



Sam Noble Museum
THE UNIVERSITY OF OKLAHOMA

Tracks

Summer 2010 Newsletter, Volume 22, Number 2

NATURAL WONDERS: BLACK MESA

Exhibit construction to begin soon

COUNTRY FISH / CITY FISH

Museum curator studies urban streams

PALEO EXPEDITION

Oklahoma teens dig Paleontology

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FROM THE DIRECTOR

FIELDWORK SEASON UNDER WAY



Dear Members and Friends,

Summer is fieldwork season for many of our curators. During summer, when curators are not teaching classes at the University of Oklahoma, they are free to focus exclusively on their ongoing research projects, both close to home and far away. The research of our scientists is what powers this museum. Research grows collections, adds to our collective body of scientific knowledge about the world we live in, educates undergraduate and graduate students, and inspires the exhibits and programming that the museum produces for the public. All of our exhibits and programs owe their quality and uniqueness to the intellectual work of the curators.

In this newsletter you will read about an ongoing research project in Oklahoma City conducted by our curator of fishes, funded by the U.S. Air Force. In this case, grant-funded research is helping a scientist keep close track of developments in our urban ecosystem.

You also will learn about two new species discovered by museum curators in the course of their research and fieldwork. These discoveries remind us that there is still much to learn – many uncharted corners of the world from which we can glean insights into the nature of our planet. Discovering new life forms was the credo that drove Captain Kirk and the crew of the Enterprise into the far reaches of space in the Star Trek series of so long ago. Yet Earth itself remains poorly explored. Our curators are in the unique position of searching for new life forms – extinct and living – and their work enriches our understanding of the world. The “type” specimens for these new species will become a permanent part of our collections, and will serve as an irreplaceable record for science, while also being a testament to the work of our curators and the scientific reputation of the museum.

This summer’s fieldwork extends to education of the next generation of scientists. The Summer Explorers program will host hundreds of children, ranging in age from 4 to 14. Under the instruction of our professional educators, they will explore the natural world, learn about the natural sciences, and have fun doing it. The ExplorOlogy® students – some of whom have very limited access to science education in their own school districts – will participate in intensive hands-on science experiences with our scientists and educators as part of Oklahoma Science Adventure and Paleo-Expedition. By taking young people into the field to do actual science with skilled professionals, our educators, curators and graduate students provide them with the life-changing experience they need to take up a scientific career. At the very least, they help to create a scientifically literate generation that understands the scientific method and the importance of scientific inquiry.

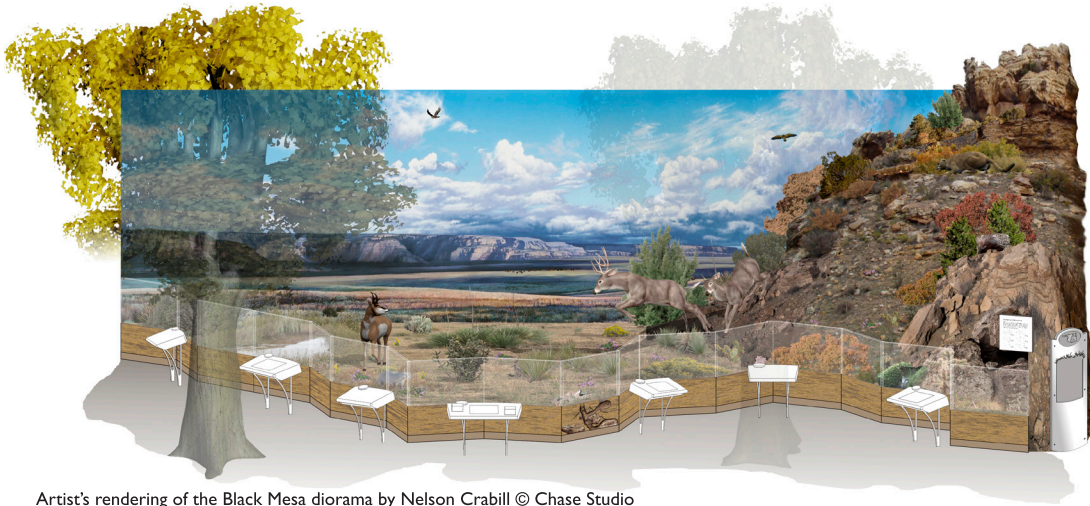
Behind the beautiful and exciting exhibits at the museum – behind every family program and lecture – lies the driving curiosity, intellect and dedication of our curators and scientific staff. We wish you all an enjoyable summer season.

