

NATURAL
HISTORY
MUSEUM
LOS ANGELES COUNTY

naturalist

Oct/Nov 10

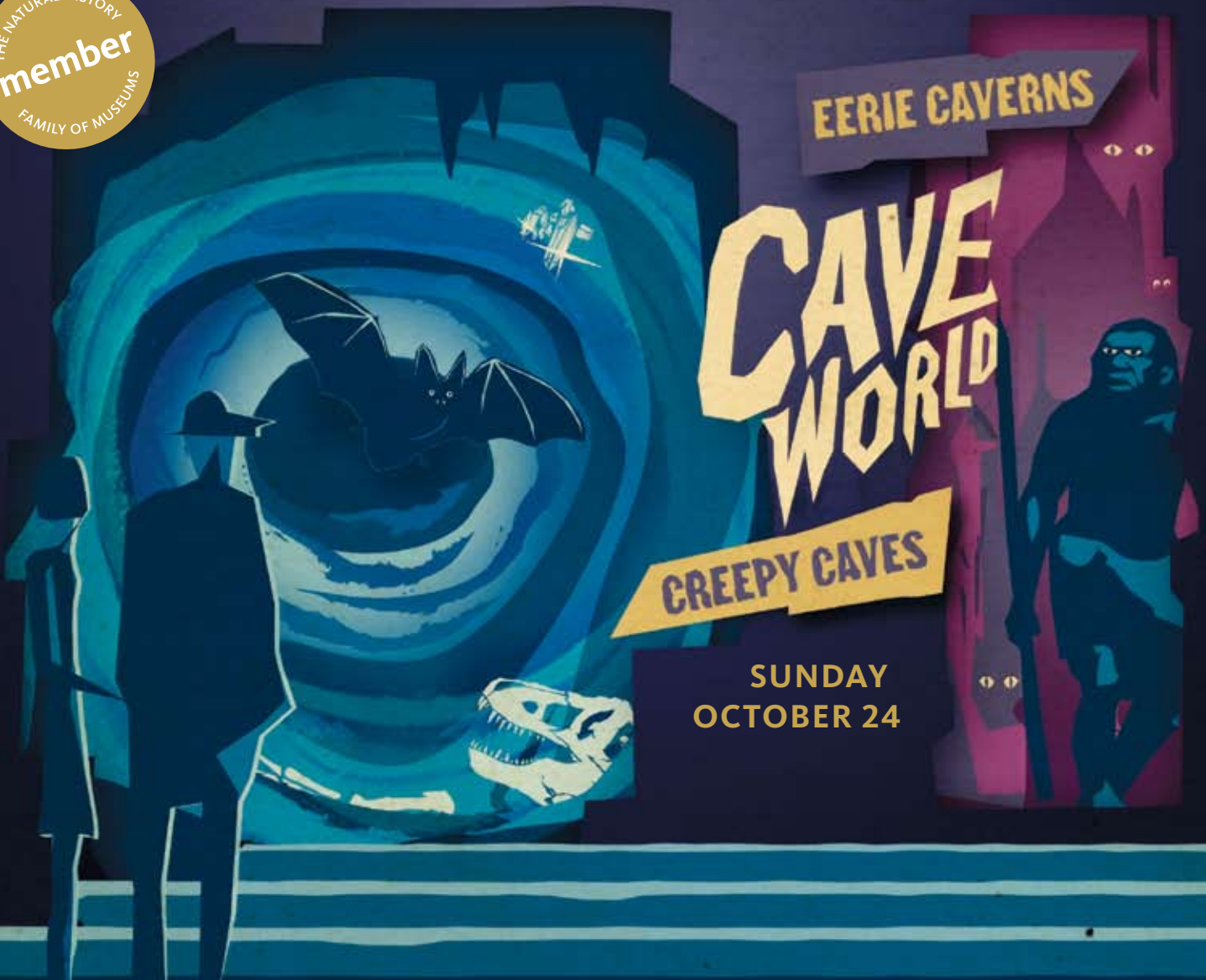


Photo by Karen Knauer

*Ice Age Encounters of
a Saber-Toothed Kind*

Great ex-CAVE-ations are in store as you spelunk into the depths of the world of caves and caverns.

HAUNTED MUSEUM



SUNDAY
OCTOBER 24

NATURAL
HISTORY
MUSEUM
LOS ANGELES COUNTY

Creepy or eerie, you choose your exciting journey through a haunted maze of tunnels and corridors. Discover the creatures that lurk in every corner. You might just find yourself back in the Stone Age rockin' out with cavemen or joining in a mad gold rush. **Your Halloween adventure awaits!**

Haunted Museum is FREE with Naturalist Membership (\$325 annually). To receive your invitation, join or upgrade to the Naturalist level now at www.nhm.org/membership or call (213) 763-3426



A LETTER FROM THE PRESIDENT: Where Learning Comes Naturally

Dear Friend,

This fall, as schoolchildren on field trips return to the Natural History Museum, I am reminded again that this is a place where education sometimes takes our visitors by surprise. Our halls and galleries are so intriguing and fun, we easily forget we are learning inside of them.

