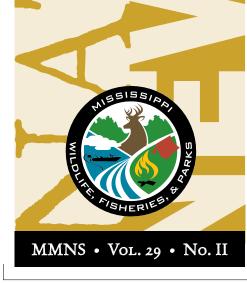
## Museum of Natural Science



BIGBADBOLD AND BACK!

## DINOSAURS

ROBOTIC EXHIBIT

## JUNE 2, 2012–JANUARY 6, 2013



ake a journey back to prehistory when giant animals roamed the earth, swam in the seas and soared in the sky. Meet a T. rex up close, marvel at the long-necked Apatosaurus and watch the skies for the flying Pteranodon. But beware, these creatures look, move and sound like the real thing. This exhibit includes over 20 robotic dinosaurs,

a rubbing station, and a fossil dig site. See www.msnaturalscience.org/dinosaurs2012 for more details.

Kokoro, the company that created these robotic dinosaurs, consults with distinguished paleontologists on all aspects of the creatures' attributes and functioning during development. Each creature is individually handcrafted and computer-programmed.

Join us in June and July for Fun Fridays (SEE PAGE 3). And pick up unique dinosaur gifts in the Museum's Dragonfly Shoppe (SEE PAGE 12).

Dinosaurs is sponsored locally by the Mississippi Department of Wildlife, Fisheries, and Parks, Mississippi Museum of Natural Science Foundation, Gertrude C. Ford Foundation, Nissan of North America, Inc., Regions Bank, Dr. Ollye and Dr. Aaron Shirley, and Chris and Steve Zachow.

### FEATURED TUESDAY LECTURE: **Dinosaurs of the South** (and other prehistoric giants)

August 7, 2012 from 12noon – 1pm speaker: Judy Cutchins, natural science author/educator, fernbank science center and fernbank museum, atlanta

Finding out about dinosaur life in the southern states is challenging. Unlike the Western U.S., complete skeletons in the South are rare. But paleontologists have uncovered enough fossil evidence to know that a variety of dinosaurs, giant sea creatures and land reptiles once inhabited what is now the southeastern U.S. Join us to learn just what amazing prehistoric giants lived in or near Mississippi and what the South was like 80 million years ago.



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## Department



ADMINISTRATION Sam Polles, Ph.D. Robert Cook

Larry Castle TECHNICAL PROGRAMS William "Billy" Deviney Jerry Munro Bryan Jones **Charles Rigdon** John C Stanley IV

## Museum Staff



DIRECTO Libby Hartfield **Charles Knight** 

ASSISTANT MUSEUM

**ADMINISTRATION** AND SUPPORT Cindy Bearden

Harold Garner FACILITIES MAINTENANCE MANAGER Charles Jeffcoat

Mary Jenkins SPECIAL PR JECTS OFFICER

Rebecca Jones SHOP MANAGER/SPECIAL EVENTS

Fran Noone GIFT SHOP ASSISTANT Ann Peden

VOLUNTEER SERVICES Tracy Reid

Mary Stripling

#### AOUARIUMS Karen Dierolf

John Hardy

lames Hill Mike Stegall

AOUARIS

#### EDUCATION Angel Rohnke

Megan Fedrick COORDINATOR Mary Alston PRESCHO L EDUCATOR

Crystie Baker CH NATURALIST Ioan Flder DDE

Jonathan Harris

Yolanda Hawkins







#### Dear Members.

This year we are celebrating the 80th anniversary of the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP). The MDWFP and the Museum of Natural Science were started in 1932, during the depths of the Great Depression. Just goes to show us what can be done by a small group of dedicated people even when funds are very tight!

Please make plans to visit the Museum of Natural Science soon to see Dinosaurs, the biggest robotic dinosaur exhibit that has ever come to Mississippi, and don't miss the First Tuesday lectures and Fun Fridays associated with this incredible exhibit. Thanks to the sponsors and volunteers who are making this dynamic exhibit come to life. During the seven and a half months that Dinosaurs will inhabit the Museum, visitors will learn about Mississippi's early prehistory. Perhaps there are also lessons we can learn about our present situation from these extinct creatures.

Since January 27th, more than 36,800 people have experienced Animal Secrets, an interactive education exhibit for young children. The Chisholm Foundation, Feild Cooperative Associates, Inc., Plum Creek, Paul Benton, Sanderson Farms, Trustmark Bank, Wheeler and Ashley Parker, and Steve and Chris Zachow helped finance this engaging play space for our young audience. Thanks so much to all of you who made this experience possible for so many families.

We have been able to re-instate outreach education services to Northwest Mississippi, including the Delta with a new Museum Educator, Jennifer Holcomb, and the calendar is already filling up with great programs for her to do.

I want to thank the entire Museum staff and our wonderful volunteers for their hard work and dedication to providing excellent service for both Mississippians and tourists that visit our state.

