

A New Face in the Crowd

*Jackson Roberts named
Sternberg zoology
collections manager*

Sternberg Museum will welcome a new zoology collections manager in mid-August. Dr. Jackson Roberts will move to Hays with his family from Baton Rouge, where he recently finished his PHD at Louisiana State University.

"We are excited for Jackson to join us because he fits into the culture and personalities we have at the museum," said Sternberg Director Reese Barrick. "It's not every day that you find somebody who's excited that our museum has rattlesnakes. We look forward to welcoming him and his family to Hays."

Barrick said Roberts will assume the position left vacant after the untimely death of Curtis Schmidt, who held the position from 2011-2022.

"My family and I are beyond excited to join the Sternberg family," Roberts said. "As Sternberg's new zoology collections manager, I am incredibly lucky to continue the legacy for which the Sternberg's live and research collections are known, as well as expand the volume and access to the collections to connect the community with the amazing biodiversity of the Great Plains."

Roberts was born and raised in Nashville. His parents raised him alongside his sister and brother in a supportive home that always fostered his love for the outdoors. His time spent outdoors was usually focused on fishing or hunting with his family.

"Regardless of whether he was on the water or in the woods, I have always been interested in the animals around me and how to tell them apart," Roberts said.

His undergraduate research with Dr. Michael Collins at Rhodes College in Memphis, Tenn., involved surveying South-eastern birds for avian malaria. His master's at Auburn University in Auburn, Ala., with Dr. Ash Bullard, focused on trematode parasites of freshwater turtles.

"After many different locations and a couple of degrees, I realized I was lucky (or cursed) to spend my career as a herpetologist," he said.

During his PhD, Roberts focused on the systematics and taxonomy of New Guinean snakes, specifically two different groups: the New Guinea Worm-eating Snakes (Elapidae: Toxicocalamus) and the New Guinea Keelbacks (Natricidae: Tropidonophis).

At LSU, he contributed to the LSUMNS through outreach, research, and continued growth of the collection. He has contributed to domestic collecting, as well as a life-changing eight-week expedition in Papua New Guinea to the Ghost Mountain of Mt. Obree.

"But my greatest adventure I began as a PhD student was the family my wife Meg and I started in Baton Rouge: two wonderful and snake-loving boys, Emmett Darwin and Milo Wallace," Roberts said.





Naturalist Alicia Gaede performs maintenance on a second floor aquarium, one of her many responsibilities associated with the care of the animals at the museum.

It's An Animal Thing

Feeding, cleaning & maintenance huge undertaking

“They are my babies. They are my pets...even the ones that like to chew on me.”

That's how Sternberg Museum naturalist Alicia Gaede described her feelings for hundreds of live animals that she and her employees take care of every day. From snakes to tortoises, from lizards to a bearded dragon affectionately known as Sisu, live animals have proven to be a popular attraction.

“When you work with animals, whether it be mammals, reptiles, or birds, you realize that they all sort of have their little personalities and quirks about them,” Gaede said.

Knowledge of the various animals and their specific behaviors helps Gaede plan the complicated daily schedule of keeping them fed and their enclosures

clean.

Gaede said each day begins with the feeding of Sisu the bearded dragon and the two tortoises, Darius and Pebbles.

“Sisu gets fresh greens every day such as mustard greens, turnip greens or collard greens, and the tortoises eat lettuce,” Gaede said. “In addition to lettuce, they get a special treat of cucumber or carrots every other week, but their diets are very strict, so they can't have too much of that.”

From there, employees look after the various fish, reptiles and other amphibians that live in the numerous aquariums or enclosures. In addition, the current exhibit of tarantulas also requires attention. All have specific diets that are followed to ensure they remain healthy.

After taking care of everything in public view, workers move to the back rooms to take care of the insects and mice that are used to feed the animals.

Of course, the museum's snakes also must be cared for, but they do not eat every day, Gaede said. Some might eat weekly while others eat twice a month. In the winter when they become dormant, they might only eat every few months.

