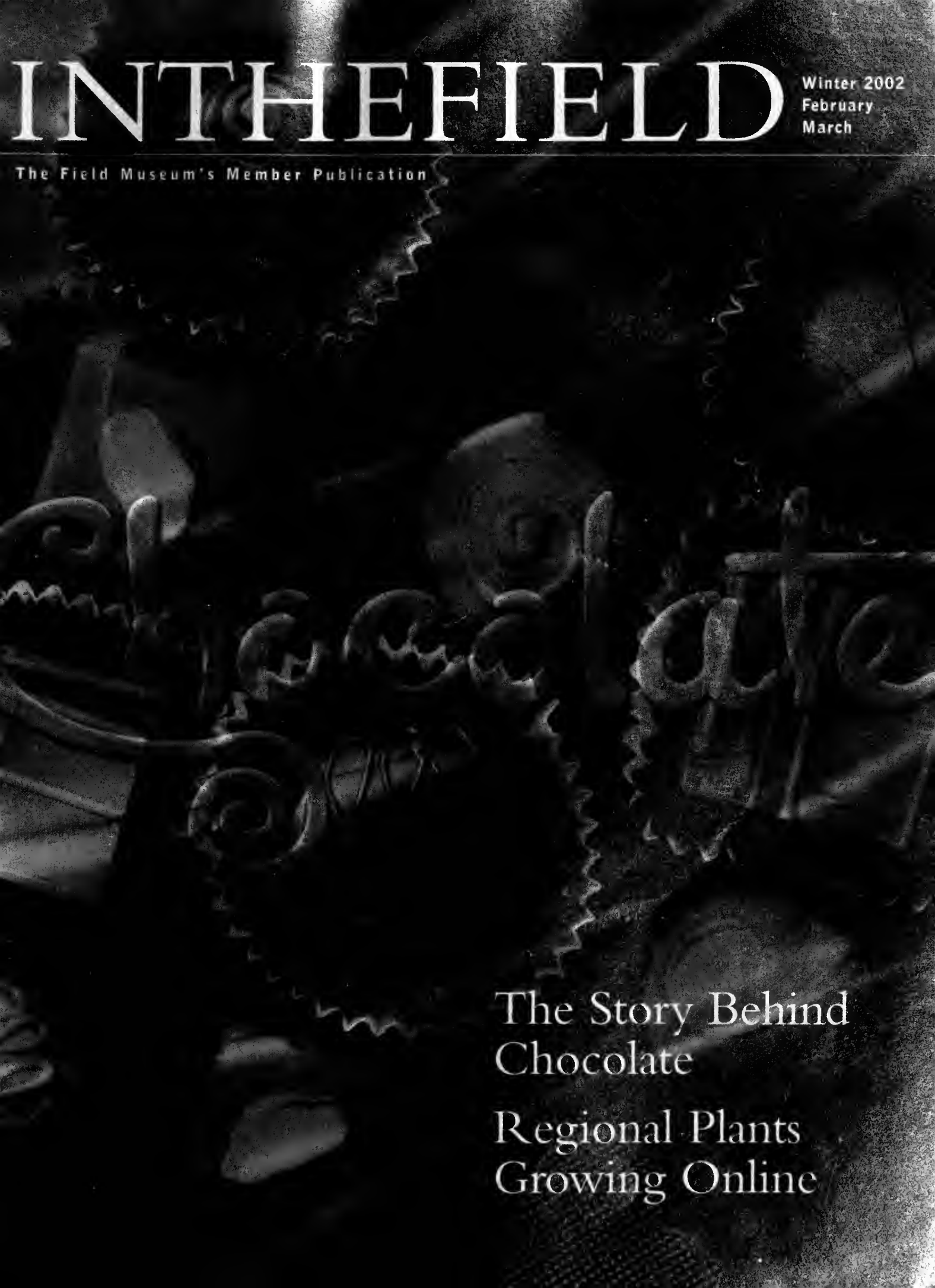
INTHEFIELD

Winter 2002
February
March

The Field Museum's Member Publication



The Story Behind Chocolate

Regional Plants Growing Online

Stepping Back While Looking Ahead

JOHN WEINSTEIN/GN881196

Cleopatra is bringing in unprecedented crowds, and we are gearing up for this year's new exhibitions. *Chocolate* will open on Valentine's Day, *Tiniest Giants* on March 15, *Pearls* on June 28 and *Bamboo Masterworks* this November. The quality and variety of our education programs are drawing increased participation. Our scientists have released publications on important topics, such as primate origins, paleobotany, fish and turtle locomotion and dinosaur discoveries. They continue to enact powerful conservation plans for some of the Earth's most precious and biologically diverse regions.

