

# ROTUNDA

 AMERICAN MUSEUM OF NATURAL HISTORY

Members' Magazine  
Summer 2010 Vol. 35 No. 4

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## *Rose Center for Earth and Space Celebrates 10 Years*

.....

MEMBERS WALK  
ON THE WILD SIDE

.....



Inside the  
Museum's Fossil  
Prep Lab

## From the President

Ellen V. Futter



With this issue, we are pleased to launch a new, completely re-designed *Rotunda*, which more fully reflects the dynamic, inspiring, and cutting-edge nature of the Museum's work in science, education, and exhibition today. We hope it will be an appealing and effective source of information about the Museum for our closest friends and most engaged audience, our Members.

The "renovation" of *Rotunda* is not the only change you'll notice at the Museum this summer. Scaffolding has gone up along the Central Park West façade and inside the Roosevelt Rotunda, signaling a major restoration of the Museum's "front door" together with a refreshed presentation of Teddy Roosevelt's legacy. The Museum turns to its main entrance following the restoration of the 77th Street castle façade last year and the construction of the Frederick Phineas and Sandra Priest Rose Center in 2000. Fittingly, the Rose

Center commemorates its 10th anniversary this year—stay tuned for information about a fall celebration of the Rose Center Anniversary!

With ongoing efforts to improve the Museum's facilities to serve our audiences, record-breaking attendance, and research and education programs that are aligned with some of the most pressing and promising issues of our time—from climate change to the crisis in science education, from cultural understanding to human health—it seems only fitting that the new *Rotunda* should mirror the Museum's expanding role in the 21st century.

I hope you enjoy this first issue and accept my continued thanks for your support and involvement. You, our Members, help provide the very foundation upon which the Museum's work is built. I hope you take pride, as I do, in being part of this great institution and sharing in the depth of learning and inspiration that it offers.

## Table of Contents

News	3
Close-Up	4
Bone by Bone: The Delicate Art of Fossil Preparation	6
Skeleton Crew: Fossil Hunting with Barnum Brown	8
Next	10
Explore	14
Members	16
Seen	18



## ROTUNDA

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## Marking 10 Years of the Rose Center for Earth and Space

### Celebrations, Plus Tune-Ups For Decade's Wear and Tear

It seems like only yesterday that the Frederick Phineas and Sandra Priest Rose Center for Earth and Space opened its doors to the public, increasing the Museum's footprint by 25 percent and establishing a premier center for learning about astronomy, astrophysics, and Earth science. The Museum is commemorating this most ambitious project in its history with a spectacular year-long celebration to mark the Rose Center's 10th anniversary and the 75th anniversary of the opening of the original Hayden Planetarium.

More than 30 million visitors have stepped inside this "cosmic cathedral," as the Rose Center was described by its architect, James Stewart Polshek, since it opened in February 2000. Hundreds of thousands more will participate in a whirlwind year of commemorative events that include a star-themed sleepover, screenings of four Space Shows, and lectures by Museum scientists, culminating in a day of science programs, family-friendly events, and special presentations on October 10, or 10/10/10.

Plans to usher the Rose Center for Earth and Space into its second decade also include a round of upgrades to many of the exhibits and signage on display. Many are already underway: video screens in the Dorothy and Lewis B. Cullman Hall of the Universe will be replaced with the latest liquid crystal display (LCD) technology, and interactive touch-screen kiosks in the David S. and Ruth L. Gottesman Hall of Planet Earth are being updated. Major overhauls still to come include a complete renovation of the Black Hole Theater in the Cullman Hall of the Universe, a rebuilt AstroBulletin refitted with next generation MicroTile LCDs to create a virtually seamless digital screen, and an updated Big Bang presentation in the lower half of the Hayden Sphere with new imagery and narration.

For additional details about the Rose Center and Hayden Planetarium Anniversary Year events, including 10/10/10, visit [amnh.org](http://amnh.org) or pick up the Museum Calendar.

Photo © AMNH/R. Mickens

Rotunda / Summer 2010 / [AMNH.org](http://AMNH.org)

## President Futter Goes to Washington



Ellen V. Futter, President of the American Museum of Natural History, represented the "informal science education" sector during a Congressional hearing on March 4 in Washington, DC on science education in our nation's schools. Speaking before the U.S. House of Representatives Committee on Science and Technology, she testified that it is essential that the federal government continue to support and fund museums, zoos, botanical gardens, and other science-related cultural institutions as "powerful catalysts" and key players in reforming K-12 science, technology, engineering, and math (or STEM) education.

"Communities across the country have access to an array of science-based institutions," said Futter. "Some large, some small, some local, some regional—but nearly all housing resources and expertise to help schools improve science education while also advancing the instincts for inquiry and discovery that are precisely what drive innovation and will fuel our country's global competitiveness."

Futter said that effective partnerships should be fostered between schools and science-based institutions by making both eligible for federal funding and grants and by explicitly recognizing the role of museums, including in the upcoming reauthorization of the America COMPETES Act, for which the committee was hearing testimony.

She also specifically mentioned several Museum programs, including its successful leadership role in the Urban Advantage Middle School Science Initiative in New York City, as national models for public-private partnerships that boost science literacy.

To read Ellen Futter's full written testimony, visit the House Committee on Science and Technology website [science.house.gov](http://science.house.gov) and search for "Futter."



Polar sledge

**SEE IT NOW**

Members receive  
free admission  
to *Race to the End  
of the Earth*.

#### THE POLAR SPARK

In an address at the American Museum of Natural History in 1927, Ellsworth confided that he was first inspired to become an explorer by the “scenes from the far-away shores of the Polar Sea” in the Museum’s halls. (Generous in sharing credit for his choice of career, he later cited as influences, in a paper to the Royal Geographical Society, a “beautiful emperor penguin” he visited at the London Zoo and Scott’s memorial at St. Paul’s Cathedral.)

#### AN AVID COLLECTOR

In 1926, Ellsworth sent the Museum a block of Algonkian red shale showing algae, an early gift that would be followed by many contributions to the collections. His subsequent gifts included 150 fossil specimens of 28 species, three of which had never before been found in the Antarctic, his diaries, logs, instruments, models of the *Norge* and the *Polar Star*, and 93 minutes of silent film documenting Ellsworth’s unsuccessful transpolar flights in 1933 and 1934.

#### A TIME BEFORE TWITTER

In the 1930s, a map of the South Pole installed in the Museum’s Theodore Roosevelt Memorial Hall was used to plot the daily progress of Antarctic expeditions by Ellsworth and Robert E. Byrd, “a feature which...attracted much interest,” according to the Museum’s 1933 Annual Report.

#### THE FIELD CONNECTION

Lincoln’s father, James Ellsworth, was a director of the Chicago Exposition of 1893 and is said to have convinced Chicago department store owner Marshall Field to build The Field Museum to preserve collections assembled for the world’s fair.

#### HOMETOWN HEROES

James Ellsworth financed a massive renewal of his hometown of Hudson, Ohio, that included burying telephone and electric wires in return for a promise that Hudson would remain “dry” for 50 years. Today, the town’s high school sports teams are called the Hudson Explorers in honor of Lincoln.

## Lincoln Ellsworth: The Museum’s Own Polar Star

A corridor on the Museum’s first floor just off the Grand Gallery celebrates a relatively unsung hero of polar exploration: the American Lincoln Ellsworth, who was also a Museum Trustee. His bust graces the back wall of the narrow hallway, while the display cases on either side contain artifacts detailing Ellsworth’s efforts to become the first man to fly across both polar continents, a feat he accomplished in 1935 when he crossed the Antarctic in his plane *Polar Star*.