The museum currently has two rattlesnakes of each species, one of which is for public display while another is kept on the lower floor of the facility.

As for the non-venomous snakes, the museum does not have duplicates, so they are fed differently.

"Some are used to eating with people watching, while others don't. For those that don't, we either move them downstairs or feed them before the museum opens or after it closes," Gaede said.

MAINTENANCE

In addition to feeding and cleaning the enclosures, Gaede is responsible for cleaning the four aquariums.

"Cleaning those is difficult to do with the public because it involves hoses and stuff everywhere," Gaede said. "Simple general maintenance of all the aquariums takes approximately three to four hours. Each one takes about an hour to clean and that's like minimal cleaning. To heavy duty clean, it takes around two hours, which includes taking everything apart, scrubbing it, and occasional water changes."

SHARING THE DUTIES

Helping Gaede with her daily chores are employees Kassidy Dahlke and Jessica Lamb, who also attend Fort Hays State University. Other volunteers assist in the process.

"During the school year, I don't have help in the morning because they are typically attending class," Gaede said. "But during the summer, they are available to do the morning feeding routines, which frees up my time to do other maintenance. I also have several volunteers who help take care of the mice and insects."

In addition to animal care and general maintenance, Gaede also helps with the many school tours scheduled throughout the year.



ABOVE: Kassidy Dahlke stands in a couple feet of water as she scrubs the inside window of the aquarium housing the alligator snapping turtle



LEFT: Volunteer Rose Windholz feeds Darius the tortoise.

“People coming in wanting just tours with live animals is pretty popular,” Gaede said. “It also is very educational as my tours involve teaching visitors about animals and how they evolve back to the fossils we have in the museum.”

While visitors often get to handle or touch the animals during the tour, Gaede said she is quick to remind people that they are pets.

“They’re essential to our ecosystem in our environment, so you don’t need to go around killing them. But a snake out in the wild is going to do what a snake needs to do to protect itself, so I really emphasize that just because you hold these guys here does not mean you can go pick up snakes in the wild.”

Gaede first started at Sternberg as a volunteer while attending Fort Hays State as a wildlife biology major.

“I didn’t have anywhere else I could really get experi-

ence, so I started in the summer of 2017,” Gaede said. “After I graduated, they kept me on, for which I am very grateful, because I don’t know how I would have ever left my animals.”

Working in a zoo would have been another option, but Gaede said the idea of working with just a select number of animals wasn’t as appealing.

“What I love so much about this place is that they are all my animals, so they’re like a part of my family,” Gaede said. “I also like the fact that my daughter gets to grow up here and that I have a close relationship with my volunteers. I get to watch

them grow up and learn new things and become wonderful people. I also get to be part of this wonderful community. I love it when people come back to the museum or recognize me in public and ask me how the animals are doing. That really makes me feel happy.”

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ALICIA GAEDE

STERNBERG MUSEUM NATURALIST

Animal Enrichment

Caring for a large number of animals requires more than just providing food and cleaning their living environment.

It also requires the implementation of an enrichment program, which is something that naturalist Alicia Gaede and her team take very seriously. The largest animals in the museum are the two tortoises, which receive a variety of enrichment activities, but often times before or after the museum closes and out-of-sight of visitors.

To encourage the tortoise’s need to forage, Gaede said fresh greens are often placed in holes drilled in a log or inserted into a ball. In addition, a stick is attached to a table so it’s like eating from a tall bush. That prompts the tortoise to look up and eat.

“Sometimes we’ll give them really big boxes to destroy, which is pretty hilarious,” Gaede said. “We also put blankets in the cages so they can feel different textures. We also introduce toys that they can play with. The reason the public might not see this

enrichment because it needs to be monitored. It’s not cost effective to have somebody there all day, so we remove everything from the cage so the tortoises don’t hurt themselves. Plus, tortoises will eat everything and anything.”