Libby Hartfield

### **CELEBRATING 80 YEARS OF CONSERVATION**



In 2012, the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) is celebrating 80 years of conserving

natural resources statewide. MDWFP's story is about hunting, fishing, conservation, and education. But, it's also about protecting the traditions, rites of passage, weekend getaways and campfire moments that make living in and visiting Mississippi such a rich experience.

In the early 1930's, Fannye A. Cook, who became the Museum's first director, campaigned throughout Mississippi for a comprehensive conservation program. In 1932, the Mississippi legislature created the Mississippi Game and Fish Commission. Since then the agency has been the state's premier conservation organization and is now known as the Mississippi Department of Wildlife, Fisheries, and Parks.

The Museum was essentially born out of Fannye Cook's passion for collecting and studying Mississippi's natural world. In 1939, the Museum opened to the public as a permanent state museum and was designated as Mississippi's official Natural Science Museum by the state Legislature in 1971.

#### MISSION STATEMENT:

The mission of the Mississippi Museum of Natural Science is to promote understanding and appreciation of Mississippi's biological diversity through collections, research, scientific databases, education, and exhibits; and to inspire the people of our state to respect the environment and to preserve natural Mississippi.

Joseph M. McGee Isabel Mills **Nicole Phillips** 

EDUCATION (CONT.)

Jennifer Holcomb

## Corey Wright

EXHIBIT MANAGEMENT Norton McKeigney

Ray Terry EXHIBITS SUPERVISOR

NATURAL HERITAGE Adrianne Clark Aaron Francois

Tom Mann

Andy Sanderson Heather Sullivan

**Joelle Wilkens** DATABASE MANAGER

#### RESEARCH AND COLLECTIONS

Jeremy Copley COLLECTIONS/RESEARCH ASSISTANT R.L. Jones, Ph.D.

Scott Peyton

George Phillips Matt Roberts

Kathy Shelton LaToya Turner

Nicholas Winstead



ATOR

## Fun Fridays Every Friday should be a fun Friday!

un Fridays are interactive, hands-on programs offered in June and July from 10AM - 12NOON. An adult must accompany children.

### **UPCOMING FRIDAY DATES ARE:**

- JUN 1: Dinomite!
- JUN 8: Food Chain Friday
- JUN 15: Animal Homes
- JUN 22: Dino Discoveries
- JUN 29: Dinobirds
- JUL 6: Shades & Shapes of Green: Leaves of Trees in Summer
- JUL 13: Let's Talk Scat
- JUL 20: Fantastic Fossils
- JUL 27: Fishy Fossils

## Snake Day Don't let this one slither by.

erpetologist Bryan Fedrick will help you spot the differences between Mississippi's venomous and non-venomous snakes. Catch one of Fedrick's interactive discussions from 10AM-11AM and 12NOON-1PM. Live snakes will be exhibited from 10AM-3PM, with experts on-hand to answer your questions.



## Fossil Friday Be a digger for a day.

ig into the Museum's fossil pile and enjoy fossil activities.

## Special Events

**Fun Fridays** FRI · JUN 1, 8, 15, 22, 29; JUL 6, 13, 20, 27 10am to 12noon

> Snake Day TUE · JUN 5· 10AM to 3PM

FOSSIL Friday FRI · OCT 12 · 10AM to 12NOON

> Halloween Event FRI · OCT 26 · 6 to 8PM

TURKEY TUESDAY TUE · NOV 20 · 10AM to 12NOON

## **Natural Christmas Crafting**

FRI · DEC 7; SAT · DEC 8 & 15 10am to 12noon

## Halloween Event Awaken the night owls!

ew evening Halloween event is in the works! Watch your email and the Museum's online calendar as details develop.

## Turkey Tuesday Calling all Pilgrims!

hanksgiving is a perfect time to spend with family... Join us for family fun and special activities for all ages!

## Natural Christmas Crafting Fun holiday activities

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**Merry Mammals** 

DEC 7 · FRI · 10AM-12N00N Join us for some cool warm-blooded and furry fun activities!

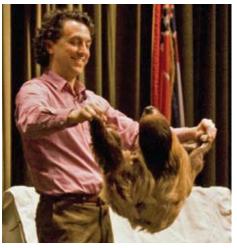
## **Christmas for the Birds**

DEC  $8 \cdot SAT \cdot 10_{AM}$ -12NOON Learn how to create natural ornaments that will help feed the birds during the winter months.

## **Nature-Made Christmas**

DEC 15 · SAT · 10AM-12NOOM Make fun ornaments using natural objects.

EXAMINE TURKEY FEATHERS UNDER A MICROSCOPE, MAKE YOUR OWN TURKEY CALL, AND LEARN WHAT TURKEYS EAT FOR LUNCH AT TURKEY TUESDAY!