The activities inside these halls follow the same principle — education conveyed through delight and awe. Our very popular *Dinosaur Encounters* performances, for example, thrill audiences with lifelike dinosaur puppets. By the end of the shows, our performers have entertained and imprinted a vibrant memory. Those are important results, but they are not enough. The performers have also imparted knowledge about how these animals lived and behaved, and how they are studied today.

To build on the success of *Dinosaur Encounters*, we partnered with Jim Henson's Creature Shop. As you will read in this issue of the *Naturalist*, the collaboration between special effects experts and Museum paleontologists, educators and performers produced a saber-toothed cat puppet that makes its debut this fall. The degree of the new puppet's realism is so surprising, I cannot imagine an audience reaction other than dropped jaws and complete attention. As we know from our experiences with the dinosaur puppets, it is at this point — this intersection of intense curiosity and engagement — that we can convey scientific information about the last Ice Age and its creatures, and the Museum's efforts to study them.

There is an incredibly layered approach to education at the Museum. A five-year-old can learn about animals through crafts and stories. A nine-year-old can learn about animals and their ecosystems through hands-on activities and dialogue with our educators. Families and groups of classmates can participate in a *Dinosaur* or *Ice Age Encounter*, and through a group theatrical experience — replete with laughter, audience participation, and spectacle — science literally comes alive. These activities and approaches are varied, but we align all of them with the State Board of Education's curriculum standards, so that what our visitors learn strengthens their schoolwork and tests.

Science education is languishing in this country, and our educators' resources are limited. The Museum is positioned to become part of the solution. Our extraordinary specimens grab attention, and then programs that combine performance, hands-on activity and fun hold that attention. In this three-dimensional environment, we can introduce processes of science in exciting ways. We hope you'll join us.

Sincerely,

Jane G. Pisano
President and Director



Suiting up for *Smilodon*

An exhilaratingly lifelike recreation of a saber-toothed cat will thrill — and teach — audiences in the new *Ice Age Encounters*.

Photo by Karen Knauer

First things first. It's not a saber-toothed tiger; it's a saber-toothed *cat*. (Saber-toothed cats branched off the evolutionary tree about 7 million years ago, and *Smilodon fatalis* was not even closely related to any modern felines, including tigers.) And when you come to the Natural History Museum this fall and see it in person, it will prowl and crouch, peer and stalk, and even sound as though it's alive — startlingly so. It's harmless, though. This ferocious beast is actually a masterfully engineered puppet.

Responding to the overwhelming popularity of the Museum's *Dinosaur Encounters* — more than 300,000 visitors have seen long-extinct creatures brought to life in the program since it began in August 2008 — NHM's education and performance experts dreamt up *Ice Age Encounters*. The new program stars an adult *Smilodon fatalis*, more commonly known as the saber-toothed cat.

BRINGING THE BIG CAT TO LIFE

To recreate this Ice Age carnivore, NHM staff collaborated with the world-class innovators at Jim Henson's Creature Shop, an outfit whose film and TV credits are too long to list, but are bookended by the *Muppets* and the romping creatures in 2009's *Where the Wild Things Are*. The result is a very believable creature based largely on paleontological authority, with a touch of educated conjecture.

After dire wolves, saber-toothed cats are the most commonly preserved large animal at the Rancho La Brea tar pits. More than 2,000 individuals have been recovered. So there is much our scientists at the Page Museum — one of three museums in the Natural History Family — know about the lives of these great beasts.

They know, for instance, that *Smilodon fatalis* lived from about 400,000 years ago until they became extinct just 11,000 years ago. (Compare that relatively recent window of time to the *T. rex* represented in *Dinosaur Encounters*, which became extinct approximately 65 million years ago.) The Southern California that the saber-toothed cat lived in was a coastal sage habitat with scattered pine and oak groves. The climate was cooler, moister, like that found today in the area of the Monterey Peninsula. We also know that this species was an ambush predator well suited to bringing down prey larger than itself. There is good evidence that *Smilodon fatalis* ate primarily bison in the area of Rancho La Brea.

Familiar depictions of the saber-toothed cat often show a sleek body, but the many fossilized bones that have been discovered at the La Brea Tar Pits indicate that it was a burly, solidly built cat, about the size of a modern-day large male African lion. "These were linebackers, huge Rottweilers," said Jennifer Bloom, NHM Performing Artists Supervisor, and one of the Museum staff members who spearheaded *Ice Age Encounters*.

Soft tissues and fur, however, were not preserved in the Rancho La Brea asphalt. "Paleontologists certainly know the anatomy based on its skeleton," said Henson's Creature Shop Production Manager Michael Oosterom, "but when it came time to pick the color of the fur and its patterning, those were really educated guesses."