Michael A. Mares, Ph.D.
Director





COMING SOON TO NATURAL WONDERS: BLACK MESA



Artist's rendering of the Black Mesa diorama by Nelson Crabill © Chase Studio

This fall, the long-term temporary exhibition Explore Evolution in the Natural Wonders Gallery will be removed in order to accommodate an exciting new 2,000 square-foot diorama representing Oklahoma's Black Mesa. Installation will begin in February of 2011.

At 4,973 feet, Black Mesa is Oklahoma's highest, driest and coolest point. It is also the state's furthest western reach, and features plants and animals that are found nowhere else in Oklahoma. The landscape itself is dramatic. Arid grasslands, rocky buttes and mesas give this part of the state the flavor of the Old West. The climate can be harsh. Water is scarce, and temperatures can be extreme. The plants and animals in this unforgiving landscape are hardy and adapted to make the most of the available food, water and shelter.

"Black Mesa is a well known, dramatic area, with spectacular scenery," said Peter Tirrell, the museum's associate director. "This is the first diorama to be installed in the Hall of Natural Wonders that deals with ecosystems in the western part of the state, and it is the most immersive exhibit we have built so far."

The exhibit will spill over the boundaries of the diorama's enclosed display area to include a naturalistic walkway where museum

visitors will pass under large cottonwood trees through a riparian habitat alongside a stream. The diorama features dozens of mounted and cast animals, including mule deer, pronghorn antelope, a mountain lion, prairie dogs, jackrabbits and a badger, along with many species of birds, including eagles and vultures. Visitors will get an underground look at a prairie dog burrow, view a cross-section of a playa lake, and learn about the fascinating interactions between animals in this uncompromising landscape.

Black Mesa will also be one of the most interactive of the museum's exhibits. Touch screen computers throughout will allow visitors to test their knowledge, answer questions and dig deeper for more information.

"Black Mesa will be another unique addition to our permanent exhibit galleries," said museum director Michael Mares. "Most Oklahomans have never visited this region, so for most people, the exhibit will be their personal adventure to the great variety of species that inhabit the area. This will be an unforgettable exhibit experience for museum visitors. We are very excited about how it is developing and look forward to its installation in spring 2011."

Facts from Black Mesa:

Why Does the Pronghorn Run so Fast?

A pronghorn can run nearly 60 miles per hour. While this is an impressive speed, we might wonder why these antelope-like animals need to hoof it at such a prodigious pace – their speed is much faster than that of any of their existing predators. Why evolve to run at 60 mph when a mere 40 mph would do? The answer lies in the past. More than 10,000 years ago, Oklahoma's plains were home to a predator we have come to associate with the African savannah: cheetahs.

During the Pleistocene, large cats appeared on the plains with physical characteristics adapted for running, similar to modern cheetahs. Though originally thought to be an early ancestor to cheetahs, these animals are now thought to have evolved independently from their African relatives in an example of convergent evolution. Whatever their origins, they are likely the high-speed predator that necessitated the speed adaptations in pronghorns. Though the cheetahs went extinct around 11,000 years ago, the adaptation for speed remains in their erstwhile prey – frustrating wolves, mountain lions and modern human hunters to this day.



FIELDWORK

COUNTRY FISH / CITY FISH: A MUSEUM CURATOR STUDIES URBAN STREAMS

If you have ever driven over a muddy urban stream dotted with the flotsam of styrofoam cups, plastic grocery bags and the occasional semi-submerged tire, you may have wondered if anything could live there. There are dozens of streams and creeks across the Oklahoma City metro area – sometimes running in their natural beds, sometimes channeled through concrete banks or culverts. Though at times they may appear to be little more than drainage ditches, these streams actually are home to a variety of hardy fish species, adapted to the sometimes harsh conditions of Oklahoma's waterways. Two such streams run through Tinker Air Force base, and are the subject of a two-year study being conducted by the museum's curator of ichthyology, Edie Marsh-Matthews, along with two other researchers on the University of Oklahoma campus: Bill Matthews, chair of the OU Department of Zoology; and graduate student Judith Barksdale.