ROB MIES WITH MO, THE TWO-TOED SLOTH





BEST IN SHOW "JUST BEE' BY DONNA ABBOTT



JENNIFER HOLCOMB, OUTREACH NATURALIST

## Announcements

## NatureFEST 2012 is a Big Hit

Il Aboard!!! Over 2,000 visitors attended NatureFEST on April 14, 2012. This year, the Museum partnered with Mississippi Public Broadcasting and Jim Henson's Dinosaur Train. Kids were able to become Dino Train Nature Trackers while doing activities that promoted conservation and native Mississippi species. Other new activities this year included crafters from the Mississippi Craftsman's Guild, live music, Buffalo Peak, and Inky the Clown. Rob Mies returned with his program Biodiversity Live and his two-toed sloth friend, Mo. Reptile and raptor shows were also presented along with the research and collections tours, Quapaw Canoe rides on the Pearl River, nature hikes on the Museum trails, and our conservation partners showed up to share valuable information about wild Mississippi. Throughout the day, families were greeted by Cat in the Hat, Leona Lion, Smokey Bear, and were able to visit the touch tank, dig for fossils, get their faces painted, and snack on tasty treats. Watch your email, the next Natural Newsline and on our website for details about next year's NatureFEST!

## *Mississippi Museum of Natural Science Receives Highest National Recognition*

he American Association of Museums has renewed the Museum's accreditation. Accreditation is a widely recognized seal of approval that brings national recognition to museums. Accreditation is a very rigorous but highly rewarding process that examines all aspects of a museum's operation and generally takes as much as three years. Of the nation's estimated 17,500 museums, 775 are currently accredited. The Mississippi Museum of Natural Science is one of only five museums accredited in Mississippi. Accredited museums are looked up to as leaders in the field and must be re-accredited every ten years. The Mississippi Museum of Natural Science has been accredited since 1982.

## *3rd Annual "Back to Nature" Photography Contest Winners*

he "Back to Nature" contest is designed to encourage Museum visitors to venture out and capture the natural beauty of the wildlife and habitats seen on the grounds of the Mississippi Museum of Natural Science and along the trails of LeFleur's Bluff State Park. The Museum is accepting entries for the fourth annual contest now through February 1, 2013. For details, visit www.msnaturalscience.org and click on The Latest or call 601-576-6000 for official guidelines and entry form.

Best in Show winner, Donna Abbott "Just Bee" 1st Place Wildlife Adult winner, Donna Abbott "Sweet Dreams" 1st Place Landscape Adult winner, Eileen Allen "Reflections of Nature in Beauty" 1st Place Plants Adult winner, Donna Abbott "Listen To Me" 1st Place Wildlife Youth winner, Ricky Fruser "Just Across the River, Please" 1st Place Landscape Youth winner, Jessie Cox "Blues Hues Winter" 1st Place Plant Youth winner, Olivia Hellings "Points"

## New Outreach Specialist Joins the Team

ennifer Holcomb began at the Museum as a volunteer with strong interests in wildlife conservation and education, and is now one of the Museum's Outreach Educators. Jennifer grew up in Greenville, Mississippi and attended Delta State University where she received her B.S. in Biology. Jennifer is a wildlife enthusiast with a desire to encourage children to explore Mississippi's natural environment.

## Looking for Microscopic Mississippi Fossils

## Uncovering Mississippi's Bryozoan Treasures

ississippi contains an abundant and speciose fossil record, as the many patrons of our annual Fossil Road Show event (held every March) can attest. However, most Mississippians may not be aware of the many types of microscopic fossil animals (and plants) that compose the state's ancient fossil bearing sediments, particularly the limestones and marls ("limey" clays). One particular group of tiny organisms recently attracted researchers from outside our state, as far away as London, England. In 2010 and 2012, researchers from England, Canada, and Ohio, visited Mississippi in search of the fossil remains of a group of tiny colonial marine animals called **bryozoans**. Although fragments of their stalked and encrusting colonies can be recognized with the unaided eye, the individual animals that build the colonies are microscopic—averaging only 1.0 millimeter in diameter.

After examining several MMNS specimens loaned to the Natural History Museum in London, NHM paleontologist Dr. Paul Taylor requested the assistance of MMNS paleontology curator George Phillips in organizing two expeditions to north (2010) and central (2012) Mississippi in order to systematically collect additional material to supplement the initial samples. The two collecting expeditions produced a bounty of bryozoans, from Benton in Yazoo County to New Albany in Union County to Waynesboro in Wayne County. Although most of the collected material is housed here at MMNS (and NHM), some of the bryozoans went to Dr. Noel James of Queens University, Kingston, Ontario, for chemical analyses of their fragile skeletons. In addition to bryozoans, the research team from the College of Wooster (Ohio) was looking for other tiny fossil creatures that, like bryozoans, attached to hard objects on the seafloor.