Ten years earlier, Ellsworth’s first attempt to fly over the North Pole teamed him with Norwegian Roald Amundsen, whose earlier overland competition with British Royal Navy Captain Robert Falcon Scott to reach the South Pole is chronicled in the Museum’s new exhibition *Race to the End of the Earth*. Through the special relationship between Amundsen and Ellsworth, the Museum Library’s Memorabilia Collection came to possess items the Norwegian explorer carried with him on his quest to reach the South Pole, including a sledge, chronometer, binoculars, shotgun, and a tin cup from the ship *Fram*, which are featured in the new exhibition.

Partially underwritten by his father James, a wealthy coal mine owner and banker, Ellsworth’s 1925 attempt to fly over the North Pole failed. One year later, he and Amundsen succeeded in a dirigible, the *Norge*, built and piloted by Italian explorer Umberto Nobile. Ellsworth would go on to other expeditions, contributing geological and fossil specimens to the Museum’s collections in the process. He died in 1951 at age 71, but his legacy of support for the Museum and its mission continues to this day through an annual gift from The Lincoln Ellsworth Foundation.

For more information on *Race to the End of the Earth*, visit [amnh.org/exhibitions/race](http://amnh.org/exhibitions/race).

## A Bug's Life: *Lethocerus cordofanus* Mayr

Anyone who has encountered a member of the giant water bug family Belostomatidae, perhaps while trying to enjoy a nice summer dip in a pool, will remember why these aquatic insects are commonly called toe-biters: they're not shy about hunting prey, even the human kind.

The biggest insects of the order Hemiptera, a broad group that includes true bugs, cicadas, and hoppers, these aquatic predators are found in shallow streams or ponds across the world. When there's no tasty-looking toe nearby, they generally feed on snails, tadpoles, frogs, small fish, and even small birds, but they don't actually bite: like all true bugs, they lack chewing mouthparts. Instead, their method of dining involves grabbing prey with their forelimbs, or raptorial forelegs, and injecting it with a powerful proteolytic enzyme, which liquefies tissue by breaking down proteins. Once the prey turns to mush, water bugs feed by sucking the liquefied remains through a proboscis. If that sounds agonizing, it is. Water bug "bites" inflict pain on a par with the top-ranked insects on the Schmidt Sting Pain Index, a four-point scale created by entomologist Justin O. Schmidt to compare the stings of the order Hymenoptera, which includes bees, wasps, and ants. But though fairly painful, this sting is not actually dangerous to humans.

The water bugs' other nickname—electric light bugs—comes from their attraction to light. Though they are clumsy fliers, water bugs do take to the air when seeking out new streams and rely on surface light bouncing off water to find their way. When humans bring electric lights to new areas that include water bug habitats, the two species inevitably collide.

Species of Belostomatidae occur worldwide but this particular specimen from the Museum's Department of Entomology, a male *Lethocerus cordofanus* Mayr, was collected in 1911 in Morogoro, Tanzania. Though nearly a century old, like most insects, its hard body preserves well without any special treatment. It's one of approximately 24 million specimens housed in the Museum's Division of Invertebrate Zoology.

For more information on this collection, visit [research.amnh.org/iz](https://research.amnh.org/iz).



Photo © AMNH/D. Finnin

### UP FOR AIR

Even though water bugs live and hunt in ponds and streams, adults cannot breathe underwater and must come up near the surface for air. They use two tube-like appendages on the tip of their abdomen that resemble tails to pull air from the surface or from air bubbles.

### READING RAINFALL

Some species of *Abedus* water bugs, which occur in Arizona, have been shown to use rain cues to abandon streams and avoid flash floods—and near-certain death. Researchers simulated rainfall and demonstrated that water bugs have learned when to seek shelter on land, lowering their mortality rate during rains to just 15 percent.

### DADDY DAYCARE

Two water bug genera exhibit reversed parental care, where the females lay eggs in rows on the male's back, which may free up the females to continue mating. Males carry the eggs, which number up to 100 per batch, for several weeks until they hatch.

### HORS D'OEUVRES, ANYONE?

Water bugs may be fierce predators who feast on aquatic life, but they often become prey, too—sometimes to humans. *Lethocerus* bugs are considered delicacies and are served both fresh and cooked in parts of Asia including Vietnam and Thailand. They are also used to make a spicy condiment.

### THE KINSEY CONNECTION

The largest constituent in the Division of Invertebrate Zoology's collections is Alfred A. Kinsey's collection of Cynipidae, or gall wasps. Kinsey, who is best known for his research on human sexuality, began collecting gall wasps for his doctoral thesis at Harvard and even published an article about gall wasp life cycles for the *Bulletin of the American Museum of Natural History* in 1920. His extensive collection, which includes some 7.5 million specimens, was donated to the Museum by Kinsey's widow in 1958.

*Lethocerus cordofanus* Mayr

# Bone by Bone

THE DELICATE  
ART OF FOSSIL  
PREPARATION



**T**wo decades ago, a chunk of sand containing a nearly perfect 80-million-year-old lizard fossil—just pulled loose from the red desert floor and resting on the hood of a Jeep—exploded into dust when touched by a member of the Museum’s annual summer expedition to the Gobi desert. A preparator knows why: paleontology depends on glue.

“Some of the fossils from Ukhaa Tolgod, this massive dinosaur graveyard found in 1993, survive only because they are so tightly packed in sand,” says Amy Davidson, one of the Museum’s senior fossil preparators, who happened to be on that expedition. In a cavernous room perched over several stories of meticulously labeled fossils, she darts to a beautifully fragile and nearly complete dinosaur skull.

“This fossil was also turning into crumbs,” she continues. “We need to know our adhesives. I stabilized the porous bone and sandy matrix (any material in which fossils are embedded) with just the right strength and solubility to be able to sculpt out the fossil, just like a magician pulls a tablecloth from under the table setting.”

Last year, this delicate carnivorous cousin to *Tyrannosaurus rex* was described and named *Alioramus altai*.

Fossil preparation requires an uncommon degree of adaptability and patience. Museum preparators bring to the task diverse sets of skills from such backgrounds as art, paleontology, and archaeology. They generally learn their craft on the job, drawing from related fields such as object conservation to adapt modern glues, solvents, and other archival materials to stabilize fragile areas or repair damage.

But the basic approach remains the same. Davidson, for example, removes her frameless glasses to face a fossil through her microscope, resting her wrists on a black velvet sandbag, securing a fine needle between her thumb and index finger, and using her third and fourth fingers to lightly touch the specimen. She moves almost imperceptibly, for minutes on end, carefully excavating a jaw from the soft sand. At the ready, laid out on a cutting board, are her preferred tools of the trade: brushes and droppers for dispensing glue, needles of different sizes and shapes for excavating, an air pedal for removing scraps of matrix, and glass jars of carefully labeled adhesives.

In another part of the lab, the newest preparator, Justy Alicea, sits similarly immobile. A black curve of a tattoo peeks above his crew-neck shirt, and headphones help him block out the

distraction of visitors and scientists shifting around him. Alicea's workbench is lined with projects and paraphernalia—a detailed schematic plan for liberating a *Velociraptor's* jumble of limb bones to reconstruct its skeleton, the upper jaw of a duck-billed dinosaur encased in mudstone that had been partially prepared in 1915, dental drills and glues, and an original scientific illustration from 1951 that came with his lab space. He points to his proudest achievement—a delicate *Protoceratops* skull with a frill the width of cardstock and internal flying buttresses built of excess matrix and glue. Although the matrix was “falling off the bone,” Alicea says he stabilized it to uncover detail like the new teeth awaiting eruption in the jaw's resorption pits.