The study is funded by a grant from the U.S. Department of Defense, Air Force, and is part of a larger, ongoing program of integrated natural resource management on the base. One of the objectives is to examine the diversity of fish communities in

Crutch Creek and Kuhlman Creek – both of which flow through the base – and compare it to that of fish

communities in off base creeks nearby. The diversity of a stream is considered a sign of its environmental health.



Clockwise from top left: Edie Marsh-Matthews, curator of ichthyology, with graduate student Judith Barksdale, in a stream on the Tinker Air Force Base. Photo: NAME OF PERSON; Marsh-Matthews and Ray Moody, Natural Resource Biologist at Tinker AFB, examine fishes caught in seine nets. Photo: NAME OF PERSON; Judith Barksdale and Ray Moody seine for fish on Tinker Air Force Base. Photo: NAME OF PERSON





The greatest danger to most urban streams is stormwater run-off that can carry gasoline and oil as well as fertilizers and pesticides from city lawns. The addition of these pollutants can make urban streams a harsh environment for fish. At Tinker, the base has implemented an aggressive stormwater and pollution prevention program to combat its industrial nature. Ray Moody, Natural Resource Biologist at Tinker said, "I've seen a tremendous difference in the streams on base over the last decade, we've gone from just 10 species in the early 1990's to 21 different species occurring today. I also credit the Base's preservation of wetlands and riparian green space in reaching this milestone."

Tinker has also installed spill gates in both streams that can be closed to prevent the water from reaching the North Canadian River in case of a major fuel spill. However, this study aims to determine how well these programs and preservation of habitat along the stream banks are doing in controlling these urban and industrial runoff impacts and if the health of the streams is negatively impacted by everyday run-off.

Since last August, the team has made two surveys of fishes in these streams, as well as five other creeks to the east and west of the base. The results so far are encouraging, if maybe a little surprising.

"The fish on base are very typical of streams across central Oklahoma," Marsh-Matthews said. "They are dominated by three species

of minnows and about three species of sunfish. And so far we have found no really distinct urban signal. Rural creeks are not all that much cleaner than urban creeks, due to agricultural runoff. Everything is dominated by the same core species."

The lack of dramatic differences between urban and rural stream communities has a lot to do with the natural extremes of Oklahoma's climate.

"Central Oklahoma is a pretty harsh place to begin with because of irregular rainfall patterns," Marsh-Matthews explained. "Oklahoma has extremes of heat and cold plus periods of drought during which some streams dry up nearly entirely. When that happens, the little water that is left in the streams holds a really high density of fish, which is very stressful. This part of the world already imposes an environmental filter on which species can survive here. What we see in these creeks is species that have already made it through that filter."

In other words: Oklahoma's fish are tough. Naturally adapted to extreme conditions, they seem to be relatively unfazed by the additional stressors of urban run-off, and those on Tinker Air Force Base are no exception.

"Military bases all over the country take management of their natural resources very seriously," Marsh-Matthews explained. "As a federal agency, the military is charged with environmental stewardship of their property, and the bases all have a resource manager who works with scientists to study subjects of interest on the base."

Ray Moody explains. "The results of this study will help us continue to make stream improvements and take basin-wide management actions, our goal is to sustain a healthy fish assemblage for the Crutch Creek Basin. Allowing us to continue our mission at Tinker without interruption and in harmony with the environment"

The fish project is just one of many others under way this year at Tinker. One group of researchers from Southern Illinois University is studying Texas horned lizards on the base, and another is just finishing a study of birds, aquatic invertebrates and a rare wildflower, the Oklahoma Penstemon. The fish project itself is making use of historical data for a perspective of how far the Base has come. This data was collected by Bill Matthews in a study of Crutch Creek funded by the Council of Governments in 1990.

For the next year and a half, the team will continue to collect fish in all seven of the study streams, and in all seasons. The overall conclusions of their study could change during that time period, but so far Tinker's streams are looking pretty good.



EDUCATION

PALEO EXPEDITION 2010



Students of Paleo Expedition 2010 pose with educators and paleontologists at a field site in Nebraska.
Photo: Jess Cole.

This summer, 12 Oklahoma teenagers got the chance to participate in the work of paleontology exploration and excavation at Ashfall Fossil Beds State Historic Park in northeastern Nebraska. These teens were chosen for Paleo Expedition 2010, a two-week summer field experience for high school students from across the state of Oklahoma. The program is part of ExplorOlogy®, a museum project funded by the Whitten-Newman Foundation, which provides full scholarships to every student selected to participate.