If you've visited any of Mississippi's larger freshwater lakes with any frequency, then you've seen living bryozoans attached to dead trees and other objects in the water along the shore line. The objects in question are globular, gelatinous masses of the bryozoan *Pectinatella*. The colonies of *Pectinatella* are translucent (i.e. somewhat transparent) but are stained green due to blue-green algae associated with their surfaces. For people without a background in biology, they've been erroneously labeled as 'space jelly' or the result of some disease or even mutational process due to contaminated waters. Nothing could be further from the truth! These bryozoans can actually clean turbid water by feeding on algal blooms.

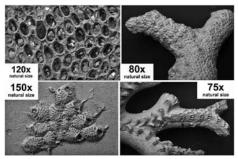
Whether you're collecting fossils or paddling a Mississippi lake, keep your eyes peeled for this lesser known and even under-appreciated group of animals - the Bryozoa.



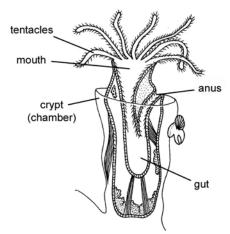
FRAGMENTS OF FOSSIL BRYOZOAN COLONIES. MOST COLONIES ARE STALKED OR ROUNDED WITH LITTLE VARIATION AMONG SPECIES, THUS COLONY SHAPES ARE TYPICALLY UNHELPFUL IN IDENTIFYING BRYOZOANS ON ANY TAXONOMIC LEVEL. THEREFORE, IT IS THE SHAPE OF THE INDIVIDUAL ORGANISMS, SPECIFICALLY THEIR CRYPTS, THAT IS USED TO DISTINGUISH BETWEEN DIFFERENT SPECIES (SEE ACCOMPANYING SEM IMAGES).



WITH ASSISTANCE FROM MMNS PALEONTOLOGY CURATOR GEORGE PHILLIPS (FAR RIGHT), RESEARCHERS FROM LONDON, ENGLAND, AND COLLEGE OF WOOSTER, OHIO, SCOUR THE SURFACE OF THIS LOT NEAR PONTOTOC, MISSISSIPPI, LOOKING FOR FRAGMENTS OF FOSSIL BRYOZOAN COLONIES.



SCANNING ELECTRON MICROSCOPE (SEM) IMAGES OF VARIOUS SPECIES OF FOSSIL BRYOZOANS RECENTLY FOUND IN MISSISSIPPI. THESE DATE TO THE LATTER PART OF THE CRETACEOUS PERIOD AND ARE BETWEEN 65 AND 75 MILLION YEARS OLD. A BRYOZOAN COLONY IS COMPOSED OF MANY ANIMALS THAT BUILD AND LIVE IN TINY CRYPTS THAT ARE INTIMATELY CONNECTED WITH ONE ANOTHER. SOME OF THE CRYPTS ARE OUTE ELABORATE IN CONSTRUCTION AND ARRANGEMENT.



BRYOZOAN ANATOMY. A BRYOZOAN POSSESSES CILIATED TENTACLES THAT IT USES FOR GATHERING FOOD FROM THE SURROUNDING WATER. WHEN THREATENED, THE ANIMAL WILL WITHDRAW THE FEEDING ORGAN INTO ITS CRYPT FOR PROTECTION. IMAGE, IN MODIFIED FORM, FROM THE MARINE LIFE INFORMATION NETWORK WEB SITE.



THE FRESHWATER BRYOZOAN PECTINATELLA IS COMMONLY SEEN ATTACHED TO OBJECTS ALONG THE SHORELINE OF MANY LARGE MISSISSIPPI LAKES.

## **Ongoing Events**



### **MPB RADIO SHOW**

Listen to Museum director Libby Hartfield and local veterinarian Dr. Troy Majure every Thursday morning at 9<sub>AM</sub> as they take callin questions from listeners about all of Mississippi's critters—big or small, furry or scaled, wild or domestic. Join the live fun with a call to the team at 877-672-7464.

#### FUN FRIDAYS

This summer, join the Museum's Education staff for Fun Fridays and experience interactive, hands-on programs coordinated with our current feature exhibit *Dinosaurs*. These family-friendly programs, for accompanied children, are offered every Friday in June and July.

#### **FISH FEEDING**

Meet some of our most fascinating aquarium inhabitants, every Tuesday and Friday at 10<sub>AM</sub>, and Sunday at 2<sub>PM</sub>.

#### **CREATURE FEATURES**

Scheduled or spontaneous, these informal programs feature live or mounted animals. Scheduled every Saturday at 10<sub>AM</sub> and 2<sub>PM</sub>, Creature Features make learning fun!

### **LECTURE SERIES**

On the first Tuesday of the month (except Dec. and Jan.), the Museum offers lectures addressing a variety of natural science subjects. Unless noted otherwise, the lectures take place from 12NOON to 1PM in the Museum's Rotwein Theater. Lectures are FREE to Museum Foundation members or regular admission visitors. Please show your membership card at the gate.

