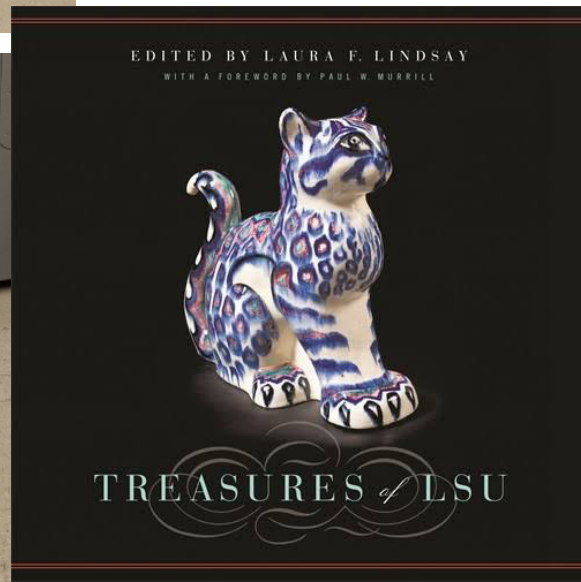




The treat of the day for our graduate students was to see some of the best specimens in the VP collections, including some remains of a Basilosaurus (an Eocene whale), and in particular the whale's palate with teeth (bottom picture) and lower jaw (top picture). Photos by Allison Barbato.

Dr. Suyin Ting provided some information about this whale to the class, and discussed some facts about this basilosaur palate and lower jaw. In life, this basilosaur may have been over 18 meters long.

The fossilized remains of this ancient whale were collected in 1980 from the bank of the Red River, near Montgomery, Louisiana, by Drs. Judith Schiebout and Willem van den Bold with a team of researchers. The basilosaur is one of the most scientifically important specimens within LSU's vertebrate paleontology collection and was featured in the book *Treasures of LSU* (Schiebout 2010).



Reference: Schiebout, J.A. 2010. A sixty-foot Red River whale: the LSU Basilosaurus, in Lindsay, Laura F. (editor), *Treasures of LSU*. Louisiana State University Press, Baton Rouge.

# OUTREACH ROUNDUP

## 2020 Special Saturdays

### Bust a Move

With guest speaker Jon Nations  
January 25th 2020

### Fish, Fish, Fishes

With guest speaker Dr. Prosanta Chakrabarty  
February 15th 2020  
32 people attended

### Ancient Antarctic Pollen

With guest speaker Meghan Duffy  
March 7th 2020  
21 kids attended

### Girls Day at the Museum

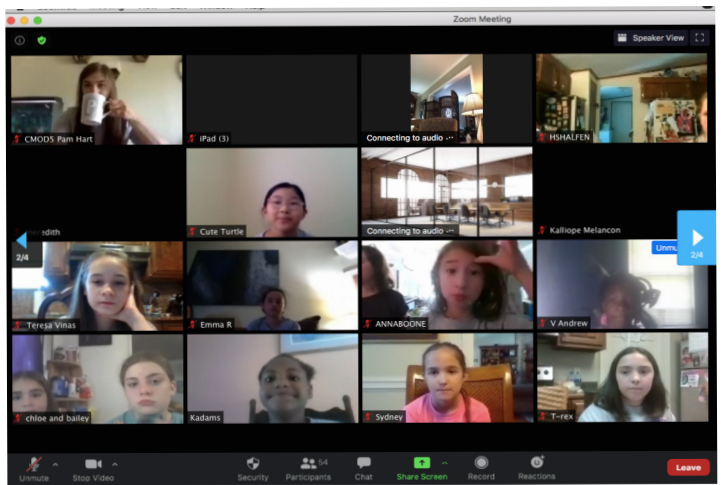
30 girls and about 15 parents  
February 29th 2020

### Night at the museum: Herbarium

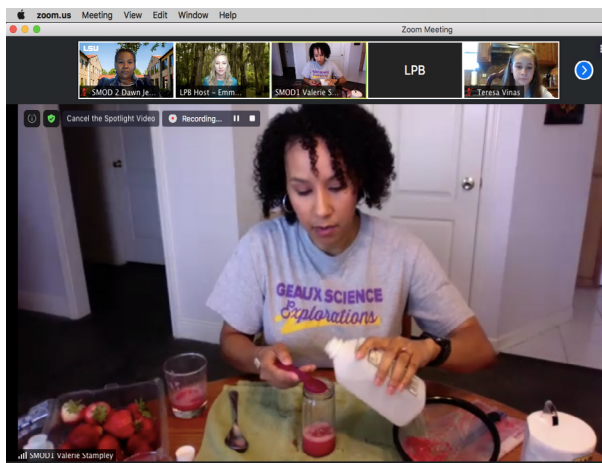
51 people from the general public  
February 6th 2020

### Girls Road Trip

50 girls and about 20 scientists and other volunteers helped make this an amazing first digital event.