Inside Jim Henson's Creature Shop, Jeff Small performs some intricate paint work on the *Smilodon* puppet's face. Also contributing to the big cat's super-realistic face was artist Deborah Galvez, who spent more than three weeks carefully arraying individual facial hairs. (Photo by The Jim Henson Company)

SABER-TOOTHED CAT PUPPET: THE DETAILS

The *Ice Age Encounters* puppet weighs 73 pounds, without a performer inside. And when inside, that performer is very hot from the moment he/she gets in to the heavy backpack-like suit that's four inches of foam and fur. Unlike the *T. rex* in *Dinosaur Encounters*, there's little room for air to circulate.

A remote control is behind the movement of the eyes, and also prompts realistic facial expressions. The puppet's jaw opens an astounding 120 degrees, which is how wide the real saber-toothed cat's mouth opened before it chomped down on its unfortunate prey. The puppet's eyes blink. Pupils move back and forth. "It's terrifying," said Jen Bloom. "Our dino puppets don't do that."

A remote-controlled sound system is located inside the puppet, broadcasting a variety of vocalizations that are adapted from the sounds living cats make, since no one knows for sure what the saber-toothed cat sounded like.

MUSEUM VERSUS MOVIES

The project's biggest challenge, said Michael Oosterom, Jim Henson's Creature Shop Production Manager, was making a believable cat out of a person. It was very difficult he said, "creating a suit of a four-legged creature for a bipedal human to be inside. And to make those proportions match in a way that masks the notion that there's a person on all fours inside this suit, especially with the feline anatomy."

But they pulled it off, and the result is shockingly realistic.

Making a puppet for daily performances is quite a bit different from designing a creature that has an anticipated lifespan of a single film production. "When we make a creature for a film," said Oosterom, "we know it only has to work for a certain amount of time. We look at the storyboards, know what a creature needs to do, and we build it for those things. This creature is going to perform numerous times per day. It has to be extra durable yet light enough to perform in."

Another layer of complexity in this project was the sound system. For film creatures, sound always gets added in postproduction. "This was the first time we put a sound system inside one of our creatures," said Oosterom.

It had to remain light and unobtrusive, yet still emit vocalizations that sound as though they're coming from a live animal, with an audience very close by.

Working on creatures for film also doesn't gain you access to casts of an Ice Age predator's teeth. Oosterom's favorite aspect of the saber-toothed cat puppet was the teeth. They were made from casts of real fossils, on loan to Henson's Creature Shop from the Page Museum's collections. "Those teeth couldn't be any more real," he said.

And that's where Museum paleontologists came in. The Page Museum's Chief Curator Dr. John M. Harris, Collections Manager Chris Shaw, and Assistant Lab Supervisor Trevor Valle, as well as NHM Curator of Terrestrial Mammals Dr. Xiaoming Wang, consulted on the project. "Based on habitat, which we know a great deal about, and what we see in modern living cats, if saber-toothed cats had any kind of markings on their fur at all, it probably was spots and not stripes," said Shaw.

Both Shaw and Valle enjoyed the subject of so much of their work being brought to vivid life. "It's really interesting to see something that one has been thinking about for 30 or 40 years — how they lived and moved and fed their young — to see it come alive," Shaw reflected.

Valle calls the saber-toothed cat puppet a confluence of research and imagination that to him amounts to a "dream come true."

AN ENTRY INTO THE PAST



Performance Artist Betsy Zajko emerges from the Smilodon puppet for a breath of fresh air, assisted by Jennifer Bloom (front) and Peter Wylie. (Photo by Karen Knauer)

A new stage is being designed for *Ice Age Encounters* in the North American Mammal Hall on Level 2. It's partly necessary because visibility in the saber-toothed cat suit is so limited. A special patterned carpet will be a visual aid for the performers, who will only be able to see straight down while in the suit, and only barely at that.

People visit a museum to see the mounted skeletons of prehistoric animals, to learn from them, and enjoy the way those specimens spark their imaginations. Both *Dinosaur* and *Ice Age Encounters* programs take that experience a bit further — taking the research of Museum scientists, and making it tangible and accessible.

"These shows are a primer for the rest of the building," said Bloom. "We get them excited about paleontology and process. We bring the Museum's science to life."

—Elon Schoenholz



LETTERS FROM THE BADLANDS

Members of the Dinosaur Institute, students, volunteers, and Dr. Luis Chiappe's international colleagues are among the fossil hunters at work in the Morrison Formation's Jurassic quarry. (Photos by Lauren Clark)

During the summer of 2010 I traveled to southeastern Utah on a fossil hunting expedition alongside the Museum's Dinosaur Institute and a crew from the British Broadcasting Corporation (BBC), who were on hand to capture footage for an upcoming documentary. What follows is a chronicle of my first day in the field.