#### **BIRD WALKS**

On the first Saturday of the month (except Dec. and Jan.), join experienced birders and Jackson Audubon Society members for a walk on the wild side. Bird walks for family groups and beginners are from 8<sub>AM</sub> to 10<sub>AM</sub> at Lefleur's Bluff State Park Campground. Park Fee: \$3. (This is not an Audubon fee—bird walk is free.) Call Mary Stripling at 601.956.7444 for details.

### JUN 1, 8, 15, 22 & 29 · 10<sub>AM</sub>-12<sub>NOON</sub> Fun Fridays

Interactive, hands-on programs—an adult must accompany children. (SEE PAGE 3 FOR TOPICS.)

JUN 1 · FRI · 6-8PM · PREMIERE PARTY Dinosaurs Exhibit Premiere Party For Members Only

#### JUN 2 · SAT · 7–10:30<sub>AM</sub> · EVENT Katfishin' Kids at Turcotte Lab

Fun fishing at Turcotte Lab off Hwy 43 at Ross Barnett Reservoir, for ages 15 and under, accompanied by adults. Equipment and refreshments are FREE.

## DINOSAURS

JUN 2, 2012-JAN 6, 2013 · SPECIAL EXHIBIT Dinosaurs Exhibit Opens Therefore RIC, RAD, ROLD, and R

They're BIG, BAD, BOLD, and BACK with over 20 of their closest friends!

JUN 5 · TUE · 10AM-11AM & 12NOON-1PM · LECTURES Snake Day Lectures: De-mystifying MS Snakes

SPEAKER: Bryan Fedrick; Herpetologist Learn the value of our native snakes and how to distinguish venomous species from non-venomous ones. Live snakes will be exhibited from 10AM to 3PM.

#### JUN 11-14 (ENTERING K-1) · JUN 18-21 (ENTERING 2-3) · JUN 25-28 (ENTERING 4-5) · SUMMER CAMP WILD about Summer Camp

Camp WILD (for the younger campers) is a place where kids explore the outdoors, make new friends, and delve into nature. For details, contact Nicole Smith.



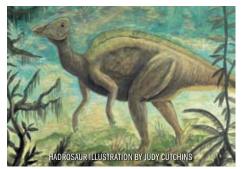
JUL 3 · TUE · 12NOON-1PM · LECTURE Ever Wonder Why and How Birds Sing? SPEAKER: Dr. Adam Rohnke; Extension Wildlife Associate, Mississippi State University Extension Service Bird vocalizations can vary from very simple calls like the honk of Canada Goose to the complex song of the Wood Thrush. There are many biological and environmental reasons for these differences in song and call complexity among different bird species. The lecture will discuss these reasons including mechanics, the purpose of song, types of song and calls, dialects and much more.

JUL 4 · WED · HOLIDAY Museum Closed

#### JUL 6, 13, 20 & 27 · 10AM-12NOON Fun Fridays

Interactive, hands-on programs—an adult must accompany children. (SEE PAGE 3 FOR TOPICS.)

JUL 23-27 · 9<sub>AM</sub>-3<sub>PM</sub> · WORKSHOPS Teacher Workshops For details, contact Angel Rohnke or Megan Fedrick.



AUG 7 · TUE · 12NON-1PM · LECTURE Dinosaurs of the South (and other prehistoric giants)

SPEAKER: Judy Cutchins; Natural Science Author & Educator, Fernbank Science Center and Fernbank Museum, Atlanta Join us to learn just what amazing prehistoric giants lived in or near Mississippi and what the South was like 80 million years ago.

SEP 3 · MON · HOLIDAY Museum Closed

### SEP 4 · TUE · 12NOON-1PM · LECTURE Mississippi's Native Pollinators

SPEAKER: Joelle Wilkens; Conservation Resource Biologist, MMNS

Shiny hineys and fuzzy bums! There's more to pollination than you think! Meet our surprising native pollinators, learn why they are considered a keystone species, and how you can help them.

SEP 21 · FRI · 9AM-2PM · EVENT Make a Splash

This fun, interactive water day allows students to explore a diversity of water related topics. For details, contact Megan Fedrick.

#### OCT 2 · TUE · 12NOON-1PM · LECTURE Edible and Useful Plants of the Gulf South

SPEAKER: Dr. Charles Allen; Senior Botanist, Colorado State University, Fort Polk, LA and Owner of Allen Acres B&B, a nature oriented paradise in Louisiana

This lecture will be a hands on (actually mouth on and nose on) presentation with fresh and dried samples of edible and useful plants. A brief overview of each plant is presented and then participants are encouraged to graze on the salad plants. Freshly brewed teas from an assortment of dried plants such as New Jersey Tea leaves, blackberry leaves, persimmon leaves, and others will be prepared for sipping. Jars of dried leaves of red bay, mountain mint, and other spices will be available for all to smell. Recipes for selected edibles will be provided.