While some Museum paleontologists head to the Gobi each year, another group of scientists have been traversing the high Andes in search of mammals that evolved in isolation in South America's ancient forests and on the world's first grasslands. Now under Alicea's microscope is what he calls “a whole class of difficult”—a Chilean mammal entombed in volcanic ash that has compacted into something that requires carbide needles on aircsribes, or pneumatic drills, to remove. And while the volcanic layers make radiometric dating feasible, the removal of fossils is a painstaking process that Alicea is learning and one in which preparator Ana Balcarcel is already an expert. Under Balcarcel's microscope is a row of high-cusped teeth no taller than a half centimeter. She is exposing the teeth out of a dark gray slab of rock where they have been entombed for more than 30 million years, working in short intervals because

## Fossil preparation requires an uncommon degree of adaptability and patience.

the amount of silica in the matrix's dust requires removal with a steady vacuum that chills her nearly static hands. Her first step in preparing this fossil—the upper jaw of a notoungulate, or an extinct hoofed plant-eater native to South America—was to cut the excess matrix with a diamond-bladed rock saw. She estimates that she has spent about two months of often intense concentration using different pneumatic drills and other tools that withstand the pressure of volcanic rock.

“The tools vary,” says Balcarcel, sitting cross-legged and zipping her yin-yang pendant along its chain. “Each specimen is different, and you have to get to know each one—how soft, how well preserved.” Even so, the inevitable break occurs. Tooth enamel is often so thin and brittle that the needle's pressure chips it. At that point, matrix removal stops so that she can repair the break, often gluing with compounds that don't set immediately so that she can position the minute chip perfectly.

“I used to be very stressed preparing a fossil—it took a long time to get comfortable with breakage,” Balcarcel continues. “But part of our job is learning how to put things back together, and my time under the microscope has changed from stressful to almost zen-like relaxation.” ☺

For more information about the Division of Paleontology, visit [research.amnh.org/paleontology](http://research.amnh.org/paleontology).

## A Tale of Two Specimens



### No. SGOPV3692, probably *Santiagorothia chiliensis*

**Found:** On a joint Chilean-U.S. expedition, Curator John Flynn and team found this skull in March 1998, after it rolled off a giant cliff in a slab the size of a small pizza. One side of the skull was exposed and weathered; that surface was coated with an epoxy so the complete side could be preserved.

**Prepared:** Chicago preparator Bob Masek worked on the unexposed side to reveal skull bones and high cusps on teeth. It took 140 hours of careful excavating down to the surface of the fossil through the very hard volcanic rock.

**Published:** Not yet described in a scientific paper, the fossil may be the same species that Flynn and colleagues collected 100 miles away in the Tinguiririca River valley and described in 2000. The specimen could correlate ages of rocks between the two different locations and is one of dozens of new species from central Chile.

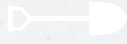
### No. MGI 100/975, *Shuvuuia deserti*

**Found:** Curator Mark Norell spied partially eroded white bone on the AMNH-Mongolian Academy of Sciences expedition to Ukhaa Tolgod in the Gobi in 1994. The block was cut, stabilized with glue, and wrapped in plaster and burlap.

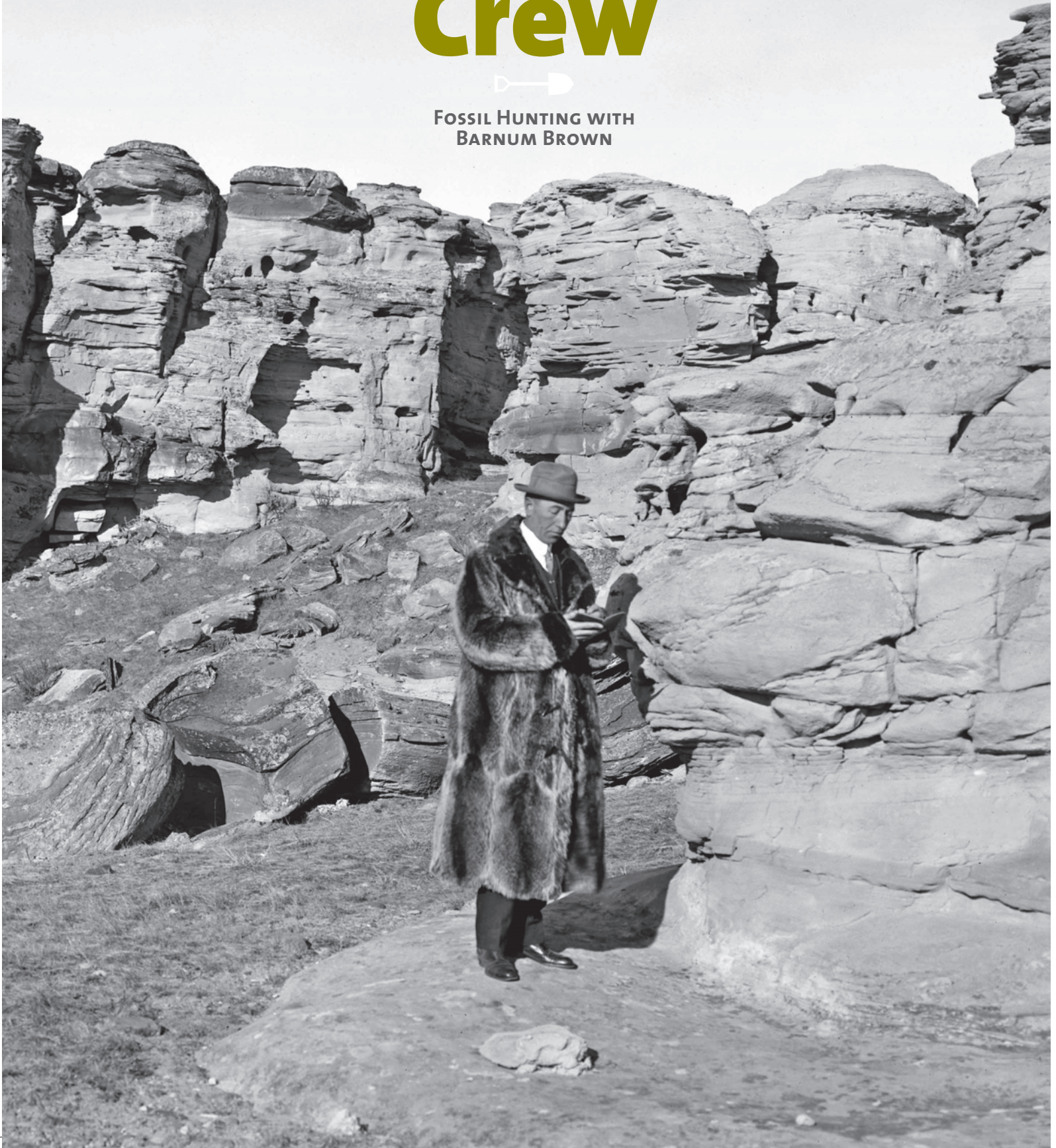
**Prepared:** Amy Davidson excavated the skull from the sandy matrix. The porous fossil required about four to five different adhesives. Under the microscope, Davidson saw linear fibers and paused for analysis. The fossil continues to be excavated in stages.

**Published:** The skull led to a paper in *Nature* in 1998, making this one of the many new species found at Ukhaa Tolgod. The linear fibers were found to contain a type of beta-carotene unique to feathers. Results were published in 1999.

# Skeleton Crew



FOSSIL HUNTING WITH  
BARNUM BROWN





Known as the greatest dinosaur collector of all time, Barnum Brown helped the Museum establish its world-class fossil collection. A new book, *Barnum Brown: The Man Who Discovered Tyrannosaurus Rex*, co-authored by Museum Research Associate Lowell Dingus and Chair of the Division of Paleontology Mark Norell, traces Brown's extraordinary career. The excerpt below focuses on two of his most famous finds: specimens of the *Tyrannosaurus rex*.

Back in New York [after a successful expedition that unearthed the most complete specimen to date], [Museum President Henry] Osborn and [Barnum] Brown contemplated how best to mount the two most complete specimens of *Tyrannosaurus*, AMNH 973 and 5027, for exhibition. Osborn instructed a departmental artist, E. S. Christman, to sculpt a scale model of every bone in the animal's skeleton connected with flexible joints, to facilitate the evaluation of various possible poses and postures. Raymond L. Ditmars, the Bronx Zoo's curator of reptiles, won the contest with his proposal for the poses. Brown set the scene thus: "It is early morning along the shores of a Cretaceous lake four million years ago." (We now know, thanks to radioisotopic dating techniques unavailable in Brown's time, that 65 million years ago is more accurate.)