—Lauren Clark

JULY 28

7 AM

BLANDING, UTAH

Though I am not known to be a particularly early riser, I awoke on this July morning excited and ready to go. The sun had barely begun to shine, but the desert heat was already seeping through my motel room window. I put on my most respectable outdoorsy outfit and hit the road, driving 45 minutes and through two different towns, each no bigger than a downtown L.A. city block. I met Jennifer Morgan, Project Manager for the Museum's coming *Dinosaur Mysteries* exhibition, behind the wheel of a massive 4-wheel

drive. She had promised to get me to the dig site. Apparently entering an address into a GPS device doesn't quite cut it out here in the badlands. There's certainly no street address for a quarry in the middle of the desert, and according to Jennifer, "there aren't any road markers." This was the first of several times during my five-day trip that I thought to myself, *I may actually be in trouble.*

To the average person, a paleontologist in the field conjures romantic visions of foreign scientists in safari hats and jodhpurs, gently dusting grains of sand from a beautifully articulated dinosaur skeleton. This is mostly fiction. They do use paintbrushes, but they're mostly used to apply toilet paper (more on this later). And no one wears jodhpurs.

THE DINOSAUR INSTITUTE IN ACTION

Each year the Natural History Museum's Dinosaur Institute (aka the D.I.) leaves its fourth floor offices and the glass-walled interior of the Dino Lab to conduct field research, led by Dr. Luis Chiappe. Within the first several minutes of

meeting Luis, one thing is clear: dinosaurs are his life. And maybe because you're out in the middle of nowhere, or maybe because he's so enthusiastic, dinosaurs become yours, too. This particular excursion carried with it not just the necessity of collecting fossils, but also the pressing need to gather interactive media content for *Dinosaur Mysteries*, opening in the summer of 2011.

Excursions into the field allow researchers like Luis to expand the Museum's fossil collection and further paleontological research. While bones in the dirt may all look alike to the naked eye, each new fossilized remain of an ancient creature or its habitat provides considerable clues for understanding dinosaurs and their world.

11 AM

MORRISON COUNTY ROCK FORMATION, UTAH

I followed Jennifer in my rented SUV along the base of a canyon, spiked with the familiar red cliffs typical of the United States' southwest. After turning down a dirt road, we parked the cars in the middle of a field. It was over 100 degrees; my sunglasses didn't put a dent in the blazing midday sun.

From where we stood, I couldn't see any dinosaurs. Nor could I see any paleontologists wearing safari hats. We threw on our backpacks and hiked along a dry riverbed that led us up into rocky hills.

Then, a first glimpse: 20 people folded into a tiny patch of land situated precariously close to the crumbling edge of a ridge. And I do mean folded. Not one of their bodies took up more than a square foot or two of space. They crouched and kneeled, bent and twisted, all trying to get as close as possible to the dinosaur they were freeing from the sandstone.

There was no sound except for the *clink-clink-clink* of hammers. As I reached the top of the quarry I could see a faint outline of bone emerging from the rock.

MEET THE SAUROPOD

Sauropods were a group of plant-eating, long-necked dinosaurs that flourished in the Jurassic period. Typical of this group was a small head, a long tail and an enormous body. They were the largest terrestrial animals of all time, and there is proof they lived all over the world. And there is specific proof they inhabited the area currently known as the Morrison Formation in the badlands

of southeastern Utah — because I was looking right at one. It was a jumbled-up puzzle of massive bones: femur, tibia, tail, and neck, but there it was, right in front of me.

3 PM

MORRISON COUNTY ROCK FORMATION, UTAH

Here's the rundown of what happens in the quarry: after the location of a dinosaur is determined, the team, mostly through good old elbow grease, removes layers of rock and dirt. Eventually they reach the layer of sediment where the fossil has been hidden for the better part of the past 150 million years. To put this in perspective, the animals at the La Brea Tar Pits were trapped there about 40,000 years ago. I can barely wrap my mind around the concept of a century, let alone millions and millions of centuries. After the bones have been sufficiently extricated, they must be carefully removed from the quarry and protected for transport.

When you break your arm, you go to a doctor, who sets the fractured appendage in plaster. The same goes for dinosaur fossils. Although of imposing size, they are delicate and old, and they can't be prepared until they reach the



Dr. Luis Chiappe and two of his team members traverse Utah's rocky landscape on a prospecting outing. No fossils turned up that day — only an angry rattlesnake.



A volunteer extracts the sauropod's tibia (lower leg bone) from the quarry.



The D.I.'s Doug Goodreau (left) and Dr. Luis Chiappe (right) contemplate the precarious challenge of transporting a nearly 500-pound sauropod femur from the quarry.

walls of the Museum. In the meantime, the fossils are lined with damp toilet paper and then set in layers of plaster for protection during their journey.

Like Luis, the participants on this trip, including D.I. employees, students, volunteers, and scientists from Argentina and Spain, are so passionate about paleontology that you can't help but catch their enthusiasm. As soon as I reached the top of the dig site, Paige Johnson, D.I. Curatorial Assistant, asks if I want to work. I am tasked with quarry cleaning. At certain points this is what I imagine ancient punishment might have been like: Break rock into smaller rocks. Move small rocks into a bucket. Empty bucket. Repeat. But the rush of working on a real dinosaur keeps me motivated.