We are all aware, however, that daily life, as we knew it, has been challenged in recent months. All of us are looking again at our priorities with regard to family, career, health, interests and dreams. I doubt there is one person in this country who was not somehow affected by the events of Sept. 11. The Field Museum is certainly no exception.

Across the country, tourism is down, contributions from foundations and corporations have decreased and operating support from state and local governments has declined. While contributions to the Museum were steady throughout 2001, we have seen a decrease in the value of our endowment. As a result, we are not planning to grow as rapidly as we have in the past few years, and we are evaluating ways to do our jobs more efficiently.

Two major projects that we are most excited about this year are the new Collections Resource Center (see page 19 for a short article) and the new East Entrance. We thank Gov. George Ryan, House Minority Leader Lee Daniels and the Illinois General Assembly for their generous support of our renovation plans. With their leadership, the state approved $20 million in funding last year to start the expansion of our facilities; update our ability to house, research and conserve much of our anthropology and zoology collections; and start a new entrance that allows better access for schoolchildren and special-use visitors.

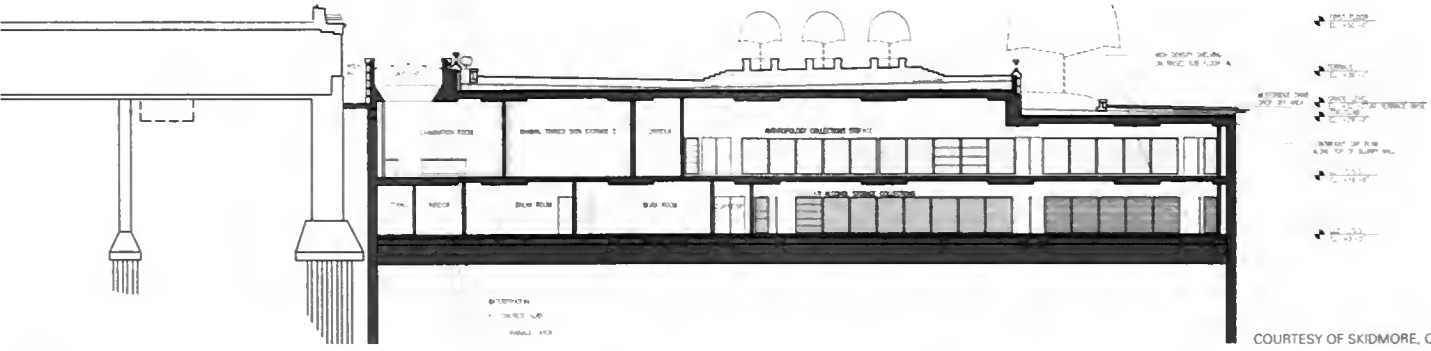
We are now seeking an additional $20 million in funding from the state as part of a statewide museum initiative. On your next Museum visit, please stop by the booth in Stanley Field Hall to create a personalized postcard for your elected officials, or, in the interim, write, call or email them on your own. (Visit www.elections.state.il.us to identify your state senator and representative.) We have also enclosed two postcards, one for Gov. Ryan and one for Speaker of the House Michael Madigan, to complete and mail to them. In the coming weeks, we will be meeting with our state's elected officials and will ensure that your voice is heard. We hope that you and your family and friends continue supporting us as you have done wonderfully so far.

Please remember that your participation made a difference last year, and we are confident that it will help again this year. Without everyone's commitment—employees, members and visitors alike—we would not be able to continue being one of the great natural history museums in the world.

John McCarter

John W. McCarter, Jr.
President & CEO

Architectural rendering of the new Collections Resource Center



COURTESY OF SKIDMORE, OWINGS & MERRILL LLP

What do you think about In the Field?

For general membership inquiries, including address changes, call 312.665.7700. For questions about *In the Field*, call 312.665.7115, email acranch@fmnh.org, or write Amy E. Cranch, Editor, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496.

INTHEFIELD INSIDE

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The cover image highlights *Chocolate*, developed by The Field Museum and open Feb. 14 through Dec. 31, 2002.

The Field Museum salutes the people of Chicago for their long-standing, generous support of the Museum through the Chicago Park District.

The Field Museum

1400 South Lake Shore Drive
Chicago, IL 60605-2496
312.922.9410
www.fieldmuseum.org

W. BURGER

W.S. ALVERSON

Volunteers Need a Lift: Since Soldier Field construction began, reserved parking for the Museum's 600-plus volunteers has been moved, resulting in a longer walk to the Museum. We want to accommodate our volunteers with a van shuttle from these remote parking areas. To support the Museum's volunteer van fund, please send your tax-deductible contribution, payable to The Field Museum, to Patricia Stratton, Manager of Volunteer Services, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496. You may also call 312.665.7277 for information. Thank you for supporting our volunteers.