A herbivorous dinosaur *Trachodon* [a duckbill] venturing from the water for a breakfast of succulent vegetation has been caught and partly devoured by a giant flesh eating *Tyrannosaurus*. As this monster crouches over the carcass, busy dismembering it, another *Tyrannosaurus* is attracted to the scene. Approaching, it rises nearly to its full height to grapple the more fortunate hunter and dispute the prey. The crouching figure reluctantly stops eating and accepts the challenge, partly rising to spring on its adversary. The psychological moment of tense inertia before the combat was chosen to best show positions of the limbs and bodies, as well as to picture an incident in the life history of these giant reptiles.

Unfortunately, the skeletons were too large to fit both in the existing exhibition hall, so in 1915 a single skeleton (AMNH 5027) was mounted in the now-famous erect or "Godzilla" posture, a portrayal that would wow visitors from around the world for the next eighty years and fire the curiosity of numerous future paleontologists.

Yet the perils surrounding these *Tyrannosaurus* specimens were not over. At the outbreak of World War II, the American Museum of Natural History sold the 1902 skeleton to the Carnegie Museum in Pittsburgh for \$7,000 (about \$96,000 in today's dollars)... Brown noted the sale in a memoir...: "Sold to Carnegie Museum in 1941... after we had made casts of the limb bones. The transaction was accomplished because the American Museum was afraid that German airships might bomb this [the American] Museum and destroy the second *Tyrannosaurus* skeleton now mounted here [AMNH 5027] and that at least one specimen might be preserved."

Fortunately, both skeletons survived. During the renovation of the fossil halls in the 1990s, we remounted the 1908 *T. rex* skeleton to reflect a more anatomically accurate posture. It was a daunting assignment, since each bone had to be removed from the old upright mount, conserved, and remounted in the new, more animated posture prescribed by recent research. It took two years to accomplish, a period replete with unremitting worries over the welfare of this priceless specimen. But our crew did a spectacular job and today Brown's skeleton stands ready to pounce on prey. ☺

Reprinted with permission from *Barnum Brown: The Man Who Discovered Tyrannosaurus Rex* © 2010 by Lowell Dingus and Mark A. Norell, University of California Press.

# Q & A

**You write that Brown was "well-built" to become a great dinosaur collector. How so?**

**Lowell Dingus:** Collecting dinosaurs requires a good deal of physical capability in terms of digging, lifting, and carrying large casts. Through his upbringing on the family farm in Kansas, he honed those physical abilities.

**Mark Norell:** He was well-adapted to harsh conditions in the field, and he was very much a resourceful pragmatist who always found a way to get the job accomplished. He was also well-organized and incredibly loyal to the institution where he worked.

**What surprised you most during your research?**

**MN:** To read his sparse accounts, you would think that his life, with a few exceptions, was fairly mundane. He seemed to downplay almost everything.

**How would you sum up Brown's legacy?**

**MN:** His legacy is obvious when you walk through our halls and collections, not just for the amount that he collected but also for the skill in collecting it. He also wrote some very insightful papers for his generation.

**LD:** I was struck when we renovated those halls by how many of the key specimens were his—not just *Tyrannosaurus rex*, but 56 others. And we still go back to many of the same field areas where he worked to answer the scientific questions raised by the specimens he found. So in those very real ways, his legacy still looms over all of us.

**Save the Date:** See page 12 for an upcoming event with Dingus and Norell.



**SAVE  
10%**

*Barnum Brown* is available from the Museum Shop. Members receive a 10% discount.

**Programs and Events**

**JULY**

**Virtual Universe: The Explosive Universe with Jackie Faherty**

HM070610, Tuesday, July 6

6:30 pm

\$13.50 Members

Tour the Milky Way to observe where stars are born and die and see everything energetic in between.

**Wild, Wild World: Live Penguins**

EL071010A, 11 am–noon

EL071010B, 1–2 pm

Saturday, July 10

Members' tickets are

\$8 children; \$10 adults

Join TV host **Jarod Miller** and live penguins to learn about animals that live in extreme environments.

**Adventures in the Global Kitchen: Planet Barbecue**

EL071410, Wednesday, July 14

6:30 pm

\$25

Enter at 77th Street

“Master Griller” **Steven**

**Raichlen** leads this talk and barbecue tasting.

**Great Gull Island**

MO071510, Thursday, July 15

8 am–6 pm

\$120 (Includes transportation by private coach and chartered boat)

Bring your lunch

Members only; limited to 25

Led by Museum ornithologist

**Helen Hays**, watch hatching chicks, track nests, analyze colonies, and explore the battlements of an old fort.

**Evening Bat Walks in Central Park**

EW071610, Friday, July 16

EW072310, Friday, July 23

EW073010, Friday, July 30

8:30 pm

\$30 Register early; limited space

Join **Brad Klein, Danielle**

**Gustafson**, and other members

of the New York City Bat Group

for a walk through Central

Park in search of bats. Rain

date is Saturday, July 31.

**Sail on the Clearwater**

MO071710, Saturday, July 17

2–5 pm

\$75

Register early; limited space

Members only

Board the historic Clearwater

sloop to enjoy the views and

learn about the ecology of the

Hudson River.

**Evening Walk to the Little Red Lighthouse**

MW072010, Tuesday, July 20

MW083110, Tuesday, August 31

6:30–8 pm

\$30

Members only

Join **Sidney Horenstein** for

a stroll to this Manhattan

landmark through Fort

Washington Park.

**Geology and History of the Thimble Islands**

MO072110, Wednesday, July 21

9 am–5 pm

\$95 (Includes transportation by private coach)

Bring your lunch

Members only

Visit the Thimble Islands

with **Sidney Horenstein** for

a 45-minute narrated tour

and a visit to Stony Creek

Classic Granite Quarry with

the foreman.

**Science Sense Tour: Rose Center for Earth and Space**

Saturday, July 24

10 am

Free with Museum admission

Registration required; call

212-313-7565

Explore astrophysics and

geology on this program

for blind or partially

sighted visitors.

**The Oddball Innermost Planet: Exploring Mercury with the MESSENGER Spacecraft**

Monday, July 26

7 pm

Free with Museum admission

Registration required;

call 212-769-5200

Join **Sean Solomon**,

Principal Investigator of the

MESSENGER mission, as he

discusses this innermost planet.

**Celestial Highlights: Summer Streakers with Joe Rao**

HM072710, Tuesday, July 27

6:30 pm

\$13.50 Members

Observe a number of summer

constellations, the Milky

Way, and the annual Perseid

meteor shower.

**Pequest Trout Hatchery**

MO072910, Thursday, July 29

8 am–6 pm

\$95 (Includes transportation by private coach)

Members only

Hike along the Pequest River

while observing its ecology and

learn why it is a good home for

trout. Then visit the hatchery,

where more than 700,000 trout

are raised each year.

**Exhibitions and Attractions**

Admission is by timed entry only.

**Race to the End of the Earth**

Through Sunday, January 2

Free for Members

This exhibition recounts one of the most stirring tales of Antarctic exploration: the race to reach the South Pole in 1911–1912.

**Traveling the Silk Road: Ancient Pathway to the Modern World**

Through Sunday, August 15

Free for Members

Step 1,000 years back in time to

experience the sights, sounds, and

stories of the greatest trading

route in history.

**Lizards & Snakes: Alive!**

Through Monday, September 6

Members' tickets are \$12 adults;

\$7.50 children

Meet more than 60 live lizards and

snakes from five continents and

see their remarkable adaptations.