Within approximately one minute of putting on my work gloves I am a sweaty mess. I need water, and my black jeans have practically melted onto my legs. I look at the 20 other people hammering in the sun and they don't seem to be tired at all, and even though they've been out here for days and hours longer than me, they're full of energy. Each new piece of exposed bone brings discussion and enthusiasm. Paige points out a chevron. For me, Chevron is a gas station. But out here a chevron is one of the many delicate, angled bones that would have supported the dinosaur's spine.

Jennifer warns: "Be careful where you step. There are bones everywhere. They're just masquerading as rocks." And it's true.

PROSPECTING

The first question I am asked upon my return from Utah is, "How do they know where to find a dinosaur?" Prospecting is one of the ways fossils are discovered. It goes like this: Luis and his crew hike for hours, and somehow (to me, miraculously) they come upon shards of broken bone. This leads them to more shards, which brings them to bigger pieces, and eventually a larger fossil.

Rodolfo Coria, one of Luis' Argentinean research associates, tries to convince me that it's easy to spot a fossil, because out here, fossilized bone is almost purple, with a porous texture. Still, it's not that easy to me.

They find more potential dig sites than they have time to excavate. (The D.I. has been working at this Utah sauropod quarry for two seasons now, and still has work to do at the quarry to complete the excavation.) But there is usually time in the expeditions devoted to prospecting, because the next big discovery is always around the corner.

9 PM

SOMEWHERE IN SAN JUAN COUNTY, UTAH

There's a funny thing that happens on fossil hunting expeditions. The conditions are so brutal, and the work so intense, that there's no option but to have fun at the end of the day. While I get to sleep in a bed and shower each night, the paleontologists rough it under the stars. And they truly relish this part of the process.

Evenings at the campsite are lively. It's very important to Luis to feed his crew well, and during my stay I see them make everything from Spanish paella to a whole Thanksgiving-sized turkey over an open flame. After meals everyone on the trip socializes around the campfire and shares stories of expeditions past. At one point, an SUV is driven into the main camp area and the stereo is turned up. There may have even been some dancing. When I head back to my hotel, I'm sad to leave.

But going back to my room means I can at least pick a better outfit for tomorrow. Paige has politely informed me that while my skinny jeans and black T-shirt might be Hollywood appropriate, they weren't doing me any favors in the scorching desert. Live and learn.

—Lauren Clark

Mobile Museum Grant



For nearly two decades, the Gluck Foundation and the Natural History Museum have partnered in presenting Mobile Museums — a hands-on science and social science program free of charge for Los Angeles Unified School District (LAUSD) students grades 3 through 8. Together, the Earthmobile, Seamobile and Skymobile have served 450,000 inner-city Los Angeles students since the program's inception. This year, the Gluck Foundation has generously

doubled its support of the program with a grant of \$626,000.

As a result, the expanded program will be able to double its service to a pilot group of schools, incorporating bus trips and tours for participating classes to visit the Museum campus. Also new this year is an innovative, collaborative forum in which LAUSD principals, teachers and parents will work with Museum educators and scientists to

create standards-based curricula across grade levels, pre- and post-visit learning resources, and age-appropriate performance-based content to accommodate our younger K-2 audiences. With Mobile Museums, NHM reaches students who otherwise would not have the opportunity to participate in real investigative science and discovery and, with the help of our community, will inspire and cultivate tomorrow's scientists.

A promotional graphic for the Spider Pavilion. It features a large, detailed illustration of a brown spider on a white web, surrounded by green leaves. The background is dark blue with a pattern of white spider webs. The text is in orange and white.

Spider Pavilion

**THRILLING TO SEE,
NOTHING TO FEAR!**

Sept. 26 - Nov. 7, 2010

Don't judge a book by its leggy cover. Get to know these misunderstood creatures and dispel the myths and common fears that often keep us from appreciating how cool they really are.

And don't miss these special events, free with Spider Pavilion admission.

FASCINATING FLASHLIGHT TOURS • Oct. 9 and 23

HALLOWEEN FESTIVAL • Oct. 31

www.nhm.org/spiderpavilion

Support provided by
WESTERN
TERMINATOR COMPANY

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

things to do at the museums

SPIDER PAVILION

Open through November 7

While the butterflies are away, the spiders come out to play on the Museum's South Lawn! Get up close and personal with these shy and fragile creatures; marvel at their beauty and at the magnificent webs they produce. Separate admission ticketing applies; members are always free. Spider Pavilion is open seven days a week, 10 am–5 pm. For more info visit www.nhm.org/site/activities-programs/spider-pavilion.



GARDENING CLASSES

Sunday, October 3 and 10; 1 pm–4 pm

Master Gardener Florence Nishida teaches gardening basics for beginners. Learn about creating good soil, watering and feeding, starting plants from seeds, transplanting, and much more. Register by calling (213) 763-3520, or e-mail rmazon@nhm.org.

A SAN ANDREAS ODYSSEY

Saturday, October 2; 9 am–5 pm

On this field trip led by Malacology Collections Manager Lindsey Groves, we'll see firsthand the fault's topographical effects on the landscape. We'll eat at a fault-formed lake in the San Gabriel Mountains after multiple stops along the fault. Lunch and transportation provided. Members: Adults \$60 / Children \$55; Nonmembers: Adults \$70 / Children \$65. Please call (213) 763-ED4U (3348), or e-mail educate@nhm.org for more info.