Museum Campus Neighbors

Shedd Aquarium Get in touch with Shedd's animals during daily touch sessions. From 12:30 to 1pm, touch sea stars, chitons and crabs in the Oceanarium tide pool and learn how these animals survive in the surf zone. Then at 2pm, encounter an Africa bullfrog, a red-tailed boa or even a Chilean rose tarantula. Locations are posted at the information booth. Call 312.939.2438 or check www.sheddaquarium.org.

Adler Planetarium Throughout 2002, come to Far Out Fridays on the first Friday night of every month for unlimited shows in the Sky Theater and the StarRiderTM Theater, telescope viewing, lectures, hands-on activities, demonstrations, and gallery and Doane Observatory tours. Admission is $15 for adults, $12 for children and seniors and $5 for Adler members. A Family Star Pack is $45. Visit www.adlerplanetarium.org, or call 312.922.STAR.

Museum Campus In 2002, a new free day schedule will make it easier for Chicago-area families to enjoy all three institutions in one day, avoid the summer crowds and take advantage of three-day weekends. Free days are now on Mondays and Tuesdays, September through February. Also, as construction projects begin, go to www.museumcampus.org for the latest news on parking availability, traffic alerts and construction updates.

The Story Behind Chocolate

One season of Chocolate explores where and how cocoa is grown today, and what farmers are doing to preserve their crops, income and the rainforest.

This Valentine's Day will be [illegible] sweet for The Field Museum with the world premiere of Chocolate, a traveling [illegible] exhibition almost three years in the making. Conceived, designed and produced by Field Museum exhibitions and scientific staff, Chocolate will remain at the Museum through Dec. 31, 2002. It will then travel across the nation in a 10-city tour, with opening stops at The Natural History Museum of Los Angeles County and the American Museum of Natural History in New York.

Chocolate was originally intended to be a smaller-scale exhibition, featuring the Museum's Natural Products Initiative, a program that develops sound practices for using plant and animal resources. But a small display at Members' Nights provoked an unexpectedly strong response. From its unique ecology to its complex cultural history, chocolate, it seems, is the perfect natural history topic. Besides its mouthwatering appeal, chocolate presents a fascinating case study of how human life interconnects with the environment.

"This subject allows us to talk about how a natural product becomes a world commodity under the more well-known umbrella of chocolate," said Director of Exhibitions Sophia Siskel. "We knew we had a home run. The challenge was to figure out how to explore a topic that's so important to science while also satisfying the needs of the public."

A taste of chocolate

The resulting *Chocolate* exhibition is a complete examination of the plant, products, history and culture of chocolate through the lenses of botany and ecology, anthropology and economics, conservation and popular culture. Presented in both English and Spanish, the bilingual exhibition takes visitors through a series of immersive environments—each representing a time and place relating to the ecology, production and history of chocolate.

"One of our key goals with this exhibition was to present a series of walkthrough experiences," Siskel said. "We hope that the visitor will be able to understand the story at an intuitive level, even before reading a single text panel. An exhibition should unfold like an opera, where, even without reading the subtitles or understanding the singer, the audience knows what's happening."

The exhibition begins in the lush tropical rainforest, where visitors can examine a replica of a cacao tree and its seedpods. Visitors then explore how the Maya used cacao seeds in a favorite drink, how the Aztecs elevated cacao to the level of treasure, how cacao is grown and how it became a commodity in the global marketplace.

As the exhibition draws to a close, visitors encounter a chocolate box sized for a giant. Monitors nestled amongst enormous bonbons feature short video segments revealing how chocolate has touched the lives of people across cultures. From Word War II veterans in occupied Japan to Chicago chefs preparing molé, these vignettes demonstrate the passion this confection inspires.

Throughout the exhibition, visitors encounter scenic environments, rare artifacts, original video and interactive exhibition techniques. To engage the senses, the smell of chocolate wafts through the air and rhythmic music evokes the sounds of a chocolate factory. Text panels offer deeper levels of information. "For a traveling exhibition, this is as close to immersive as anyone can get," said Anamari Golf, lead exhibition developer. "*Chocolate* has the look and feel of a permanent installation."

Blending the ingredients

The Field is fortunate to be one of a small number of museums with the ability to create an exhibition of this size and scale. The topic's complexity, for example, requires scientific expertise across multiple disciplines, and building finely detailed exhibition elements requires an experienced and diverse

Chocolate *reveals how invention, advertising and the world trade market paved the way for this once-elite treat to be enjoyed worldwide.*

Left: Diligent care and skill went into making these replicated cacao seeds look authentic.