Gaede said most people don’t think about snakes or lizards needing enrichment.

“Occasionally, we get complaints about snake skin still in a snake’s cage,” Gaede said. “Usually, if we have a snake skin in a cage, it’s from a completely different snake or maybe a different gender. We put that in the cage for the snake to smell. As for lizards, they love to destroy snake skin as does the gila monster upstairs. She loves to destroy snake skin and loves to tear up feathers and and stuff. So when people thing, we’re not cleaning cages, that’s not true.”

ABOVE: Jessica Lamb places food inside of a ball, which helps satisfy the tortoise’s instinct to forage.

LEFT: Malachi Chance prepares to give the gila monster a bath.



PREPPING THE MENU

Food for animals raised in-house

With more than 100 hungry critters to feed, all of which have different dietary needs, it begs the question of where does the food come from.

Although the museum purchases some food items (i.e. vegetables), much of what is fed to the animals is raised in a back room of the museum by naturalist Alicia Gaede and her group of employees and volunteers.

Gaede said taking care of the insects and mice that are used to feed the animals requires daily attention.

“They need to have constant water, so we want to make sure we give that to them first thing in the morning,” Gaede said. “Insects drink from a paper towel because they can easily drown, and mice are nocturnal, so they tend to drink and eat more at night.”

Keeping a steady supply of mice is extremely important because of the number of animals that eat them, Gaede said.

“We have a ton of snake species here, but other animals also eat mice,” Gaede said. “Turtles eat mice as do frogs, toads and some of the lizards. Turtles eat like crazy. They eat four times a week and so does the Merten’s Water Monitor. So, we have to raise mice pretty heavily.”

One situation that must be closely monitored is the age of the mice-breeding collection.

“When mice age, they can’t breed any longer, so we have to restart our mouse-breeding collection periodically,” she said. “That involves getting about 15 new females and 10 males, which can breed for a year.”

In addition to mice, a variety of insects, including crickets, superworms, mealworms, and Dubia roaches, are cultivated at the museum.

“The Dubia roaches are primarily for the bearded dragon, but other animals do eat them,” Gaede said. “Superworms are one of those things that are



Raising food for museum animals to eat requires daily attention to make sure the mice and insects are receiving the nourishment they need. Jessica Lamb (above) checks the cricket population, while Rose Windholz (left) looks in on the mice

a great snack for critters, but they are not a staple in their diet. Because we primarily use them as a treat, we don’t need them as fast as they reproduce, so I have occasionally sold some of them and the Dubias.”

With the addition of the tarantula exhibit earlier this year, Gaede said she can’t raise crickets fast enough, so she currently is purchasing those.

“I need adult crickets, and it takes a while for them to grow to that stage,” Gaede said. “The problem with buying them from a mass production company is that they usually die within the first few days of having them, so they have to be instantly fed to something as soon as we get them.”

Gaede said keeping all the animals on a regular feeding schedule is critical in keeping things running smoothly and allowing time to take care of other duties.

“I’m very grateful for my employees and volunteers because they are big help in taking care of many of the routine responsibilities, which frees me up to do equipment maintenance and host museum tours,” Gaede said. “Live animals are an important part of the museum experience here at Sternberg, and I’m proud to be a part of that.”

PIECING TOGETHER HISTORY

Fossils from Minium Quarry garner renewed working interest

An extensive fossil collection first discovered in the 1980s has been the focus of increased activity in the fossil prep lab located on the second floor of Sternberg Museum.

Advanced college students and part-time employees, Alec Zaborniak and Alex Landwehr, are working regularly on a collection first discovered in 1982 near Morland, Kan. Known as the Minium Fossil Quarry, landowner Robert Minium first discovered a unique specimen and reported it to Fort Hays State University.

In 1985-86, the National Geographic Society provided a grant to excavate the area. It proved to be one of the richest fossil sites from the late Miocene period. Minium donated the site to FHSU, and it continues to be an excellent resource of information.