“The Goal of Paleo Expedition and other ExplorOlogy® Programs is to give participants the opportunity to experience science beyond the classroom,” said Jess Cole, ExplorOlogy® coordinator. “In Paleo Expedition, our participants work side-by-side with actual paleontologists as they uncover fossils, sift through buckets of dirt for the smallest of fish scales and try to reconstruct earth’s

past. They make those very discoveries that they would have only had the chance to read about in class. It takes the understanding of science to a whole new level.”

The students spent the first week of the program “boning up” on paleontology, geology and field techniques with various museum scientists and other staff members. They took field excursions to the Wichita Mountains to learn geology; and to a nearby invertebrate fossil site to collect and identify trilobites, brachiopods and other invertebrates. They toured museum paleontology collections and got a crash course in fossil preparation in the vertebrate paleontology laboratory plus a mini-course in bone structure at Skulls Unlimited, a facility in Oklahoma City that provides animal skeletons of all kinds to educational institutions and museums around the world.

In addition, the students learned teamwork on the OU Ropes Course.

They also had plenty of opportunities for fun, including hiking the Wichitas, splashing and exploring the icy streams of the Arbuckle Mountains, and learning comparative anatomy the fun way – by observing, feeding and even *petting* the rhinos behind the scenes at the Oklahoma City Zoo.

After the first week of training and preparation, the team departed for the University of Nebraska, Lincoln, where they were treated to a tour of the campus and museum before getting down to business at Ashfall Fossil Beds State Historic Park. There, the students spent five days working with Sam Noble Museum vertebrate paleontology curator Nick Czaplewski and Mike Voorhies, vertebrate paleontologist and curator emeritus at the University of Nebraska State Museum.

About 12 million years ago, a volcanic explosion in southwest Idaho covered a swath of eastern Nebraska with soft volcanic ash. Breathing the ash-laden air eventually caused the demise of hundreds of prehistoric horses, camels, rhinos, dogs and birds. Their corpses were quickly covered in ash, and eventually fossilized. In 1971, Voorhies discovered the skull of a rhino calf in the area and began excavations. Since that time, hundreds of animals have been uncovered, and work continues to this day. The area, now designated as the Ashfall Fossil Beds State Historic Park, is one of the few sites in the nation where visitors can see fossil excavations in progress and observe fossil remains in situ. The park features a unique covered dig site known as the “Rhino Barn,” where the skeletons of prehistoric rhinos and other mammals are carefully uncovered and left exposed in place for the public to view.



The Paleo Expedition students began their field experience on the park grounds, where they divided up into pairs to rotate through a variety of tasks. One team worked inside the Rhino Barn itself. This is painstaking work, using hand tools to remove the covering layer of ash away from the fossils very gradually, without disturbing the bones beneath. Another team worked in an area just outside the Barn, prospecting for surface finds around an old dig site. Other teams worked inside a nearby shelter, chipping fossils brought in from the field out of their protective plaster “field jackets,” or combing through screen-washed bits of “concentrate” – a gritty mixture of rock and bits of fossils – for tiny fossilized mammal teeth and bones. A final team worked inside the park’s Visitor Center itself, helping to prepare fossils in a glassed-in prep lab viewable by the visiting public.

“I enjoyed working in the Rhino Barn,” said Danielle Brecheen, of Coalgate, “because all of the animals there were perfectly preserved and were lying the way they had when they died.”

“I never thought I’d be doing some of the stuff we did in a million years,” commented Rachel Evans, of Verden. “It was an amazing program and it’s a lot of fun, too.”

At last the students headed to an off-park site where they were ready to roll up their sleeves, get dirty, and dig. Here the team found and excavated several fossils, including ribs, vertebrae and a partial jaw of *Teleoceras fossiger*, a short-legged rhino species that lived roughly 8 million years ago. They also uncovered a two-foot length of tusk from a gomphothere, an ancient relative to mammoths.

“It was hard to have patience once you find a bone,” said Mallory Henson, Broken Arrow. “You can’t just pull it out because it could damage it. But patience was pretty hard to keep when you had an elephant tusk in front of you the size of your arm!”