Right: Alan Krahn (left) and Matthew Groves of the replication shop work on the cacao tree located at the front of Chocolate.

production staff. With these and other resources in-house, staff collaborated closely to effectively and thoroughly present such a broad topic. "The bottom line of any exhibition is to translate academic messages to the public," Golf said.

Key contributors from the scientific staff included lead curator Jonathan Haas, anthropology chair Gary Feinman, botany curator emeritus Bill Burger, and Sophia Twichell and Gretchen Baker from environmental and conservation programs.

Altogether, *Chocolate* is the creative work of more than 100 people, ranging from scientists to exhibition developers, graphic artists to writers, museum educators to guest relations representatives. The Museum has also created other opportunities that further investigate chocolate's impact on human cultures and tropical systems: a 12-lesson educational curriculum; two companion books, one for adults and one for children; a comprehensive website (www.fieldmuseum.org/chocolate); and a variety of lectures, workshops and fieldtrips.

In support of *Chocolate,* The Field Museum received a generous grant from the National Science Foundation—one of the largest ever given to a temporary exhibition.

Creating a cacao tree

The replica of the *Theobroma cacao* tree that greets visitors to *Chocolate* offers a behind-the-scenes glimpse at how such exhibitions come together. The seed for this tree was planted when exhibition developers surveyed visitors and found that many people don't know where chocolate comes from.

Months went into carefully creating the tree. Because visitors will be able to closely observe the tree, it was imperative that its scale, form, texture and color were accurate. "We built the tree much like it was done in the old days of incredible wax and glass models," said Matthew Groves, replication shop supervisor. "But we had to make it more robust and collapsible, in less time and with new materials that weren't available in the 1930s."

To ensure that the tree was scientifically correct, the replication team studied examples from the Field's Hall of Plants and two live trees in the Garfield Park Conservatory. Because the conservatory's trees are domestically grown and pruned, the team also gleaned information from field researchers and scientists in the Museum's botany and environmental conservation departments.

The team debated whether or not to include water sprouts, or new shoots, on the trunk; whether the tree's shape should widen as it grew upward; the size of the leaves; the color, size and location of the pods; and the size of the flowers. The team also had to decide how to present a full-size replica of a tree that usually grows 30 to 40 feet tall within the height limits of the gallery.

"We ended up with a life-size replica, but not a full tree," Groves said. "It's more like the bottom half of a tree. Since this is an educational tool, that works because everything we want to teach about cacao production occurs on the lower branches."

The metal armature, or skeleton, of the tree consists of 26 hand-welded pieces that slide together gracefully so that the staff at other institutions can assemble it quickly and easily as the exhibition tours the country. All of the nearly 1,500 leaves were individually custom-made with either polyester or synthetic rubber and applied by hand. Some modifications were made to underscore important points. While a real tree buds on nearly every available surface, the Field's tree sports fewer yet larger flowers so they can be seen more easily.

At least five people worked on the production of the tree—from prototyping live trees through final detailing of the replication—over a period of nearly nine months. And that's just one prop in the exhibition. "The detail and consistency throughout the exhibition are a testament to how strong the entire *Chocolate* team is," Golf said.

Dessert

Bonbons, hot fudge, frozen chocolate bars. A heavenly craving and a sublime pleasure. Most of us know chocolate today as a candy or a sweet desert. It is all this … and much more.

From chocolate's origins in the rainforest, to its deep cultural roots, to its arrival on the supermarket shelf, The Field Museum's latest exhibition reveals facets of this delicious food that we've never thought about before. What a treat! For more information, see the calendar section in *In the Field,* or visit www.fieldmuseum.org/chocolate.

Chocolate and its national tour were developed by The Field Museum, Chicago. This project was supported, in part, by the National Science Foundation.

An Electronic Taste of Chocolate

Before you visit *Chocolate*, or afterward to enhance your exhibition experience, go to www.fieldmuseum.org/chocolate, your one-stop Internet spot to learn everything you want to know about this sumptuous sweet. In the website you will find: an exhibition overview; interactive learning experiences that test your knowledge and bring chocolate's story to life; event and program listings; historical information; an in-depth look at growing, eating or making chocolate; a children's section with recipes, games and educational activities; and an educators' section with a 12-lesson curriculum.

Below is a tiny morsel of the activities you can find on www.fieldmuseum.org/chocolate. Look for the site to launch shortly after the exhibition opens on Feb. 14.

Mexican Hot Chocolate

Reprinted with permission from Elaine González.