**IMAX Movie**

HUBBLE

Opens Saturday, July 3

Members' tickets are \$12 adults;

\$7.50 children

This film lets viewers blast off

alongside the Atlantis STS-

125 crew, witness challenging

spacewalks, and experience

Hubble's striking images of

the universe.

**AUGUST**

**Virtual Universe: Tiny Objects in the Universe with Emily Rice**

.....  
**HM080310, Tuesday, August 3 6:30 pm**

**\$13.50 Members**

This program in the Hayden Planetarium Space Theater will showcase some of the most miniscule objects in the local universe.

**What Dinosaurs Ate in Central Park**

.....  
**MW080410, Wednesday, August 4 6-7:30 pm**

**\$50 per adult with child**

**Recommended for kids ages 10 and up**

This walking tour in Central Park will focus on the diet of herbivore dinosaurs and the evolution of plants.

**Last Look at the Silk Road**

.....  
**Thursday, August 5  
Wednesday, August 11**

**6:30-8 pm**

**Members only**

**Free; reservation required**

Join Museum docent **Eileen**

**Flood** for a special tour of *Traveling the Silk Road*, which closes on August 15.

**Wildflowers of Westchester**

.....  
**MO080710, Saturday, August 7 9 am-6 pm**

**\$95** (Includes transportation by private coach)

**Members only, limited to 36**

Explore an 854-acre nature preserve and take an intimate guided tour of Wildflower Island.

**Evening Walk in Fort Tryon Park**

.....  
**MW081710, Tuesday, August 17 6:30-8 pm**

**\$30**

**Members only**

Join **Sidney Horenstein** for a geological introduction to New York City.

**Geology of Inwood Hill Park**

.....  
**MW081910, Thursday, August 19 6:30-8 pm**

**\$30**

**Members only**

Join **Sidney Horenstein** on an evening stroll through one of the last remaining natural woodlands in Manhattan.

**Fun with Fossils**

.....  
**MO082110, Saturday, August 21 9 am-4 pm**

**\$85** (Includes transportation by private coach)

**Members only**

Fossil Collections Manager, **Carl Mehling** leads this expedition to Big Brook, New Jersey, where plentiful fossils and diverse fauna can be found.

**Science Sense Tour: Dioramas**

.....  
**Sunday, August 22 10 am**

**Free with Museum admission**

**Registration required; call**

**212-313-7565**

Learn about the art of creating Museum dioramas on this program for blind or partially sighted visitors.

**A Day of Geology and Beauty of Northern Manhattan: Inwood Hill and Fort Tryon**

.....  
**MW082510A**

**Wednesday, August 25**

**Inwood Hill Park**

**10:30 am-noon**

**MW082510B**

**Fort Tryon Park**

**1-2:30 pm**

**\$30 each or \$60 for both**

**Members only**

Walk along the Hudson River with geologist **Sidney Horenstein** to discover Inwood Hill and Fort Tryon Parks.

**Celestial Highlights: Surfing the Galactic Plane with Ted Williams**

.....  
**HM083110, Tuesday, August 31**

**6:30 pm**

**\$13.50 Members**

**Recommended for kids ages 5 and up**

Learn how to visualize the galactic, ecliptic, and equatorial planes in the night sky to locate constellations.

**SEPTEMBER**

**Behind the Scenes in Paleontology**

.....  
**MB090810A, 6:30**

**MB090810B, 7**

**MB090810C, 7:30 pm**

**Wednesday, September 8**

**\$35**

**Members only, kids ages 7 and up**

Take a tour with Fossil Collections Manager **Carl Mehling** and other scientists to learn how fossils are prepared.

**Birding in Prospect Park**

.....  
**MO091210, Sunday, September 12**

**10 am-2 pm**

**\$35**

**Members only**

Join ornithologist **Paul Sweet** to explore Prospect Park's birding hot spots, including Lookout Hill, the Peninsula, Lullwater, Pagoda Pond, and more.

**Hayden Planetarium Space Show**

.....  
**JOURNEY TO THE STARS**

**Members' tickets are \$12 adults,**

**\$7.50 children**

*Journey to the Stars* launches visitors through time and space to experience the life and death of the stars in our night sky.

**Credits**

*Race to the End of the Earth is organized by the American Museum of Natural History, New York (www.amnh.org), in collaboration with the Musée des Confluences, Lyon, France and Royal BC Museum, Victoria, British Columbia, Canada.*

*Generous support for Race to the End of the Earth has been provided by the Eileen P. Bernard Exhibition Fund, Marshall P. and Rachael Levine, and Drs. Harlan B. and Natasha Levine.*

*Additional support has been provided by the British Consulate-General New York and the National Science Foundation under Grant No. ANT 0636639.*

*Traveling the Silk Road is organized by the American Museum of Natural History, New York, (www.amnh.org), in collaboration with Azienda Speciale Palaexpo, Roma, Italy and Codice. Idee per la cultura srl, Torino, Italy; the National Museum of Australia, Canberra, Australia and*

*Art Exhibitions Australia; and the National Museum of Natural Science, Taichung, Taiwan and United Daily News, Taipei, Taiwan.*

*The Presenting Sponsor of Traveling the Silk Road is MetLife Foundation.*

*Additional support has been provided by Mary and David Solomon.*

*The Silk Road Project residency is generously supported by Rosalind P. Walter.*

**An Evening with Ross MacPhee**

.....  
**ML092110, Tuesday, September 21**  
**7–8:30 pm**

**\$12**

Members only

Curator **Ross MacPhee**, who curated the exhibition *The Race to the End of the Earth, Scott, and the Attainment of the South Pole* and about his research in Antarctica. Book signing will follow.

**Garlic Festival and Kaaterskill Falls**

.....  
**MO092510, Saturday, September 25**  
**8:30 am–6:30 pm**

**\$90** (Includes transportation by private coach)

Bring lunch or purchase at festival  
 Members only

Museum scientist **Paul Nascimbene** leads this tour to the Hudson Valley Garlic Festival and Kaaterskill Falls, the highest waterfall in New York State.

**Geology of Northern Central Park**

.....  
**Sunday, September 26**

**MW092610A**

**10 am–noon**

**MW092610B**

**1–3 pm**

**\$30**

Members only

Recommended for kids ages 7 and up.

Geologist **Sidney Horenstein** will focus on geological features of Central Park.

**OCTOBER**

**Birding at the Barrier Beaches**

.....  
**MO100210, Saturday, October 2**

**9 am–5 pm**

**\$90** (Includes transportation by private coach)

Bring your lunch; recommended for kids ages 7 and up

Members only

Don't forget your binoculars to spot a variety of raptors, waterbirds, and songbirds.

**Ten Years of Space Shows at the Rose Center**

.....  
**ME101210, Tuesday, October 12**

**ME101310, Wednesday, October 13**

**6–8 pm**

**\$12 adults, \$7.50 kids**

Members only

Celebrate the 10th anniversary of the Rose Center with four Space Shows, screened in one evening.

**Barnum Brown: The Man Who Discovered Tyrannosaurus Rex:**

**An Evening with Mark Norell and Lowell Dingus**

.....  
**ML102110, Thursday, October 21**

**7–8:30 pm**

**Free for Members**

Register early, limited space

**Division of Paleontology Chair Mark Norell** and Research

Associate **Lowell Dingus** will discuss their new book about the famous fossil hunter. Books purchased at amnhshop.com will be available for pick-up; signing will follow.

**Credits**

Public programs are made possible, in part, by the Rita and Frits Markus Fund for the Public Understanding of Science.

Virtual Universe and Celestial Highlights programs are supported, in part, by the Schaffner Family.

The Oddball Innermost Planet is the Barringer Invitational Lecture of the 73rd Annual Meeting of the Meteoritical Society, held in New York from July 26 to July 30.