The team also found some much smaller things, including a tiny arm bone of a mole, a toe bone from an ancient bird, and even the serrated pre-molar of a saber-toothed cat. “Finding these smaller fossils is great because it showed that the kids had their eyes open,” commented Czaplewski. “They were really paying attention and being careful in the work.”

“There is a story behind everything,” said Anna Frost, of Oklahoma City. “We got to try and figure out the stories behind every bone and fossil. It was just really exciting.”

The larger finds were excavated, field-jacketed in plaster and burlap, and loaded up to return to the museum’s labs for preparation and inclusion in the vertebrate paleontology collection. After an incredibly jam-packed two weeks, the students returned to Oklahoma. Tired, dirty, but with a newly invigorated sense of enthusiasm for science and discovery.

“I learned that becoming a paleontologist isn’t just a childhood dream that dies with your toys,” said Conner Keith, Ada. “I have found out that it is a very realistic and possible career.”

“There is a whole world of science that people don’t even know about and it all starts on a field, not in a lab,” said Ashley Youngblood, Mustang. “Before Paleo Expedition, science was a class. Now it’s an action.”



Right: Nick Czaplewski, curator of vertebrate paleontology, works with Paleo Expedition student Anna Frost at the Nebraska dig site. Left: Connor Keith, Ada, learns to prepare fossils in the museum’s vertebrate paleontology lab.



Mike Voorhies, curator emeritus at the Nebraska State Museum, speaks to Paleo Expedition students at a dig site at the Ashfall Fossil Beds State Historical Park.



Paleo Expedition students begin excavation work in the Rhino Barn at the Ashfall Fossil Beds.



EXHIBITS

A PASSION FOR CHOCOLATE

In honor of the special exhibition *Chocolate* from The Field Museum in Chicago, we asked museum staff and volunteers for their recommendations for the best chocolate recipes. Time and time again one name kept coming up:



Sally Johnston. Photo: Karalee Hirst

Sally Johnston, a museum volunteer who serves in the Hall of the People of Oklahoma. We asked Sally to share some of her favorite chocolate recipes with our membership readers.

Hot Fudge Cake

Ingredients:

- 1 ¼ cup flour
- ½ cup chopped nuts
- ¾ cup granulated sugar
- ½ cup milk
- ¼ teaspoon salt
- 1 teaspoon vanilla
- 2 tablespoons cocoa powder
- 3 tablespoons melted oleo
- 2 teaspoons baking powder

Sift together flour, sugar, salt, cocoa and baking powder into a mixing bowl. Stir in nuts, milk, melted oleo and vanilla. Turn into a well greased and floured 8 x 8 x 2 cake pan.

Cover with sauce:

- ½ cup granulated sugar
- ½ cup brown sugar
- ⅓ cup cocoa powder

- 1 teaspoon vanilla
 - 1 cup boiling water
- Combine in a bowl, pour over cake batter. Bake at 350° for 1 hour, serve warm.

German Chocolate Pecan Pie

(This recipe – and Sally herself – were featured in the June issue of *Norman Living*)

Ingredients:

- 1 ¼ cups flour
- 1 teaspoon salt
- 1 stick (4 ounces) plus 5 tablespoons unsalted butter, 1 stick chilled and cut into small pieces
- ¼ cup ice water
- 2 large eggs
- ½ cup dark brown sugar
- ½ cup light corn syrup
- 1 ½ cups (about 10 ounces) pecan halves, coarsely chopped
- ¾ cup sweetened flake coconut
- ¾ cup semisweet chocolate chips, (Ghirardelli – mini)

Directions:

In a food processor, pulse the flour with ½ teaspoon salt. Add the chilled butter pieces and pulse until coarse crumbs form, about 5 seconds. Drizzle in the ice water and pulse just until the dough comes together. Wrap in plastic wrap; flatten to form a disk. Refrigerate until firm, about 15 minutes. On a lightly floured work surface, roll out the dough into a 12 inch round; transfer to a pie pan. Cut the excess dough to leave a ½ inch overhang. Using your fingers, roll the dough edge under and crimp. Prick the bottom of the pie shell with a fork; refrigerate for 15 minutes. Preheat the oven to 400°. Line the shell with foil and pie weights or dried beans; bake for 15 minutes. Remove the foil and beans; reduce the heat to 375° and bake for another 12 minutes. Meanwhile, in a medium bowl, whisk the eggs. In a heavy, medium saucepan, whisk together the remaining 5 tablespoons butter and ½ teaspoon salt with the brown sugar and corn syrup over medium heat until melted and smooth.