REPTILE AND AMPHIBIAN APPRECIATION DAY

Sunday, October 3; 10 am–5 pm

Join us for a daylong celebration of the slimy and scaly at the second-annual RAAD. Get to know reptiles and frogs from around the world and right here at home. The whole family will enjoy up-close animal encounters, art projects, hands-on activities, and a chance to

meet professional herpetologists.

For more information call (213) 763-3433 or e-mail raad@nhm.org.



SCAVENGER'S SAFARI DINOSAUR ENCOUNTERS BACKSTAGE

Sunday, October 10

Get special backstage access as the Museum's puppeteers take you behind the scenes of *Dinosaur Encounters*. The puppeteers will show you how they move and think like dinosaurs. Scavenger's Safaris are free with Patron level membership (\$185 annually) and higher. For more information and to RSVP, visit www.nhm.org/member-vip-rsvp.

THE GREAT CALIFORNIA SHAKEOUT!

Thursday, October 21; 9:30 am–2 pm

Join in the Great California ShakeOut, when millions of Californians will participate in the largest earthquake drill ever! Interact with our geologists, learn about the science of earthquakes and what to do when the big one hits. For more information please call (213) 763-3471, or e-mail bburrows@nhm.org.

SILVERADO CANYON FOSSIL DIG

Saturday, October 23; 9:30 am–12 pm

Search for marine fossils with Lindsey Groves, the Museum's Malacology Collections Manager. This rich fossil site

is a great place to get some dirt under your fingernails, and record your fossils as Museum scientists do. Bring a bag for your best finds. Participants provide their own transportation. Grades 2 and up, accompanied by an adult. Museum Members \$35, Nonmembers \$40. For more information call (213) 763-ED4U (3348), or e-mail educate@nhm.org.

PUMPKIN FESTIVAL

Saturday, October 23; 10 am–3 pm

Join us for the third-annual Pumpkin Festival at the William S. Hart Park! Festivities will include a pumpkin carving contest and Haunted Hayride through Heritage Junction among other activities. Come carve a pumpkin, but stay for the creepy crawlers! Admission is FREE! For more information, please call (661) 254-4584 or visit www.hartmuseum.org.



7TH ANNUAL HAUNTED MUSEUM: CREEPY CAVES AND EERIE CAVERNS

Sunday, October 24; 5 pm

Enter a transformed Museum for after-hours cave explorations of the spooky kind! Search the Museum for secret clues, solve a natural history riddle, and have fun with your family while learning about caves! Free for Members at the Naturalist level and higher. For more information visit www.nhm.org/membership or call (213) 763-3316.

CAMP BOO AND GOO

Friday and Saturday, October 29-30
6:30 pm

Wear your Halloween costume to this exciting night at the Museum! Join us for this season's family overnight: participants will go on a flashlight tour of the Tar Pits, make some sticky goo, and meet some live bugs! The cost per participant is \$45 for Members and \$50 for nonmembers. *For more info visit*

www.nhm.org/site/activities-programs/overnight-adventures or call (213) 763-3536.

THE 100-YEAR ANNIVERSARY OF THE MEXICAN REVOLUTION

Wednesday, Thursday and Sunday
November 3, 4, 7

Join us to observe the 100-year anniversary of the Mexican Revolution with

a weeklong series of exciting events — from a film screening to an evening discussion with music and poetry to a cultural festival complete with food, music, and activities for the entire family. *For more information visit www.nhm.org, call (213) 763-3433, or e-mail educate@nhm.org.*

JUNIOR SCIENTIST FOSSIL HUNTERS

Saturday, November 13
10:30 am-1:30 pm

Grab your rock hammers and field notebooks, because it's time for a fossil hunt! Become a junior paleontologist and join us as we find a fossil site, excavate it and put together a million-year-old jigsaw puzzle — all within the walls of the Natural History Museum! Junior Scientist is for 6- to 9-year-olds and their families. All programs are FREE with paid Museum admission. *For more information visit www.nhm.org/site/activities-programs/junior-scientist, call (213) 763-3471 or e-mail bburrows@nhm.org.*

OCTOBER 2010

| SUN | MON | TUE | WED | THURS | FRI | SAT |
|---|-----|---|-------------------|--------------------------------------|------------------------|---|
| | | | | | 1 | 2 A San Andreas Odyssey |
| 3 RAAD Gardening Class | 4 | 5 Free Tuesday With support from our Corporate Partners | 6 Critter Club | 7 Critter Club | 8 Critter Club | 9 Critter Club |
| 10 Scavenger's Safari Gardening Class | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 The Great California ShakeOut! | 22 | 23 Silverado Canyon Fossil Dig Pumpkin Festival |
| 24 Haunted Museum Museum closes at 3 pm | 25 | 26 | 27 | 28 | 29 Camp Boo and Goo | 30 Camp Boo and Goo |
| 31 Halloween | | | | | | |