**PLAN AHEAD**

**Montauk Winter Wildlife Weekend**

.....  
**MO020511, Saturday, February 5–**  
**Sunday, February 6**

**\$300** per person double occupancy; **\$400** single occupancy

(Includes transportation by private coach, one-night stay in the Born Free Motel, and dinner on Saturday night)

Register early

Join ornithologist **Paul Sweet** on this two-day birding and wildlife expedition to look for sea ducks, auks, seals, and more.

Lizards & Snakes: Alive! is organized by the American Museum of Natural History, New York ([www.amnh.org](http://www.amnh.org)), in collaboration with the Fernbank Museum of Natural History, Atlanta, and the San Diego Natural History Museum, with appreciation to Clyde Peeling's Reptiland.

Journey to the Stars was produced by the American Museum of Natural History, the Rose Center for Earth and Space, and the Hayden Planetarium.

Journey to the Stars was developed by the American Museum of Natural History, New York ([www.amnh.org](http://www.amnh.org)), in collaboration with the California Academy of Sciences, San Francisco; GOTO INC, Tokyo, Japan; Papalote • Museo del Niño, Mexico City, Mexico; and Smithsonian National Air and Space Museum, Washington, D.C.

Journey to the Stars was created by the American Museum of Natural History, with the major

support and partnership of **NASA**, Science Mission Directorate, Heliophysics Division.

Made possible through the generous sponsorship of **Lockheed Martin Corporation**.

And proudly sponsored by **Accenture**.

Supercomputing resources provided by The Texas Advanced Computing Center (TACC) at The University

of Texas at Austin, through the TeraGrid, a project of the National Science Foundation.

**JULY****06**

**Tuesday**  
Virtual Universe:  
The Explosive Universe

**10**

**Saturday**  
Wild, Wild World:  
Live Penguins

**14**

**Wednesday**  
Adventures in the Global Kitchen:  
Planet Barbecue

**15**

**Thursday**  
Great Gull Island

**16**

**Friday**  
Evening Bat Walk in  
Central Park

**17**

**Saturday**  
Sail on the Clearwater

**20**

**Tuesday**  
Evening Walk to the  
Little Red Lighthouse

**21**

**Wednesday**  
Geology and History of  
the Thimble Islands

**23**

**Friday**  
Evening Bat Walk in  
Central Park

**24**

**Saturday**  
Science Sense Tour:  
Rose Center

A Night at the  
Museum Sleepover

**26**

**Monday**  
The Oddball Innermost Planet:  
Exploring Mercury with the  
MESSENGER Spacecraft

**27**

**Tuesday**  
Celestial Highlights:  
Summer Streakers

**29**

**Thursday**  
Pequest Trout Hatchery

**30**

**Friday**  
Evening Bat Walk in  
Central Park

**AUGUST****03**

**Tuesday**  
Virtual Universe: Tiny  
Objects in the Universe

**04**

**Wednesday**  
What Dinosaurs Ate  
in Central Park

**05**

**Thursday**  
Last Look at the Silk Road

**07**

**Saturday**  
Wildflowers of Westchester

**11**

**Wednesday**  
Last Look at the Silk Road

**15**

**Sunday**  
*Traveling the Silk Road* closes

**17**

**Tuesday**  
Evening Walk in Fort Tryon Park

**19**

**Thursday**  
Geology of Inwood Hill Park

**20**

**Friday**  
A Night at the Museum  
Sleepover

**21**

**Saturday**  
Fun with Fossils

**22**

**Sunday**  
Science Sense Tour:  
Dioramas

**25**

**Wednesday**  
Inwood Hill and Fort Tryon Parks

**31**

**Tuesday**  
Celestial Highlights:  
Surfing the Galactic Plane  
  
Evening Walk to the  
Little Red Lighthouse

**SEPTEMBER AND BEYOND****06**

**Monday**  
*Lizards & Snakes: Alive!* closes

**08**

**Wednesday**  
Behind the Scenes in  
Paleontology

**12**

**Sunday**  
Birding in Prospect Park

**21**

**Tuesday**  
An Evening with Ross MacPhee

**24**

**Friday**  
A Night at the Museum  
Sleepover

**25**

**Saturday**  
Garlic Festival and  
Kaaterskill Falls

**26**

**Sunday**  
Geology of Northern  
Central Park

**OCTOBER****02**

**Saturday**  
Birding the Barrier Beaches

**08**

**Friday**  
Supernova Sleepover

**12**

**Tuesday**  
Ten Years of Space Shows

**13**

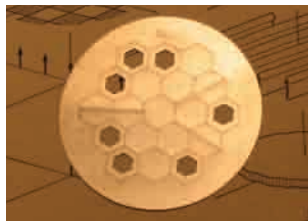
**Wednesday**  
Ten Years of Space Shows

**21**

**Thursday**  
An Evening with Mark Norell  
and Lowell Dingus

**FEBRUARY****5-6**

**Saturday and Sunday**  
Montauk Winter Wildlife  
Weekend



### On the Webb

A wafer-thin titanium disk—conceived in the labs on the sixth floor of the Museum’s Rose Center for Earth and Space—will launch into space in 2014 with the James Webb Space Telescope. This disk, known as a non-redundant mask, will dramatically improve the telescope’s resolution for fainter objects by filtering light coming from very bright objects.

“This technique was invented for radio astronomy in the late 1950s and revised for ground-based astronomy in the late 1990s,” says Anand Sivaramakrishnan, chief instrumentation scientist in the Museum’s Department of Astrophysics. “But this is the first time it will be used in space.”

Sivaramakrishnan and his team designed non-redundant masks for ground-based telescopes like that used by Project 1640 on the 200-inch telescope at Palomar. On the ground, the mask enables the imaging of objects about 100 times fainter than a bright star and was recently instrumental in discovering a new star in the Big Dipper. But in space, this same tool should be able to detect objects 10,000 times fainter than the nearby bright object or star, helping the Hubble’s successor directly image extrasolar planets.

## Hayden Sphere: Out of This World

Imposing by day and luminous by night, the Hayden Sphere inside its 120-foot-high, clear glass enclosure at the Frederick Phineas and Sandra Priest Rose Center has lived up in every way to its predicted status as an architectural icon when it was unveiled 10 years ago. But equally fulfilled has been the promise of education and enchantment offered within—the Big Bang simulation, dazzling space projections in the Dome, and lastly, the ever-popular Space Shows.

Four distinct Space Shows, created by the Museum with private and public support and in collaboration with the National Aeronautics and Space Administration (NASA) and various scientific institutions around the world, have been shown since the Rose Center for Earth and Space opened in 2000: *Passport to the Universe*, narrated by Tom Hanks; *The Search for Life: Are We Alone?*, narrated by Harrison Ford; *Cosmic Collisions*, narrated by Robert Redford; and the latest, *Journey to the Stars*, narrated by



Whoopi Goldberg and described by Dennis Overbye of *The New York Times* as “the most beautiful planetarium show I have ever seen.”

Save the date: Members can see all four Space Shows in one evening to celebrate the 10th anniversary of the opening of the Rose Center for Earth and Space. See page 12.

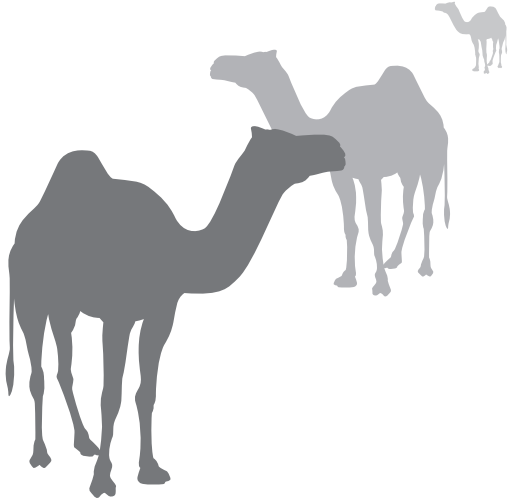
### NASA Administrator Charles Bolden at the Museum



**1.** Director of the Hayden Planetarium Neil deGrasse Tyson toured the Rose Center for Earth and Space with NASA Administrator Charles Bolden, a former astronaut.  
**2.** During his visit, Bolden spoke to a group of students in the Hayden Planetarium Space Theater.