The perfect drink for a cold day, Mexican hot chocolate is similar to the flavorful version that the Spanish invented more than 400 years ago.

Ingredients:

1/2 cup water
3 ounces semisweet chocolate, coarsely chopped
2 cups milk
1 teaspoon cinnamon
1/8 teaspoon almond extract

Instructions:

Boil the water in a medium, heavy-bottomed saucepan. Remove it from the heat and add the chocolate. After one minute, whisk the chocolate until it has completely melted.

Place the saucepan over medium-high heat and gradually whisk in the milk, cinnamon and almond flavoring. Bring to a boil, whisking frequently. Lift the pan off the burner until the bubbling subsides. Then replace the pan and bring it back to boil again. Repeat this process two more times.

Lower the heat and let it simmer for another five minutes, stirring constantly. The chocolate should coat the back of a spoon. Turn off the heat.

Using a mixer, blender or *molinillo* (moh lin EE oh), a wooden stirring stick invented by the Spanish, beat the chocolate until the surface is covered with thick foam. Serve immediately.

Chocolate Books and Films

Here are some books and films recommended by the exhibition and education team. See the website for more resources.

Non-Fiction Books

Chocolate–written by Ruth Lopez to complement the exhibition

The True History of Chocolate–by Sophie D. Coe and Michael Coe

The Chocolate Tree: A Natural History of Cacao–by Allen M. Young

The Emperors of Chocolate: Inside the Secret World of Hershey and Mars–by Joël Glenn Brenner

For Children and Families

Chocolate: Riches from the Rainforest–written by Robert Burleigh to complement the exhibition

The Cocoa Commotion: A Carmen Sandiego Mystery–by Melissa Peterson

Willy Wonka and the Chocolate Factory–book by Roald Dahl, film by Mel Stuart

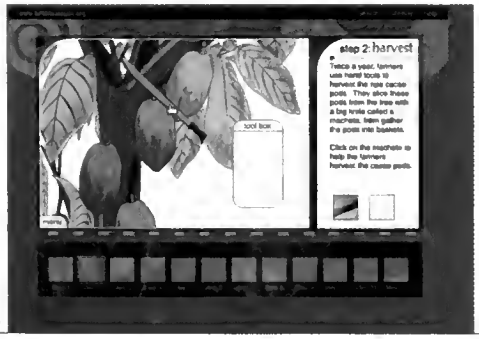
Cocoa Ice–by Diana Appelbaum

For Adults

Chocolat–book by Joanne Harris, film by Lasse Hallstrom

The Chocolate War–film by Keith Gordon

Like Water for Chocolate–book by Laura Esquivel, film by Alfonso Arau



GREG BLEW

The website contains three interactive learning experiences that explore how chocolate is grown and made, and how it spread through history from a local food to a global product. From Seed to Sweet, a children's activity illustrated here, asks the player to harvest the cacao seeds with a machete and then drag them into a basket.

Live...from National Geographic: An interview with Wade Davis


©MARK THIESSEN

From the mysteries of ancient Egypt to the frontiers of Africa, you'll meet dynamic individuals this spring in ***Live...from* National Geographic**, a speaker series co-presented by National Geographic and The Field Museum. (See the calendar for details.) Below are excerpts from an interview with National Geographic Explorer-in-Residence Wade Davis. A renowned anthropologist and plant explorer, Davis has written on subjects ranging from Haitian voodoo *(The Serpent and the Rainbow)* to the global biodiversity crisis to the ethnosphere—the wealth of human diversity and what traditional cultures can teach us about different ways of living and thinking. He will be signing his newest book, *Light at the Edge of the World*, on Feb. 26.

ITF: What's your relationship to The Field Museum?

WD: I was in South America in the '70s doing botanical exploration when I connected with Timothy Plowman (botany department chairman, 1986-1988), one of the finest botanists of his generation. He was beginning his astonishing study of coca and invited me to be his field assistant. We became friends and professional partners and traveled


©MARIA STENZEL

together for more than a year through remote parts of the Andes and the northwest Amazon. We both studied under Richard E. Schultes, and I eventually wrote a book about them called *One River*.

ITF: How do you explore the relationship between people and plants?

WD: As an anthropologist, I look for ways to break down the inherent barrier that exists between me and the people with whom I'm living as a guest. The Amazon, for example, is a place of plants, water and silence. Every aspect of the material culture is derived from a plant. Botany is the perfect conduit to culture. The people know their plants—are totally dependent on them, and proud of them. To live amongst indigenous people, I had to understand the botanical realm, and to understand the botanical realm, I had to understand something about the mythology and spiritual intuitions of the people.

ITF: What can indigenous cultures teach us about our connection to plants?