Whisk the sugar mixture into the beaten eggs. Stir in the nuts and coconut. Spread the chocolate chips in the pie shell. Pour in the filling and bake until set, about 25 minutes. Let the pie cool completely before slicing.

Black Forest Brownies

Preheat oven to 350°, rack in the middle position.

Ingredients:

- 4 one-ounce squares semi-sweet chocolate
- ¾ cup butter
- 1 ½ cups granulated sugar
- 3 beaten eggs
- 1 teaspoon vanilla extract
- 1 cup flour
- ½ cup pecan pieces
- ½ cup chopped dried cherries
- ¾ cup mini semi-sweet chocolate chips

Prepare a 9-inch by 13 inch cake pan by lining it with a piece of foil large enough to flap over the sides. Spray the foil-lined pan with nonstick cooking spray. Microwave the chocolate squares and butter in a microwave-safe mixing bowl for one minute. Stir. Stir the sugar into the chocolate mixture. Feel the bowl, if it is not so hot it will cook the eggs, add them now, stirring thoroughly. Mix in the vanilla. Mix in the flour and stir just until it's moistened. Put the pecans and dried cherries in the bowl of a food processor and chop them together, if the cherries stick to the blade add a tablespoon of flour. Mix in the chopped nuts and cherries, add the chocolate chips, give a final stir and spread the batter in the prepared pan. Bake at 350° for 30 minutes. Cool the brownies in the pan on a metal rack. When the brownies are thoroughly cook, grasp the edges of the foil and lift the brownies out of the pan. Put them face down on a cutting board, peel the foil off the back and cut them into brownie-sized pieces.





THE RETURN OF THE HIGHLAND STONEROLLER

Sometimes species gain and lose and regain names over the course of their scientific history. As trends in taxonomic nomenclature wax and wane, and as scientific knowledge and technology advance, individual species periodically get separated into two or more; or multiple species get lumped back under a single species name. Edith Marsh-Matthews, curator of fishes for the museum, and her colleagues have recently re-described a species of Oklahoma fish that was originally named in the 19th century. *Campostoma spadiceum* is a little, red-finned fish with a long and complicated story.

The tangled scientific story of *Campostoma spadiceum* begins in 1853, with a transcontinental railroad survey expedition lead by United States Army Lt. Amiel W. Whipple. The survey commenced in July of that year, beginning from Ft. Smith, Arkansas, and travelling, over the next 3 years, through what would later become Oklahoma on its way to California. The expedition included several scientists, including an astronomer, a geologist, a botanist, a naturalist, and H.B. Möllhausen, a topographer and artist from Washington D.C.

Möllhausen collected many specimens along the way that were sent back east to Charles F. Girard at the United States National Museum. Among these were three specimens of stonerollers, one of which, collected near Ft. Smith, Girard formally described as *Dionda spadicea* in 1856.

After that, the story begins to get complicated.

In the mid 1880s, scientists Jordan and Gilbert lumped this species along

Campostoma anomalum. And that is where they remained until now.

In 1985, OU ichthyologist William Matthews and Bob Cashner, a colleague from the University of New Orleans, were conducting fish surveys in southeast Oklahoma when they noticed a type of stoneroller with red fins. The team noted the unusually colored fish throughout southeast Oklahoma and western Arkansas, but it wasn't until 2004 when Matthews and Cashner met at a professional conference and decided, along with museum curator Edie Marsh-Matthews and others, to follow up on their findings.

In July of that year, the team undertook a second survey to collect additional specimens and to document the range of the fish. Based on studies following this survey, the team

concluded that the little red-finned stoneroller belonged firmly in the *Campostoma* genus, but deserved its own species name. Thus the scientific name of the little red-finned stoneroller reverted once again to the first one it was given, back in 1856 by Charles Girard, and its new name becomes *Campostoma spadiceum*, or the Highland stoneroller.

And everything old is new again.