NOVEMBER 2010

| SUN | MON | TUE | WED | THURS | FRI | SAT |
|-------------------------------------|-----|---|-------------------------------------|--------------------------------------|--------------------|--|
| | 1 | 2 Free Tuesday With support from our Corporate Partners | 3 Mexican Revolution Anniversary | 4 Mexican Revolution Anniversary | 5 | 6 |
| 7 Mexican Revolution Anniversary | 8 | 9 | 10 Critter Club | 11 Veteran's Day Critter Club | 12 Critter Club | 13 Critter Club Junior Scientist |
| 14 Curator's Circle | 15 | 16 | 17 | 18 | 19 | 20 Scavenger's Safari |
| 21 | 22 | 23 | 24 | 25 Thanksgiving Museums closed | 26 Museums open | 27 |
| 28 | 29 | 30 | | | | |

LOCATION KEY

| | |
|---|--|
| ■ NATURAL HISTORY MUSEUM | ■ HART PARK AND MUSEUM |
| ■ PAGE MUSEUM | ■ EVENT OCCURS OFFSITE |

MUSEUM PROVIDES PARKING AT NORMAL RATES IN NEARBY LOT.



CURATOR'S CIRCLE PRESIDENT'S BRUNCH

November 14; 4-7 pm

Fellows at the Curator's Circle level and higher (\$5,000) are invited to join the Museum's President and Director, Dr. Jane G. Pisano, for a brunch and special presentation on the upcoming *Dinosaur Mysteries* exhibition by Dr. Luis Chiappe, Director of the Dinosaur Institute. *To receive an invitation or to join at the Curator's Circle level, visit www.nhm.org/fellows.*



SCAVENGER'S SAFARI FROZEN TURKEY

Saturday, November 20

With Thanksgiving right around the corner, it's time to talk turkey with Ornithology Curator Dr. Ken Campbell. Ken will make a special visit to the Page Museum for this behind-the-scenes tour, and tell you about the interesting characteristics of the Ice Age turkeys our excavators have found at Rancho La Brea. *To RSVP visit www.nhm.org/member-vip-rsvp.*

CRITTER CLUB

Want more critters? In addition to our Saturday programs, now you can join us before we open to the public! Live animals, story times, songs and art are just some of the fun activities we have planned. Plus, go behind the scenes, help feed our animals, or watch an exclusive performance during this enhanced pre-registered class!

SLIME AND SCALES!

Wednesday, Thursday, Friday,
October 6, 7, 8; 9 am-10 am (paid)
Saturday, October 9
10 am and 11 am (free)

Come celebrate the slimy and the scaly critters that call the Museum home. We'll hear slithering stories, play hopping-fun games, and make a scaly craft to take home!

SUPER SPIDERS!

Wednesday, Thursday, Friday,
November 10, 11, 12; 9 am-10 am (paid)
Saturday, November 13
10 am and 11 am (free)

Visit our fabulous Spider Pavilion and learn all about awesome arachnids! We'll watch spiders eat their lunch, create a creeping craft, and hear spider stories.

Critter Club classes are for 3- to 5-year-olds and a participating adult. Class size is limited to 15 child/adult pairs. For reservations prices and more info visit www.nhm.org/critterclub or call (213) 763-ED4U (3348).



ONGOING AT NHM

During October and November, performances of *Dinosaur Encounters*, and the new *Ice Age Encounters*, will take place Wednesday through Sunday. Please visit www.nhm.org for our most current show schedule.

Monday through Friday

- 2 pm: Gallery Exploration Tour**
Join a Gallery Interpreter for this in-depth exploration of the Museum's galleries.
Meet at the Dueling Dinos, Level 1
- 2 pm: Story Time**
Join us for an interactive story time for children.
Discovery Center, Level G
- 3 pm: LIVE Animal Presentation**
Discovery Center, Level G

Saturday and Sunday

- 11 am: LIVE Animal Presentation**
Meet our amazing, living animals to learn where they come from, what they eat, and more!
Discovery Center, Level G
- 12 pm: Story Time**
Join us for an interactive story time for children.
Discovery Center, Level G
- 2 pm: Gallery Exploration Tour**
Join a Gallery Interpreter for this in-depth exploration of the Museum's galleries.
Meet at the Dueling Dinos, Level 1
- 3 pm: LIVE Animal Presentation**
Discovery Center, Level G

ONGOING AT THE PAGE MUSEUM

Support provided by National Parks Service

Park Tour

Daily as staff permits: 1 pm
Page Museum Lobby

Gallery Adventure Tour

Daily as staff permits: 2:15 pm
Page Museum Admission Desk

ONGOING AT THE HART MUSEUM

Support for educational programs provided by Henry Mayo Newhall Foundation

The Hart Museum's mansion will be closed to the public while undergoing construction; please visit the Hart Ranch House to view the Hart Collection during this time.



FARMERS

Weekend programs at NHM are generously supported by Farmers Insurance Group.