WD: Schultes asked me and Tim to look for new medicinal plants that would benefit society, but we returned with a new vision of life itself. Indigenous people connect to the natural world in such a deep, respectful way.

ITF: How does this differ from Westerners' connection to plants?

WD: Our lack of awareness of how important plants are is remarkable to me. You'd be called foolish if you didn't know who our first president was. But how many people know the formula for photosynthesis, the chemical equation without which life could not exist? Even those of us who love our plants tend to sentimentalize our relationship to them.

A book that came out in the '70s suggested that plants like to listen to Mozart. No one loved plants more than Tim, but he hated that. He'd say things like, "Why would a plant care about Mozart? And even if it did, why should that impress us? They can eat light. Isn't that enough?"

ITF: Tell us about the ethnosphere.

WD: If the biosphere is a biological web of life, the ethnosphere is the web of intellectual and spiritual life made manifest by the myriad cultures of the world. The biosphere is being compromised, but the ethnosphere is in far more peril. No biologist would dare suggest that half of all species are on the brink of extinction; yet that most apocalyptic scenario in the realm of biological diversity represents the most optimistic scenario in the realm of cultural diversity.

The key indicator is the loss of language. Of the 6,000 languages spoken when we were born, half aren't being taught to children, which means they are effectively dead if things don't change. Within a single generation, we're witnessing the loss of half of humanity's legacy.

Indigenous cultures are not destined to fade away because of some failed attempt at modernity. They are being driven out by external forces, which is both discouraging and encouraging. If humans are the source of cultural destruction, then can't we also facilitate cultural survival?

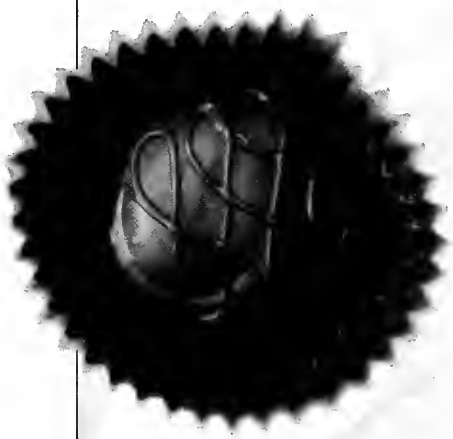
Our particular culture is just one model of reality. Other peoples around the world—the Penan in the forests of Borneo or the yak herders in Tibet, for example—can teach us new possibilities for thinking, being and interacting with the Earth itself. This idea can only fill you with hope. We live in a wondrous society, but it's not the paragon of human potential. The ethnosphere is our greatest legacy, and it's up to us to protect it. **ITF**

YOUR GUIDE TO THE FIELD

A Pullout Calendar of Events for Winter 2002 February–March

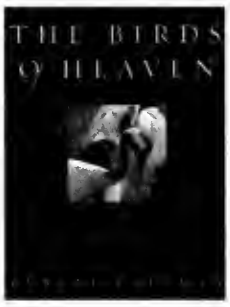
Inside: Exhibits Festivals Family Programs Adult Programs

World of Words Literary Reading



Birds of Heaven: Travels with Cranes

Peter Matthiessen, Naturalist/Author



Traverse the backwaters of five continents in the latest literary adventure of world-renowned naturalist Peter Matthiessen, author of *The Snow Leopard*. Find out just how difficult it is to track all 15 species of cranes, 11 of which are threatened with extinction. In his new book, *The Birds of Heaven: Travels with Cranes*, Matthiessen also offers a birds-eye view of the "craniacs"—specialists from the International Crane Foundation who have been saving these exotic creatures one bird at a time for more than 30 years. A book signing will follow the lecture.

Saturday, Feb. 9, 3pm
$15, students/educators $12, members $10

Co-presented with The International Crane Foundation.

New Exhibition–Chocolate

Feb. 14–Dec. 31, 2002

From rainforest treasure to luscious treat—immerse yourself in the world of chocolate.

A gift for the gods. A symbol of wealth and luxury. An economic livelihood. Bonbons. Hot fudge. Candy bars. For thousands of years humans have been fascinated with the delicious phenomenon that we call "chocolate."

Journey through history to get the complete story behind the tasty treat that we crave in Chocolate, an exciting new exhibition developed by The Field Museum.

You'll begin in the rainforest with the unique cacao tree whose seeds started it all. Visit the ancient Maya civilization of Central America and discover what chocolate meant nearly 1,500 years ago. Then travel forward in time and northward to the Aztec civilization of 16th-century Mexico, where cacao seeds were so valuable they were used as money. Discover chocolate's introduction into the upper classes of European society and its transformation into a mass-produced world commodity.