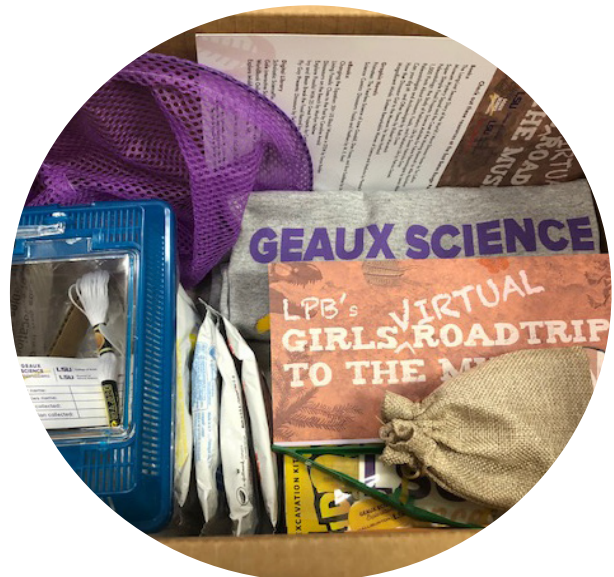


**Above and Below:** Two screen shots from breakout sessions where the students were given an opportunity to ask scientists questions.



**Above:** Former LSU MNS Outreach Coordinator Valerie Stampley leading students in a strawberry DNA experiment.

**Right:** Box of all necessary equipment for the experiments. These were sent out to all participants so that they can follow along at home!



# MNS NEWS

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## Grants and Awards

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### **Sophie Warny Ph.D.**

Curator of Palynology Sophie Warny and scientists from universities in the UK, US, and Argentina are joining forces in a \$1M research project to discover what impact an increase in global temperatures could have on the millions of species of fungi around the world.



### **Chris Austin Ph.D.**

Curator of Amphibians and Reptiles Chis Austin was recently awarded a four-year NSF grant to conduct field work in Papua New Guinea to better understand the poorly known snake fauna using genomic and modern CT-scanning methods for morphology (see page 3).



### **Nicholas Mason Ph.D.**

Curator of Birds Nicholas Mason was recently awarded the 2020 James G. Cooper Early Professional Award from the American Ornithological Society. This award recognizes early-career researchers for their outstanding contributions in any field of ornithology. As part of the award Nick delivered a plenary on his research to date during the virtual North American Ornithology Conference in August 2020.



### **Irene Martí Gil** **Premio Nacional de Fin de Carrera de Educación Universitaria.**

Congratulate to Irene Martí Gil, on being awarded the first prize in the “Premio Nacional de Fin de Carrera de Educación Universitaria.” This prestigious award comes from the Spanish government and is a nation-wide award bestowed by the Spanish Ministry of Education. It recognizes the outstanding academic and professional achievements of Spanish undergraduate students who finished their degrees in 2015-2016.

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## In Memoriam

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### **Judith A. Shiebout Ph.D.**

Dr. Shiebout was born on November 16, 1946. She was a vertebrate paleontologist whose research emphases include paleoecology and vertebrate paleontology. She also acted as an Adjunct Associate Professor of Geology at LSU and former Curator of Vertebrate Paleontology at LSU Museum of Natural Science. She earned her Ph.D. from the University of Texas at Austin.



# MNS NEWS

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## NSF Postdoctoral Research Fellowships in Biology

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### Genevieve Mount

Genevieve Mount, currently a PhD student with Dr.'s Jeremy Brown and Chris Austin, studying methods to capture large scale patterns and variation in phylogenetic data. I will be joining Dr. Molly Womack at Utah State University, and collaborating with Dr Rebecca Tarvin at University of California, Berkeley. I will be studying the loss of calling behavior and related morphology in True Toads, to determine how the loss of this sexually selected trait affects the evolutionary trajectory of a lineage.



### Jon Nations

Jon Nations is a PhD candidate in Jake Esselstyn's lab (Mammal Division) at the Museum of Natural Science. His dissertation work focuses on the role locomotion plays in the generation and maintenance of diversity in a species-rich group of small mammals, the murine rodents. For his postdoc, Jon will be working with Primary Sponsor Dr. Graham Slater (University of Chicago), along with Co-Sponsors Dr. Larry Heaney (Field Museum), Dr. Noé de la Sancha (Field Museum, Chicago State University) and Dr. Molly McDonough (Chicago State University). For his research, Jon will use 3D images of skeletons from shrews across the Malay Archipelago to test for differences in the feeding behavior and locomotion of species that live together in communities. His research will reveal how these highly territorial small mammals compete for or share resources, and whether shrews on different islands have evolved in a predictable way to survive in similar habitats.