Campostoma Spadiceum. Photo: Edith Marsh Matthews

with two others under a new genus and called it *Zophendum plumbeum*. In 1886 another scientist named Seth Meek muddled the waters significantly by declaring *Z. plumbeum* and our friend *D. spadicea* synonymous with *Hybognathus plumbea*, but then later referring to the species in print as *Z. plumbeum* as if the new name had never been assigned. In 1929 researchers Hubbs and Ortenburger lumped all three fish into yet another genus and declared them



UPCOMING EVENTS

COMING UP

Neuroethology Presidential Dream Course Lecture Series

First of all... what is neuroethology? Neuroethology is a branch of science that seeks to understand the neural basis of natural animal behaviour. It's an interdisciplinary field that combines neurology – the study of the nervous system – with ethology, or the study of animal behavior.

This fall, the museum is partnering with the *University of Oklahoma Cellular & Behavioral Neurobiology Graduate Program* to present a series of free public lectures by leading scientists in the neuroethology field. Scientists will speak on a variety of topics, ranging from venomous spiders to birdsong to love and bonding. Lectures begin Sept. 9. We encourage members to take part in these fascinating talks to learn more about this growing field of study.

including seeing and touching an actual human brain, seeing and hearing electrical signals from their own bodies, and seeing how quickly their brains can change in response to a change in perception of the world. Advanced registration is required and space is limited. Members' registration begins Aug. 16. Non-members may register beginning Aug. 30. To register, call the museum education department at (405) 325-1008.

Visit the website for a full listing of featured speakers: www.snomnh.ou.edu/publicprograms

Saturday, Sept. 11, 10 a.m. to Noon, or Monday, Sept. 13, 6:30 to 8:30 p.m. Volunteer! Volunteer Orientation:

Be part of the excitement! Join our

wonderful team of volunteers and see the museum in a new light. Become a docent in one of our world-class galleries, work with children in the interactive Discovery Room or see what opportunities might await behind the scenes! Those interested in becoming a volunteer should attend one of these orientation sessions. Orientation is held in the Kerr Auditorium, with refreshments following in the Plains Classroom.



Oct. 2 through Jan. 2 Mediterranean Treasures: Selections from the Classics Collection

This exhibition features some 100 of the most significant objects from the museum's classics collection, dating from between the 21st century BCE and the 3rd century CE. These objects, crafted in ceramic, stone, metal and glass, display the rich artistic and cultural diversity of the ancient Mediterranean region, including Europe, North Africa and the Middle East. The exhibition highlights the fact that, while their artistic approaches were unique, the cultures that developed them were related.

The classics collection of the Sam Noble Museum was founded in 1939 when H. Lloyd Stow, professor of Greek at the University of Oklahoma, and his wife

Hester began assembling objects from the ancient Mediterranean for study and exhibition. Over the years this collection has grown through numerous purchases and, more importantly, generous donations from individuals such as Ambassador George C. McGhee and Dr. Mark Allen Everett. Museum purchases and orphaned collections from outside institutions have also aided its growth. The collection includes objects from a wide variety of civilizations, and now contains more than nine hundred objects and more than two hundred casts and replicas.



Tuesday, Oct. 19, 5:30 to 9 p.m. Members Night Behind the Scenes

Don't miss this favorite annual event exclusively for museum members! Members are invited behind the scenes at the museum to tour our collections and laboratories, view demonstrations, and meet museum curators and other staff. Members Night is a family friendly event sure to fascinate members of all ages. Sponsored by Republic Bank & Trust and Sonic, America's Drive-in. Not a member yet? Join today online at www.snomnh.ou.edu/membership. Family memberships begin at \$45.



MAYAN HIEROGLYPHS

Hieroglyphics is a form of writing that uses images or representations. Many ancient civilizations used hieroglyphs, such as the Egyptians and the Maya. Maya hieroglyphs are mostly logosyllabic which means that the pictures stand for syllables or words.

The Ancient Maya lived in what is known as Mesoamerica, an area that includes central Mexico, Guatemala, Belize, El Salvador and Honduras. Today, there are as many as seven million Maya still living in this region.

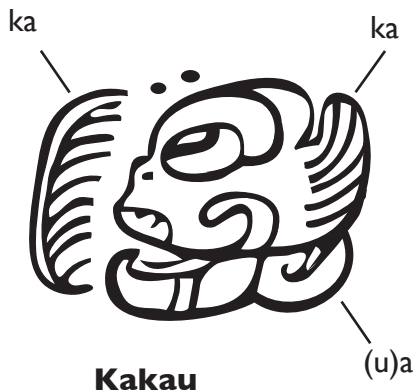


Illustration from *The Aztec and Maya World*, by Charles Phillips

Kakau, or cacao is the Maya word for what we call chocolate today. Look at this hieroglyph for the word *kakau*. Compare it to the Maya alphabet, pictured at right. Can you find the images that match each symbol?