Chocolate will engage your senses and reveal facets of this sumptuous sweet that you've never thought about before. You'll explore the plant, the products and the culture of chocolate through the lenses of science, history and popular culture.

Chocolate is a sweet experience for all ages! Don't miss its world premiere at The Field Museum.

See inside for lectures and events that delve further into this delicious topic.

Chocolate and its national tour were developed by The Field Museum, Chicago.
This project was supported, in part, by the National Science Foundation.

The Field Museum

General Museum Information: 312.922.9410
Family and Adult Program Tickets and Information: 312.665.7400

Delve deeper into the story of a sumptuous rainforest treasure.

Chocolate

Unwrapping Chocolate: History and Culture

This exciting series combines the depth of a college course with the flexibility to tailor your studies to your interests and schedule. Enjoy *Unwrapping Chocolate* as a lecture series. Or enroll in it as a credit course, complete with lectures, readings, assignments and discussion labs, offered through the University of Illinois at Chicago.

Lectures will occur on Tuesday evenings, Feb. 19–April 23, except March 19.

Lecture Series

Individual lectures: $12, students/educators $10, members $8

Attend all nine lectures and save 20 percent: $86, students/educators $72, members $58.

Attend three lectures and save 15 percent: $30, students/educators $25, members $20.

Credit Course

Enrollment information for Unwrapping Chocolate *(LAS 494 or ANTH 494) is available from UIC at www.oce.uic.edu or 312.996.8025.*

Lectures include:

Making the Chocolate Exhibition

Dr. Jonathan Haas, TFM Anthropology Dept., and Ananari Golf, TFM Exhibits Dept.

Glimpse behind the scenes to see how anthropologists, botanists and exhibition developers created Chocolate.

Tuesday, Feb. 19, 6pm

Cacao and the Maya

Dr. Joel Palka, University of Illinois at Chicago

Discover what chocolate meant to the ancient Maya, who used cacao for a special drink in sacred ceremonies.

Tuesday, Feb. 26, 6pm

The Secret World of Hershey and Mars

Joël Glenn Brenner, Author/Journalist

Uncover the roles that rival manufacturers played in establishing chocolate as part of our popular culture.

Tuesday, March 12, 6pm

Chocolate and Nutrition

Dr. Carl Keen, University of California

Imagine if chocolate were good for you! Examine the health benefits of this beloved food.

Tuesday, March 26, 6pm

For a complete list of lectures in *Unwrapping Chocolate*, check our website at www.fieldmuseum.org.

Other Chocolate Events

Chocolate Celebration—The Opening Event

Be the first to view the exhibition. Explore the history of this delectable treat with Museum scientists and witness a cooking demonstration by famed chef Wolfgang Puck.

Wednesday, Feb. 13, 5:30pm, $50
Call 312.665.7135 for tickets. No door sales.

This event is hosted by the Cultural Collections Committee and the Women's Board.

The True History of Chocolate Lecture

Dr. Michael D. Coe, Yale University

Explore the rich history chocolate has had in many different cultures, from the ancient Maya and Aztec civilizations to modern chocolate production today.

Saturday, March 9, 1pm, $10

This lecture is part of a two-day symposium designed for anthropologists, scientists, chefs and anyone interested in a rich examination of cacao and the production of chocolate. For details about the complete symposium, call 312.665.7400.

Final Weeks for Cleopatra of Egypt Exhibition and Programs

BUST COURTESY OF THE CAPITOLINE MUSEUM, ROME

Cleopatra of Egypt: From History to Myth Closes March 3!

The Field Museum is the only North American venue and final stop for this exclusive exhibition. After March 3, this spectacular collection of 350 Cleopatra-related artifacts from the world's great Egyptian and classical art collections will be dispersed to more than 75 museums and lenders worldwide. Unravel Cleopatra's mystery for yourself and discover how she became a legend that endures 2,000 years after her tragic death.

This exhibition has been organized by The British Museum in collaboration with The Fondazione Memmo, Rome.

International Sponsor BP
National Sponsor Exelon

Supported by an indemnity from the Federal Council on the Arts and the Humanities.

The Field Museum (TFM) and the **University of Chicago's Oriental Institute** (OI) are collaborating on the following series of programs.

Programs at The Field Museum

Heads and Tales of the Ptolemies: The Coins of Cleopatra's World
Adult Workshop

Theresa Gross-Diaz

Examine the coins of Egypt and the Mediterranean world for clues to political and cultural life in Cleopatra's day.