**3.** Tyson and Bolden circled the Scales of the Universe, a 400-foot-long walkway that illustrates the vast range of size in the universe.

Photos, except for non-redundant mask © AMNH/D. Finnin



## The Legacy of the Silk Road

Long before airplanes or computers, this network of trails, sea routes, oases and marketplaces connected East Asia to the Mediterranean. The complex network linked empires, giving many people, including Greeks, Indians, Persians, Arabs, and Han Chinese, their first contact with distant civilizations. At inns called caravanserais, travelers mingled and traded all kinds of raw materials and finished products, from furs and feathers to ceramics and gems and, of course, silk.

Much more than tangible goods traveled along the Silk Road. So did technology and culture, both objects and ideas. As trade

brought people into contact with one another, they borrowed and adapted each other's ideas and skills. For example, as goods traveled, so did the ways they were made. Key among these technologies was silk-making, or sericulture, which had already been practiced in China for thousands of years and was a zealously guarded secret. Other technologies included glassmaking, an art developed in the Mediterranean; papermaking, a Chinese invention that spread the written word; and metalworking, which originated in the central Middle East. Many contemporary inventions, like grape winemaking and paper money, are still in use today.

Artifacts found along the Silk Road show that as they did business, travelers also exchanged music, cuisines, and beliefs. Pilgrims and merchants carried their religions (including Buddhism, Islam, Christianity, Judaism, and Zoroastrianism) to distant lands. Scientific knowledge of subjects such as astronomy and mathematics also made its way along trade routes, as did visual styles and motifs. These exchanges profoundly affected many of the civilizations that came into contact with each other. Crossing rugged mountains and scorching deserts, braving hunger, sandstorms and robbers, the camel caravans of the Silk Road were the harbingers of globalization. The first international highway, the Silk Road helped lay foundations for the modern world.

**Last chance! Members receive free admission to *Traveling the Silk Road*, which closes August 15.**



Moon lute

## For Kids: Sounds of the Silk Road

All along the Silk Road, from desert inns to grand palaces, travelers heard music playing. It was a way to share ideas and tell stories, like "The Battle in the Water"—an ancient Chinese folktale about a snake-spirit who marries a

young man. In "Sounds of the Silk Road" ([amnh.org/ology/silkroadmusic](http://amnh.org/ology/silkroadmusic)), an engaging interactive on the Museum's OLogy site for kids, you can hear the song played on six traditional instruments from Xi'an, China. Musicians from east and west gathered in this Tang Dynasty capital, where rhythms and melodies blended over the centuries.

Explore the instruments: the pipa; moon lute; the two-stringed erhu and its bamboo-and-horsehair bow; the sheng, a wind instrument made of a circle of bamboo pipes that represent the folded wings of the mythical phoenix; drums; and cymbals. Click on each to hear the sound it makes and the role each plays in the song. Then use this ancient Chinese orchestra to compose your own Silk Road song. You can make changes as you go, and save and share the composition when you're done.

## Silk Road Surprises

There was no single "Silk Road." It was a complicated network of trade routes.

...

People often traveled at night to avoid scorching desert heat.

...

It takes about 2,500 silkworms to produce one pound of silk, enough for one robe. The thread was so coveted that foreigners would unravel Chinese silks and reweave new garments.

...

Merchants sometimes packed melons and other fruit in lead containers filled with snow and ice from the mountains before sending them along the Silk Road.

...

Both one-humped and two-humped camels hauled goods along the Silk Road. Camel humps don't store water. They store fat, which provides energy.

### Credits

*Traveling the Silk Road is organized by the American Museum of Natural History, New York, ([www.amnh.org](http://www.amnh.org)), in collaboration with Azienda Speciale Palaexpo, Roma, Italy and Codice. Idee per la cultura srl, Torino, Italy; the National Museum of Australia, Canberra, Australia and Art Exhibitions Australia; and the National Museum of Natural Science, Taichung, Taiwan and United Daily News, Taipei, Taiwan.*

*The Presenting Sponsor of Traveling the Silk Road is MetLife Foundation.*

*Additional support has been provided by Mary and David Solomon.*

*The Silk Road Project residency is generously supported by Rosalind P. Walter.*

## More from Your Membership

Museum Members enjoy many valuable benefits, including one that begins at the door: express entry to avoid long lines on crowded days.

With free general admission, programs such as Global Weekends or Milstein Science Series for families are complimentary. Special exhibitions—such as *Traveling the Silk Road: Ancient Pathway to the Modern World* and *Race to the End of the Earth*—are also free for Members with timed tickets from any of the membership desks.

Many popular attractions and programs have special Members-only prices. Space Shows, IMAX films, and live-animal exhibitions such as *Lizards & Snakes: Alive!* are discounted to \$12 for adults and \$7.50 for children. For a family of four seeing a special exhibition and a Space Show without a membership, the total comes to \$76. With a membership, they would pay \$39, or nearly 50% less.

Members pay reduced admission to public lectures and Hayden Planetarium programs, as well as to the annual Margaret Mead Film & Video Festival. A Night at the Museum Sleepovers, for ages 7 to 13, are discounted for Members to \$119 per person. Recently, popular children’s programs such as Wild, Wild

World and Dr. Nebula began offering Members discounted prices of \$10 for adults and \$8 for children.

Other advantages include 10% discounts in Museum gift shops, with a 20% discount during Member Extra Discount Days in the fall. Members also receive a 15% discount in the Museum Food Court and cafés.

To receive the latest information about Museum programs and discounts, make sure you are receiving the monthly eNotes for Members. Simply send us an email from your preferred account to [members@amnh.org](mailto:members@amnh.org) with your name and membership number. The Museum does not trade or rent its Member email list.

Gila monster from *Lizards & Snakes: Alive!*



## Museum Food Court Earns Green Distinction

Going green has put the American Museum of Natural History in a league of its own. In 2009, the Museum became the only cultural institution in the U.S. with a 3-Star Certified Green Restaurant designation, a distinction awarded to the Museum’s food court by the Green Restaurant Association (GRA) for environmentally-responsible practices.

The Museum Food Court is now one of only 25 foodservice establishments in the U.S. at the 3-Star level, which requires restaurants to earn a minimum of 175 points within GRA’s certification program. No restaurant has earned the 4-Star status, the highest distinction in the program.

The Museum Food Court, which is managed by Restaurant Associates, earned points in seven environmental categories including water efficiency, waste reduction and recycling, and sustainable furnishings and building materials. In addition to a



full-scale recycling program, the Museum Food Court’s environmentally responsible efforts include installing compact fluorescent lighting, sourcing local and organic foods, and using non-toxic cleaning products.

Members receive a 15% discount at the Museum Food Court and cafés.

## Kids’ Birthdays at the Museum!

Linda Kaye’s Partymakers will throw an unforgettable birthday bash for kids ages four and up. Choose from Dinosaur Discoveries, Safari Adventure, Underwater Treasures, and Cosmic Blast-Off, which includes an option to see *Journey to the Stars*. Parties are an exclusive benefit for Contributor and higher-level Members. For more information, visit [partymakers.com](http://partymakers.com) or call 212-288-7112.

## Enter at 81st Street

During the renovation of the Central Park West façade and Roosevelt Rotunda, please use the Museum entrance on 81st Street.





## Members on the Move

It is hours before the Museum will open and the sun is streaming across the towering *Barosaurus* in the Theodore Roosevelt Rotunda. Some 50 people in sweatpants and tees are doing shoulder rolls and arm stretches while Museum docent Kathleen Kinne explains the latest research on the prehistoric megalodon, or “big-toothed” shark, they will see upstairs. So begins another Walk on the Wild Side, an hour-long combination of exercise and education made possible by Jack and Susan Rudin.