Now it is your turn! Use the glyphs to write a word. You could write your name, your favorite kind of animal, your favorite food, or anything you want! Remember, the ancient Maya language did not have the same syllables as we have today, so this is your chance to be creative!



Mayan alphabet courtesy of authenticmaya.com

NAME _____

FAVORITE ANIMAL _____

FAVORITE FOOD _____

SECRET MESSAGE _____



MUSEUM PARTICIPATES IN NATIONAL INTERNSHIP PROJECT



Melissa Barton. Photo: Karalee Hirst

The Sam Noble Museum proudly announces a new partnership with the Society for the Preservation of Natural History Collections (SPNHC) in participating with the Research Coordination Network for Building a National Community of Natural

History Collections program during the summer of 2010 (RCN). The goal of the RCN is to create channels of communication among people working in natural history collections around the country, including researchers using those collections as well as other programs dealing with issues related to collections. With funding by the National Science Foundation, opportunities for building these channels of communication are being achieved through workshops, symposia and internships.

As part of the project, two student internships were created for those working on best practices in natural history collections. The first was awarded to Harvard University to address the challenges and concerns of digitization and natural history specimens. The

second internship, awarded to Melissa Barton, from Portland, OR, will take place here at our museum this summer. The internship will focus on creating the foundation for a resource web page concerning museum best practices. Barton received her master's degree in Museum and Field Studies from the University of Colorado at Boulder in May of 2010. She will be working with SNOMNH Collections Managers Liz Leith (Archaeology) and Marcia Revelez (Mammals).

The RCN is funded by the National Science Foundation (NSF) and supported by the American Institute of Biological Sciences (AIBS), the Natural Science Collections Alliance (NSCA), and the SPNHC. Additional information about the project can be found online at www.collectionsweb.org.

HERITAGE WALKWAY STONES HONOR LOVED ONES

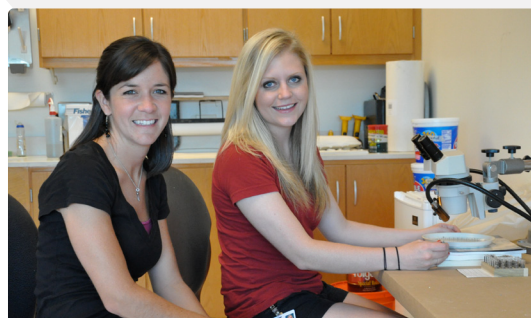
Ann Randle was a member of the first volunteer class at the museum, and volunteered for six years, working as a docent as well as behind the scenes for the education and volunteer offices. She passed away in the fall of 2009 after a long battle with cancer. This spring, her husband, Dr. Bill Randle, and their three children, decided to combine the memorial gifts made by more than 70 of her friends and family members to have a stone on the museum's Oklahoma Heritage Walkway engraved in her memory.

At this time, of the 151 engraved pavers on the museum's walkway, 17 have been dedicated in memory of a loved one. "It's a lovely tribute to honor a family

member in this manner," said Pam McIntosh, membership coordinator for the museum. "It serves as an honor to the individual and to the museum itself. Each of these people had a special connection to our museum, and their names will be part of this institution for generations to come. It is especially meaningful to us that the family members have chosen the museum to be the means by which they honor their memory."

Oklahoma Heritage Walkway stones are available for engraving with a gift of \$5,000 to the museum's endowment fund. For more information, contact Pam McIntosh at (405) 325-5020.

PECK SCHOLARSHIP RECIPIENTS



Allison Morgan (left) and Katie Thompson, 2010 Peck Scholarship recipients. Photo: Karalee Hirst

Two new recipients of the Nathan L. Peck Memorial Undergraduate Research Assistantship have been selected by the museum's paleontology department for the 2010 -2011 school year: Katie Thompson, of Oklahoma City; and Allison Morgan, of Norman. Both are Microbiology students who plan to enter medical programs. The students will be working in the vertebrate paleontology laboratory. Morgan will assist with the reconstruction of a baby *Apatosaurus* for display in the museum's Hall of Ancient Life. Thompson will work with new imaging equipment, helping produce three-dimensional images of fossils using data from CT scans.



Sam Noble Museum

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