#### OCT 12 · FRI · 10AM-12NOON Fossil Friday

Dig into the Museum's fossil pile and enjoy fossil activities.

## OCT 26 · FRI · 6-8PM · EVENT Halloween Event

New evening Halloween event is in the works! Watch your email and the Museum's online calendar as details develop.

## **OCT 27** · SAT · 9AM – 3PM · WORKSHOP **WILD about Bats - Teacher Workshop** For details, contact Angel Rohnke.



NOV 6 · TUE · 12NOON-1PM · LECTURE Water is Life, No Water, No Life: Adopt-A-Stream

SPEAKER: Debra Veeder; Adopt-A-Stream Coordinator, Mississippi Wildlife Federation

What would we do without clean water? How do you use your water? Many answer; drink it, bathe in it, but what about swimming, fishing, boating, watching wildlife? You wouldn't want to do any of these activities in dirty polluted water! Come learn about the Adopt-A-Stream program. How you can help to keep our rivers, creeks and other water resources clean. What you can teach your children about our precious and finite water resources. Let's make a positive difference for Mississippi streams.

**NOV 20** • TUE • 10<sub>AM</sub>-12<sub>NOON</sub> **Turkey Tuesday** Family fun and special activities for all ages!

NOV 22 & 23 · THU & FRI · HOLIDAY Museum Closed

## DEC 6, 7 & 8 · THU, FRI & SAT · 5-8PM Parents & Kids Magazine Christmas Fest

See www.msnaturalscience.org for details as they develop.

**DEC 7** · FRI · 10AM-12NOON **Merry Mammals** Join us for some cool warm-blooded and furry fun activities!

## **DEC 8** $\cdot$ SAT $\cdot$ 10am-12noon $\cdot$ event **Christmas for the Birds**

Participants of all ages will learn how to create natural ornaments that will help feed the birds during the winter months.

## DEC 15 · SAT · 10am-12noon · event Nature Made Christmas

Participants of all ages will make fun ornaments using natural objects.

DEC 24 & 25 · MON & TUE · HOLIDAY Museum Closed

DEC 31 & JAN 1 · MON & TUES · HOLIDAY Museum Closed

## JAN 6, 2013 · SUN · SPECIAL EXHIBIT Dinosaurs Exhibit Closes

### JAN 17, 2013 · THU · 6-8PM Family Fun Science Night

(PRIMARILY FOR FAMILIES OF ELEMENTARY STUDENTS) Cost: \$2 per person / FREE for members with current membership Join us for a night of hands-on science fun! Explore a touch tank, wildlife, fossils, and live animals. Watch a diver feed the fish, plus much more!

Note: Dates are subject to change. See msnaturalscience.org for more details on events.

## For Teachers

## WET AND WILD CEU CREDITS

The Museum offers six teacher workshops sponsored by Project WILD and Project WET, with CEU credits available.

## WORKSHOPS

JULY 23 - Wetlands for the Wee Ones JULY 24 - Wild About STEM JULY 25 - Project WET JULY 26 - Wild About Biology JULY 27 - Rock On! Earth Sciences Workshop

## CONTACT

To schedule a workshop or field trip, reserve a resource kit, download classroom materials, or help meet your classroom needs, contact Angel Rohnke at angel.rohnke@mmns.state.ms.us or Megan Fedrick at smegaroni@yahoo.com or call 601-576-6000.

## For Preschoolers

The Museum's "hands-on" Preschool Room is designed for pre-kindergartners, ages 3-5. (THE PRESCHOOL ROOM IS OPEN WHEN A STAFF MEMBER OR A VOLUNTEER IS AVAILABLE. THE SCHEDULE IS SUBJECT TO CHANGE.)

## **VISITOR ACCESS**

PRESCHOOL CHILDREN MON-FRI 1-4pm SAT 9:30am-12noon & 1-4pm SUN 1-4pm

TIME FOR TWOS (ages 2 & under) 2nd TUE 9:30AM-12NOON

STORY TIME (ages 3 to 5) WED 1:15, 2:15, & 3:15 pm (AUG-MAY) TUE (EXCEPT 2<sup>wo</sup>) & THU 10:15 & 11:15AM (JUN & JUL)

## **RESERVED GROUP ACCESS**

## JUNE-AUGUST CLASSES

"Do I Look Good, or What?" DISCOVER THAT THE OUTSIDE COVERINGS OF ANIMALS CAN BEAS DIFFERENT AS THE ANIMALS THEMSELVES.

## SEPTEMBER & OCTOBER CLASSES

"Whoo Am I? What Do I Eat?" UNDERSTAND THE IMPORTANCE OF OWLS, THE STRUCTURE OF THE OWL ITSELF, AND ITS FOOD CHOICES; EXAMINE AN OWL PELLET.