“What better or more amazing way could there be to stimulate your mind and your body,” says Susan Rudin, “than a walk through a great museum accompanied by only guards and other race walkers?”

The program, once called Jurassic Gym by *The New York Times*, is a benefit for Contributor-level Members and above offered every Wednesday in January, February, and March. It is led by a professional trainer and includes a bracing one- to two-mile walk with stops for conditioning exercises throughout. Elevators are

available for anyone who might have difficulty with the stairs. A Museum guard follows behind to direct stragglers. “I crack a sweat every now and then,” says guard Eli Torres.

The final cool-downs in the Rotunda allow the docent to share more information about science and the Museum, followed by a healthy breakfast buffet in the Akeley Hall of African Mammals.

**“What better or more amazing way could there be to stimulate your mind and your body?”**

—SUSAN RUDIN

“I go to the gym a couple of days, but this is different, very special,” says Stephen Rosen, a career-change consultant for doctors, lawyers, and other professionals who joined the group recently, inspired by the participation of his wife and business partner, Celia Paul, who adds, “It’s a wonderful use of the Museum. And it’s fun.”

“Being here when it’s not open to the public has a kind of charm,” says Anita Rich, a retired teacher who has been in the program for more than a decade. “It’s a New York experience!”

## A Tribute to Special Supporters

Camille and Michael Pantuliano



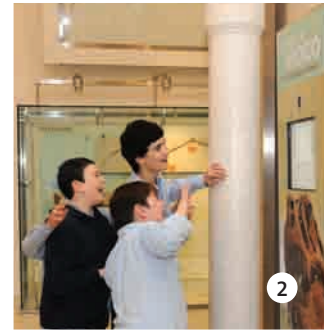
Camille and Michael Pantuliano have been volunteers at the Museum for more than 10 years. They recently shared their reasons for making a gift to the Museum of the most precious commodity of all—their time: “The Museum is very important to us. We are volunteer explainers and tour guides because we are fascinated by the scientific subject matter, love meeting visitors from all over the world, and enjoy the friendship of many other volunteers. It’s also fun. And it contributes to one of the Museum’s prime missions: to educate the public about science and to get youngsters interested in science. We care deeply about this.”

The Pantulianos recently funded

a charitable gift annuity with the Museum. Although they are entitled to an income-tax charitable deduction and will receive payments that are partially tax-free for the rest of their lives, the Pantulianos say that they are not motivated by the tax benefits.

Instead, they say, “With science a key foundation for the technological innovations that create jobs in today’s world, the Museum has become an agent that promotes economic growth as well as scientific knowledge. We want to be part of that effort now and in the future.”

For more information about charitable gift annuities, call Planned Giving at 212-769-5119.



**1.** Children enjoy the Discovery Room during the Members Open House in March.  
**2.** Members explore the video kiosks in the fossil halls during the Open House.  
**3.** Members mingle in the Rose Center for Earth and Space at the April Stars Party.

**4.** A Member checks out a telescope on the Arthur Ross Terrace during the April Stars Party.  
**5.** Two young Members watch Alka-Seltzer rockets during the April Stars Party.  
**6.** Ornithologist Paul Sweet answers Members' questions during the spring Open House.



1. Jared and Ivanka Kushner, 2010 Museum Dance Leadership Chair, enjoy the festivities on April 15.  
 2. Museum Dance Leadership Chairs Dana Wallach Jones and Andrew Right with Museum President Ellen V. Futter at the dance.

3. Museum Trustee Roberto Mignone and his wife Allison with Museum Chairman Lewis W. Bernard at the Museum Dance.  
 4. Blair Hussain, Veronica Webb, and Sarah Peters came dressed for the Museum Dance's theme, Spring Safari.

Photos © AMNH/D. Fimmin

Rotunda / Summer 2010 / AMNH.org

## Save the Date! Upcoming Events at the Museum

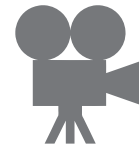


### OCTOBER

10/10 Celebrate the 10th anniversary of the Rose Center for Earth and Space. The full day of events on 10/10/10 will include family-friendly activities, science programs, special presentations, and more! Free.



10/19 Join us for the 17th Annual Family Party, a chance for guests to take over the Museum's halls while enjoying activities that include a dinosaur fossil dig, simulated space travel, demonstrations with live animals, and live performances. For more information and to purchase tickets to this event, visit [amnh.org/familyparty](http://amnh.org/familyparty).



### NOVEMBER

11/11-11/14 The annual Margaret Mead Film & Video Festival, the longest-running showcase for international documentaries in the U.S., returns with an exciting slate of films. Members receive a discount on festival tickets.

Late November; date forthcoming. Be the first to see the exciting new exhibition *Brain: The Inside Story* at this after-hours Members-only preview. A reception in the Theodore Roosevelt Memorial Rotunda will follow.

11/22 *The Origami Tree*, a beloved holiday tradition, returns to the Museum decked with amazing paper creations. Free.



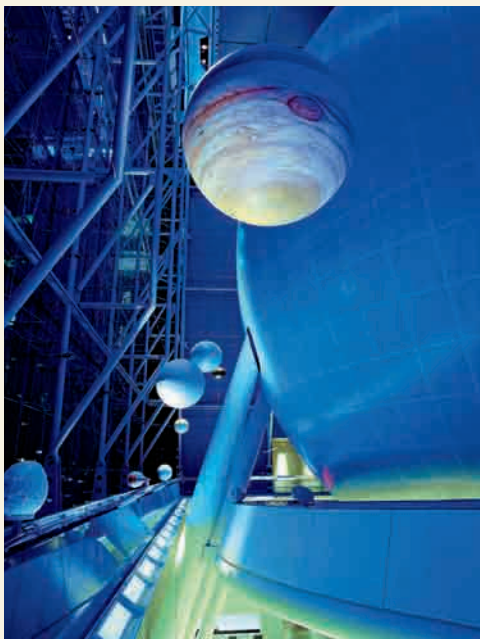
### DECEMBER

12/12 The annual Holiday Party for Members is back at the Milstein Hall of Ocean Life with an afternoon of activities and live entertainment. Free and open for Family and higher-level Members only.

Central Park West at 79th Street  
New York, New York 10024-5192  
[amnh.org](http://amnh.org)



© AMNH/D. Finnin



To celebrate the 10th anniversary of the opening of the Frederick Phineas and Sandra Priest Rose Center for Earth and Space and the 75th anniversary of the opening of the original Hayden Planetarium, the Museum will be hosting a day of science programs, family-friendly events, and special presentations on 10/10/10.

### General Information

#### HOURS

Museum: Open daily, 10 am–5:45 pm; closed on Thanksgiving and Christmas.

#### ENTRANCES

During Museum hours, Members may enter at Central Park West at 79th Street (second floor), the Rose Center/81st Street, and through the subway (lower level).

#### RESTAURANTS

Museum Food Court, Café on One, Starlight Café, and Café on 4 offer Members a 15% discount. Hours are subject to change.




#### MUSEUM SHOPS

The Museum Shop, DinoStore, The Shop for Earth & Space, Cosmic Shop, Silk Road Shop, The Antarctic Shop, and [amnhshop.com](http://amnhshop.com) offer Members a 10% discount.

#### PHONE NUMBERS

Central Reservations 212-769-5200  
Membership Office 212-769-5606  
Museum Information 212-769-5100  
Development 212-769-5151

#### TRANSPORTATION AND PARKING

Subway:  (weekdays) or  to 81st Street;  to 79th Street, walk east to Museum  
Bus: M7, M10, M11, or M104 to 79th Street; M79 to Central Park West  
Parking Garage: Open daily, 8 am–11 pm; enter from West 81st Street. Members receive a discounted rate of \$10 if entering after 4 pm. To receive this rate, you must show your membership card or event ticket when exiting the garage.