“The site has been dated to Miocene in age, so you’re looking at about six to seven million years ago,” said Zaborniak, a FHSU graduate student who works at Sternberg as a student paleo assistant. “The area is sort of like a savanna ecosystem with lots of large mammals.”

Rhinos are one of the primary animals found, but Zaborniak said there are also horses and camels. In addition, he said there are many smaller animals such as rodents, reptiles, amphibians and birds. The quarry is



Alex Landwehr checks the fit of two rhino ribs prior to gluing them together.

also unique for its specimens of early plant life including bamboo, rice, bullrushes, hackberry and borages.

“Our focus is primarily on the large mammal material, specifically rhinoceros,” he said.

Zaborniak, who started working on the material in May, said lack of time and resources prompted the collection to be stored for an extended period. Sternberg received a three-year grant to specifically resume work on the material, and they are now in their second year of work.

Landwehr, a FHSU student majoring in biology with a minor in geology, has been working on the material since last fall.

“The collection from the quarry was basically placed in large boxes,” Landwehr said. “So the first thing we did was unpack all of it and sort through it to see if



Violet and Coy Swearingian of Peoria, Ill. stopped by the fossil lab to watch Alex Zaborniak work on a specimen from the Minium Quarry.

information matched the field notes that we had. Some of it did; some of it didn't. For the stuff that didn't, we just boxed it up until we can find information for it. We then organized it by type; for example, rhino ribs. We put them in nice boxes that we got with the grant, and we put them all into the database. So now, they're all in collective access."

With the sorting completed, Landwehr said they are looking for broken pieces that can be glued together. To prepare for the glue, they use wooden skewers and dental picks to gently brush off the dirt. Microscopes are used to make sure small details are not damaged.

"It can be a bit time consuming, but we're kind of lucky that the sediment is fairly soft," Zaborniak said. "It's a lot of sand-size particles pretty loosely adhered together, so they come off pretty easily."

The time needed to complete a piece depends on the size. For example, Landwehr worked on a project that included four larger pieces which required special attention to the edges to ensure a successful glue joint, which typically takes around 24 hours to dry.

"The glue we use is a type of resin and when it dries, it

becomes plastic," Zaborniak said. "It's really nice because it's also reversible with acetone, so if something happens, we can remove the adhesive."

After the prep work is completed, Landwehr said the specimens will be photographed and put into a database. He said they are hopeful they can complete the collection of over 2000 specimens within the three-year period that the grant allows.

When completed the material will be available for future researchers to study.

"These serve as a nice snapshot of this particular point in time," Zaborniak said. "This material could be used in conjunction with the other animals and plant materials found at the site to paint a thorough picture of what this ecosystem looked like. These kinds of paleo ecological reconstructions are important because they can show what the earth was like during certain periods of its history with specific climatic regimes."

Beyond the historical aspect, Zaborniak said the work has generated interest among the visitors to the museum.

"The engagement with the public and the outreach is also something that I find really enjoyable, especially with the little kids who come by," he said. "They're like, 'Oh, what are you doing? This is so cool!'"

It's really rewarding to do the type of work I want to do, but also share that with the public and the people who drop by."



Specimens are kept in trays until they can be inspected.

Students travel from throughout the United States to take part in Sternberg's fossil prep training

HANDS ON TRAINING



Students from all over the country spent a week in Hays in mid-July to learn fossil preparation techniques at Sternberg Museum.

Leading the class was Hillary Mclean from Denver, a former master's student who studied with Sternberg's chief curator, Dr. Laura Wilson.

While in Hays, Mclean said students learn how to clean fossils, how to build exhibits, and potentially turn the skills they learn into future careers.

"What's really wonderful is that all these students from around the country come here to Sternberg Museum," Mclean said. "They have access to real tools and real fossils, which some of them don't have access to where they are from. This provides a really amazing and unique opportunity for a lot of students who might not get the opportunity back home."