### Carl Hutter

Carl Hutter is a postdoctoral researcher at LSU working on mammal phylogenomics with Jake Esselstyn. For his NSF postdoctoral fellowship, he will be staying at LSU to work with Chris Austin. He will be studying global convergent evolution of frog calls to understand whether similar sounding calls on different continents are driven by habitat similarity. To understand call evolution, this research will employ existing natural history museum collections integrating frog call recordings, and high-resolution soft-tissue CT scans of larynges, ears, and lungs from frog specimens.

# MNS NEWS

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## Welcome New Staff & Students

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### Nicholas Mason

Our new curator of Birds and Assistant Professor professor of Ornithology. His research centers on the ecological and evolutionary processes that underlie speciation, diversification, and the evolution of phenotypic diversity in birds, with an increasing focus on understanding anthropogenic impacts on bird populations.



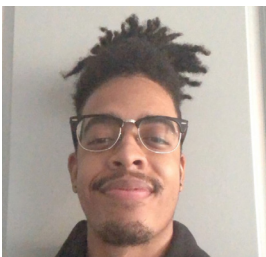
### David Vander Pluym

New Ph.D student studying Ornithology in the Mason lab. His research looks at how avian migration relates to biogeography, systematics, and the impacts of climate change on these systems.



### Maggie MacPherson

New Postdoctoral Researcher in the Mason Lab. She has a particular interest in improving our understanding of the drivers of range dynamics in migratory species. Her ultimate research goal is to contribute to research that improves our ability to protect wildlife across rapidly changing landscapes.



### Jaren Bradford

New M.S. student studying Palynology under Dr. Bart. He will be traveling to Antarctica in December to study diatom abundance and assemblages in the Ross Sea as it relates to paleo-environmental changes associated with Ice sheet and Ice shelf retreat. He is being co-advised by Warny to learn about micropaleontology, specifically, diatoms.



### Sophie Vincent

New M.S. working in the Warny Lab under Dr. Wilson being co-advised by Dr. Warny who will oversee the palynological portion of her research. Her research focuses on the relationship between organic mass accumulation rates in Louisiana marshes and sea-level fluctuations.

# MNS NEWS

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## Welcome New Staff & Students

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### **Tiffany Nordstrom**

New M.S. student working in Dr. Warny CENEX lab. She will be researching the presence of Palynomorphs and their paleoecological implication from a well drilled in the Alaminos Canyon in the Gulf of Mexico.



### **Gunner Barry Boler**

New M.S. student studying Palynology and Geology under Dr. Warny. His research focuses on the palynology of a Stones Field well from Shell in the Gulf of Mexico. He is identifying different types of palynomorphs in samples to build a palynological database to better understand the overall biostratigraphic framework of the deep-water Wilcox Group.



### **Austin Chipps**

New Ph.D. student studying Mammalogy in the Esselstyn lab. His research looks at genetic diversity, population structure and effective population size in two bat species killed at wind turbines in south Texas.



### **Emma Reynolds**

New Outreach Coordinator is taking the reins from Valerie Stampley. Emma has a master's degree in Museum and Gallery Studies from the University of St. Andrews, Scotland. She has recently moved to Louisiana with her husband who has started his Ph.D. at LSU.

# Upcoming Event Announcements

## Seminar Series Update

The MNS has decided to cancel the Fall Seminar Series. We will resume the Seminar for the Spring semester. Please stay tuned to our website and social media accounts. [www.lsu.edu/mns](http://www.lsu.edu/mns)

## Opening the Museum?

The museum will stay closed to the public until deemed safe to open. For the most up-to-date information please visit our website <https://www.lsu.edu/mns>

## Newsletter Changes

We will be moving the Newsletter to twice a year from the traditional three times a year. These will be released in May and November.

## New Virtual Outreach!

We have started a YouTube channel. This will be a place where talks old and new given by students can be watched as well as new educational videos can be enjoyed. While our videos will mostly be directed at elementary students, there should still be plenty for adults to enjoy. You can already watch our Biodiversity in Louisiana's Wetlands video, with another video on Pit Vipers to follow.

Please visit our channel at the link below <https://www.youtube.com/>

For more information check on our website [www.lsu.edu/mns/](http://www.lsu.edu/mns/)

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If you would like to include items in the next issue of *Museum Newsletter*, please send information, articles and photographs to the Museum Education Office. Articles about research, study or any other items of interest are encouraged. Information may be submitted as completed articles with jpeg pictures in attachments, or in list form to be put into article.

Email your material to [ereynolds1@lsu.edu](mailto:ereynolds1@lsu.edu)

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