## NOVEMBER & DECEMBER CLASSES

"Do You Like Me?" CHILDREN MAY EXPRESS AN OPINION OF WILD ANIMALS, THEN LEARN MORE ABOUTTHE ANIMALS AND CHANGE THEIR OPINION!

In AUG-MAY, class times are 9AM, 9:45AM, & 10:30AM, MON-FRI(except 2<sup>nd</sup> Tuesday). In JUN & JUL, class times are the same, but classes are offered only on WED & FRI. Call Joan Elder for reservations (601-576-6031).

## PRESCHOOL SUMMER CAMPS

Call Joan Elder for details (601-576-6031).

7



NORTH MS FISH HATCHERY MANAGER JUSTIN WILKENS GAVE VOLUNTEERS A TOUR OF THE HATCHERY ON A RECENT FIELD TRIP.



VOLUNTEERS SANDRA WEST AND COREY JOHNSON SIGNING UP VISITORS FOR FREE CANOE RIDES AT NATUREFEST.



VOLUNTEER BROOKE NASH TEACHES VISITORS AT A "DINO TRACKER" STATION AT NATUREFEST.



ALTHOUGH NOT FOUND IN LARGE NUMBERS, THE PALLID STURGEON INHABITS THE MAIN CHANNELS OF THE MISSOURI AND MISSISSIPPI RIVERS FROM MONTANA TO THE GULF OF MEXICO.



PADDLEFISH LIVE IN RIVERS AND FLOODPLAINS THROUGHOUT MISSISSIPPI AND CAN REACH LENGTHS OF MORE THAN 6 FT. AND WEIGH WELL OVER 100 LBS.

## Introducing LEAD Teen New level of service available for teen volunteers

ur Museum is fortunate that outstanding young people choose to serve here. We are introducing a new level of participation for those who have given 30 hours of service—LEAD Teen—to help this dedicated group grow in knowledge and leadership. To maintain their status, LEAD Teens must commit to a yearly minimum of 30 service hours. They will have additional service/fieldwork opportunities and will form an advisory group to plan service learning for the larger youth program. Each spring, current teen volunteers with 30 hours of service are eligible to apply and service hours will be reviewed for the coming year. We congratulate our first class of LEAD Teens: Ashley Williams, Brooke Nash, Jonathan Smith, Tiffany Strain, Anna Hudson, Rhianna Harris, and Alex Borst. Download teen volunteer program details/application at www.msnaturalscience.org under "Join/Support - Volunteer Info."

**BIG THANKS** to the 49 Museum volunteers, 20 Hinds Community College Phi Theta Kappa volunteers, and our Museum partners who assisted at NatureFEST 2012 in April! With your help, it was a big success!

**Volunteers afield:** In 2012, so far, we've visited the North Mississippi Fish Hatchery and explored a unique bog habitat in south Mississippi. Hatchery manager Justin Wilkens showed us facility operations, and we learned about Mississippi fish species from MMNS aquatic biologist Karen Dierolf. During a picnic at Enid Lake, we learned about flood control and how the lake controls water levels. Led through the bog by MMNS botanist Heather Sullivan, we saw native carnivorous plants, yellow pitcher plants, the state-listed white-top pitcher plants, parrot pitcher plants, and sundew, and we learned about the piney woods habitat and longleaf pine.

Here come the dinosaurs! Want to help with the summer fun and the *Dinosaurs* exhibit? Please contact Ann Peden at ann.peden@mmns.state.ms.us.

## Ancient Fishes

## Dinosaur-era fish call Museum aquariums home

his year, the Museum will host replicas of dinosaurs that roamed the earth 200-66 million years ago. However, the Museum aquariums are home to several species of fish that have remained largely unchanged over the past 50-200 million years. Gars are primarily freshwater fish found only in North America. They have long cylindrical bodies with long jaws containing needlelike teeth and are covered with a protective layer of hard, diamond-shaped scales. Fossil Gar Scales date to the Cretaceous Period, about 110 million years. Gars have a swim bladder which is filled by gulping air and this helps them survive in low dissolved oxygen habitats such as backwaters of rivers, lakes and swamps.

More primitive than Gar are the Paddlefishes and Sturgeons. Sturgeons are considered one of the oldest families of fishes, with fossil records going back 200 million years ago. Fossil paddlefish have been found from the Eocene age, 56-34 million years ago. Paddlefishes and Sturgeons are considered bony fishes, but their skeletons are made of cartilage, like a shark's. Their fins also resemble those of sharks, with an asymmetrical tail. Similar to sharks, these fins supply most of the lift to the fish's body. In more modern fish, the lift is supplied by a swim bladder. Watch these fish in the "Ancient Fishes of the Mississippi River Aquarium": when the sturgeon stop swimming they rest on the bottom of the aquarium and the paddlefish constantly swim so they can remain up in the water column.