In addition to learning how to clean fossils and glue them back together, some get the opportunity to dig for fossils around the area.

"It's really exciting for them because they get a lot of different experiences and opportunities," Mclean said.

Mclean indicated she has been leading the program for two years and had the opportunity to personally participate in the fossil prep lab while a student.

Since graduating, she said she has worked a variety of jobs at different museums across the country, but enjoys returning to Sternberg.

"It's a very special place, and I'm very, very proud to be a part of this program," Mclean said. "But we have other instructors like field program instructors or science instructors who have been teaching these camps for many years. We have people who started out as campers and as they get older, they return and become assistants or they become instructors themselves. So, the program continues to grow and develop all the time."

Students at the camp ranged in age from 14 to 18 years



ABOVE LEFT: Instructor Hillary Mclean assists Eli Marvine from Shawnee, Kan.

LEFT: Traveling from West Chester, N.Y., to participate in the class is Jude Hendler.

old and were part of what Mclean referred to an “introduction class.”

“We are hoping to offer more advanced preparation classes, but unfortunately, it’s hard with the economy and everybody trying to send their kids to summer camp,” Mclean said. “But it’s still exciting to have lots of students participate in the introduction, because then they can take the skills they learn here and return home and keep working on their own fossils. Or, they can teach their friends what to do, so even though it’s just an introduction, it grows it. It perpetuates.”

Students in attendance hailed from seven states, including New York, Massachusetts, Texas, Oklahoma, Iowa, Arkansas and Kansas.

“It’s pretty typical to have this diverse of group from the different geographical parts of the country,” Mclean said. “Paleontology is a field that welcomes everybody from every corner. And what’s amazing for some of these students that come from far away, is they may not fully understand how truly amazing Kansas is when it comes to fossils. A lot of people don’t think about Kansas being the place that has some very cool fossils. So, it not only introduces kids to the Sternberg and to fossils, but it also introduces them to Kansas and how beautiful and amazing this place can be to.”

In addition to students from the United States, Mclean said she has previously welcomed a student from as far away as Germany.

“The program is very wide reaching,” she said. “Yes, we do occasionally have campers that come from like Wichita or Lawrence, so we do have locals that participate. But I think it’s an amazing opportunity for people who may never have the chance to visit here.”

After working throughout the country, Mclean commented that not everybody in this area fully appreciates the importance of Sternberg Museum.

“It not only has an incredible natural history collection with their fossils and with their biology collections, but it also has a human historical significance,” Mclean said. “The Sternberg namesake is very, very famous. And the museum is one of these hidden gems in the United States that people don’t always realize what’s here if they pass by us on the on the highway. There’s also a lot of personal history here. Fort Hays State University, especially Laura (Wilson) is somebody who has started the careers of dozens of paleontologists, including myself.”

Mclean credited the museum for jump starting the interest levels of numerous middle and high school students.

“Not every museum can take on kids,” she said. “And not every museum has the ability to teach and train and offer these sorts of opportunities. Sternberg is a very special place. It’s a very special program, and I’m really proud to be a part of it.”



Katie Gatlin of Norman, Okla., writes notes about her findings.



Massachusetts resident Grant Iwamoto works on cleaning up the fossil assigned to him.



TOP LEFT: Instructor Hillary Mclean looks on as students work on their fossils in a introductory prep lab. Students attended from throughout the country.

TOP RIGHT: Fossil prep student Cleo Devore of New York City enjoys a fun moment during the fossil prep class.

AT THE MUSEUM



LEFT: A family stops by to view the fish-within-a-fish exhibit and listen to a recording about its history.

ABOVE: While at Sternberg for a meeting, Kate Young of Wichita State University and Susan Adams from the Flint Hills Discovery Center in Manhattan take time to “Be The Tarantula” while viewing the museum’s Tarantula exhibit.