The Discovery Center is generously supported by the Ralph M. Parsons Foundation.

Educational programs are supported by:

Capital Group Companies, Inc. •  **SCHOLARSHARE** • John Randolph Haynes and Dora Haynes
college savings plan | CALIFORNIA'S 529 PLAN
Kenneth T. and Eileen L. Norris Foundation

Natural History Museum 900 Exposition Blvd., Los Angeles, CA 90007 www.nhm.org (213) 763-DINO

The Page Museum 5801 Wilshire Blvd., Los Angeles, CA 90036 www.tarpits.org (323) 934-PAGE

The Hart Museum 24151 Newhall Ave., Newhall, CA 91321 www.hartmuseum.org (661) 254-4584

NATURAL
HISTORY
MUSEUM
LOS ANGELES COUNTY

kids

Our new exhibition
Age of Mammals teaches
us about animals from all
around the world.
See how much you know!

Q.

Why does the
zebra have stripes?

Connect the dots...



ANSWER #1

Q.

Look closely at the fossil of
the saber-toothed cat. Why is
it so brown and shiny?

ANSWER #2





bat



dolphin



saber-toothed cat

Mammal hands come in many shapes to do many different things: fly, swim, grasp.

List 4 things your hands help you do. Get your parents to help you if you get stuck!

1

2

3

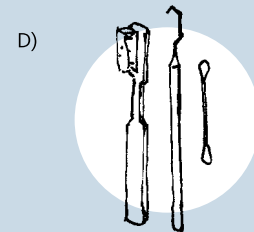
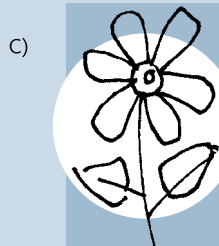
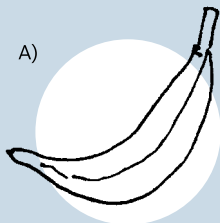
4



Q. What does the polar bear use its claws for?

ANSWER #3

Q. What does a paleontologist use to clean fossils? (Circle one)
ANSWER BELOW, #4



1. Its stripes confuse predators that are chasing it. Moving black and white stripes make it difficult for predators to focus on — and catch — a zebra running in a group. (herd) of other zebras. 2. This saber-toothed cat fossil was found in the La Brea Tar Pits, where the oily asphalt seeps into bones to make them look shiny and brown. 3. To catch and hold its prey and also for traction on the ice. 4. D Toothbrush, dental pick, and cotton swab.

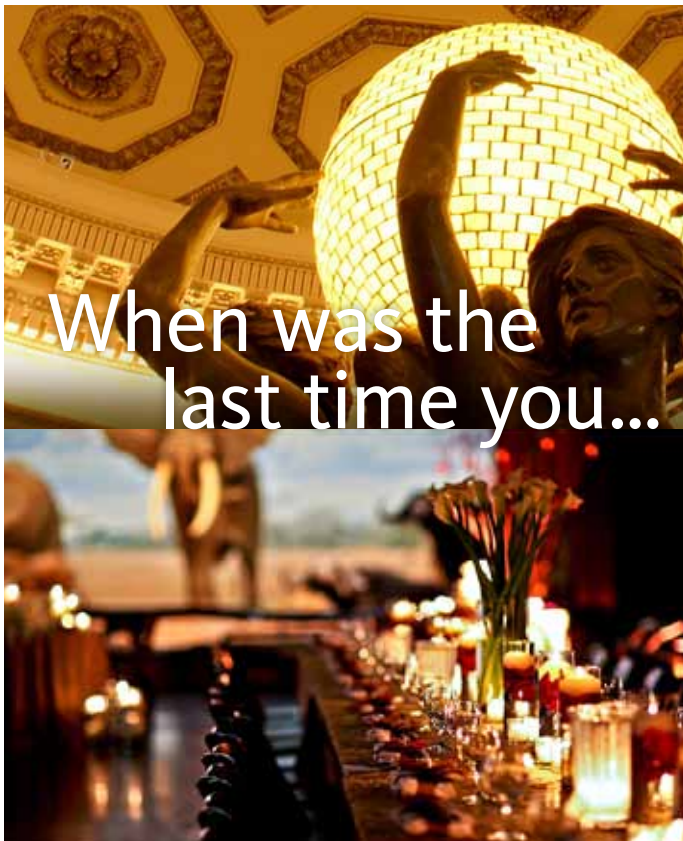
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October/November 2010



When was the
last time you...

- ...danced the Hora on an African savannah at your nephew's Bar Mitzvah?
- ...walked your daughter down the aisle under the loving gaze of the "Three Muses"?
- ...hosted your company's holiday dinner beneath dueling dinosaurs?

The Natural History Museum is one of the premier event venues in Los Angeles — and the perfect spot for your next party.

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For information about hosting your next function at the Natural History Museum or the Page Museum at the La Brea Tar Pits please contact us at 213.763.3221 or e-mail us at speialevents@nhm.org.