While gar, sturgeon, and paddlefish are considered primitive fish, their ability to survive without changing much demonstrates that their body form and habits remain successful in modern aquatic habitats as well as 50-200 million years ago. We no longer see dinosaurs roaming the earth, but you can still observe ancient types of fishes swimming in the Museum's aquariums.

## Mississippi Museum of Natural Science Expands Research and Collections Section

## New facility to house over one million specimens

n March 5, Senator Thad Cochran and Chris Zachow, president of the Mississippi Museum of Natural Science Foundation, joined officials from the Mississippi Museum of Natural Science and Mississippi Department of Wildlife, Fisheries and Parks to dedicate and tour the Mississippi Center for Conservation and Biodiversity (MCCB). The MCCB is an expansion of the Museum's existing collections and laboratory space which houses more than one million scientific specimens. Prior to the construction of this \$5 million dollar research facility expansion, many of the Museum's collections were at or near storage capacity. The Museum's biological collections originated in 1935, and currently consist of more than 1,000,000 specimens.

"Much of what we understand about our world, we owe to the collection, preservation, and study of natural specimens. Properly preserved collections of plants, animals, and fossils are libraries of Earth's history, and are vital to our ability to learn about the past and future," explained Libby Hartfield, Museum director. "This knowledge helps guide decision making that leads to healthy ecosystems which benefit our citizens now and into the future. The work undertaken as far back as the 1930's by the Museum's first director, Miss Fannye Cooke, still impacts us today. And the work that the MCCB engages in now will impact the lives of our children and their grandchildren."

For more than eighty years a primary objective of the Museum has been to document and research Mississippi's biological resources in addition to educating and entertaining the more than 150,000 Mississippians and tourists to our great State that visit the Museum each year.

At the dedication, Hartfield announced that the American Association of Museums has renewed the Mississippi institution's museum accreditation. Accreditation is a widely recognized seal of approval that brings national recognition to museums. Accredited museums are looked up to as leaders in the field and must be re-accredited every ten years. The Mississippi Museum of Natural Science has been accredited since 1982.

Senator Thad Cochran, praising the reaccreditation and the importance of the MCCB scientific collections to the citizens of Mississippi, said, "Natural science collections are fundamental reference points for measuring and monitoring human health, safety, and the state of our planet. They are also essential to the advancement of research in the biological, earth, and environmental sciences. The Museum already has a very good reputation as a museum and scientific research facility. That reputation has been reaffirmed with its renewed museum accreditation and its expanded research facilities."

Funding for this project was provided by the Mississippi Legislature, the National Oceanic and Atmospheric Administration, and the National Park Service. Senator Cochran supported federal funding through his role as vice chairman of the Senate Appropriations Committee. Scott Eddy and the staff from Barlow, Eddy, Jenkins Architects designed the expansion and David and Leanna England of England Enterprises constructed the expansion.



U.S. SENATOR THAD COCHRAN ADDRESSES THE IMPORTANCE OF NATURAL SCIENCE COLLECTIONS



MUSEUM DIRECTOR LIBBY HARTFIELD EXPLAINS THE IMPACT THAT PROPERLY PRESERVED COLLECTIONS HAVE ON DECISION MAKING



LIBBY HARTFIELD (MUSEUM DIRECTOR), SENATOR COCHRAN AND CHRIS ZACHOW (MMNS FOUNDATION PRESIDENT)



DR. MATT ROBERTS (MMNS ICHTHYOLOGIST) TAKING LOCAL MEDIA ON A TOUR OF THE COLLECTIONS

## **Research / Collections**



## **Current Research:**

Spotted skunk preliminary surveys started in May 2012. Surveys will begin this fall throughout North Mississippi. For details, contact Scott Peyton (Collections Manager) at collections.manager@mmns.state.ms.us.



## **Recent Acquisitions:** Stoneville Weed Science Laboratory's Herbarium

Numbering about 23,600 species; available as loan material to researchers for examination. This important collection contains vouchers from across the U.S. for research, species of special concern in Mississippi, and numerous records cited in publications.

### **Dr. Charles T. Bryson Private Collection**

About 20,000 sedge specimens from across the U.S., noted as the best collection of Mississippi sedge species in the nation. Following the publication of Dr. Bryson's sedges of Mississippi book, this collection will be available for examination. For details, contact Heather Sullivan (NHP Botanist) at heather.sullivan@mmns.state.ms.us.

## **Tulane Collection**

Consisting of freshwater shrimp and crayfish, and mollusks (including snails and mussels); currently being incorporated into the MMNS catalog. The oldest specimen so far is crayfish dated 1881 and several now extinct mussels from the 1960's. This collection is extremely valuable due to the large variety of specimens including some from Australia and Central America. For details, contact R.L. Jones, PhD. (Herpetologist) at bob.jones@mmns.state.ms.us.

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