Saturday, March 2, 10am–2pm
$30, TFM and OI members $25

COIN COURTESY OF THE HUNTERIAN MUSEUM, GLASGOW.
STELA COURTESY OF THE BRITISH MUSEUM

Programs at the Oriental Institute

Signs of Cleopatra: History, Politics, Representation **Lecture**

Dr. Mary Hamer, Harvard University

Discover how different representations of Cleopatra—drawn from books, films and art—reveal social and historical influences.

Sunday, March 3, 2pm
$12, students/educators $10, TFM and OI members $8

1155 E. 58th St.
Call 773.702.9507 for information.

Honey, Where's the Asp? Cleopatra in Literature **Lecture**

Dr. David Bevington, University of Chicago

Discover how Plutarch, Shakespeare and Shaw used Cleopatra's character to present a sharp debate about the opposite sex.

Sunday, Feb. 10, 2pm, FREE

Co-sponsored by the Oriental Institute and the Basic Program of Liberal Education for Adults of the University of Chicago's Graham School of General Studies.

Cleopatra Goes Hollywood **Film Series**

Encounter Egypt's legendary queen as a Hollywood star, played by Claudette Colbert in 1934 and Elizabeth Taylor in 1963. After each screening, Egyptologist Michael Berger will discuss how the films reflect fact and fantasy.

Sundays, Feb. 17–March 3, 1:30pm
Films: $2 each event

Film/Seminar: $15 each event, TFM and OI members $12
Pre-registration required.

Full Series: $40, TFM and OI members $30
Pre-registration required.

COURTESY OF THE EVERETT COLLECTION

Join us for story telling, scientific demonstrations and hands-on activities that celebrate connections between Africa and the United States.

Saturday and Sunday, Feb. 2–3, 11am–4pm
Monday and Tuesday, Feb. 4–5, 10am–1pm
FREE with Museum admission

African Heritage Festival is made possible through the generosity of Abbott Laboratories.

Check our website at www.fieldmuseum.org for other program details.

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Performance

Chicago Opera Theater

This uplifting family performance commemorates the inspiring heroism of Harriet Tubman, who led scores of slaves to freedom along the Underground Railroad.

Saturday–Sunday, Feb. 16–17, 2pm
Adults: $15, members $14
Children: $10, members $9
For tickets call 312.704.8414.

The Field Museum and Chicago Opera Theater are co-presenting this production.

Lectures

Frances Baxter: Scaling Mount Kilimanjaro

Climb the peak of Africa's highest mountain with the only woman in the world to have scaled the 19,430-foot summit eight times.

Saturday, March 23, 2pm
$12, students/educators $10, members $8

Charles Gallenkamp: Dragon Hunter

World of Words

Archaeologist and author Charles Gallenkamp chronicles the adventures of Roy Chapman Andrews, who captivated the country in the 1920s with his dramatic expeditions to search for fossils in Central Asia.

March 16, 2pm
$12, students/educators $10, members $8

Walking on Eggs: Discovering Dinosaur Eggs in Patagonia

New Discoveries Series

Dr. Luis Chiappe, L.A. County Museum of Natural History and Co-curator of the Tiniest Giants exhibition

Hear first-hand about the astounding scientific expedition that uncovered tens of thousands of dinosaur eggs in a desolate desert in southern Argentina.

March 13, 6:30pm
$12, students/educators $10, members $8

Below is a calendar of the temporary exhibitions you will have an opportunity to visit in 2002. Some dates may change. Remember to call 312.922.9410 or visit our website for specific information.

Cleopatra of Egypt: From History to Myth
Through March 3

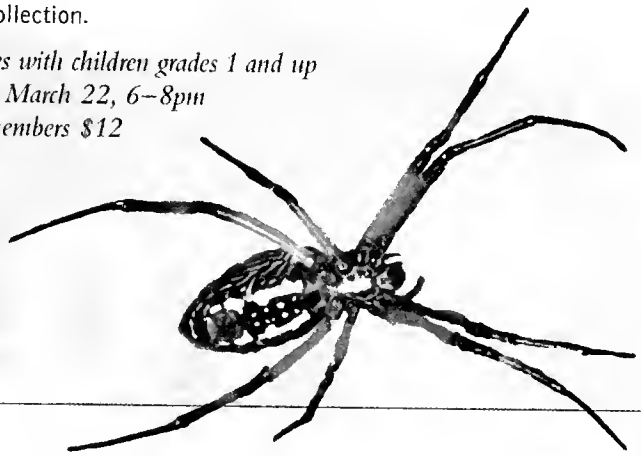
Urban Gardens: Growing Chicago's Communities
Through July 7

Chocolate
February 14–December 31

Phil Parillo, TFM Insect Division

They crawl, climb, scurry and sometimes make us scream in terror! Discover the fascinating and often misunderstood world of bugs. Phil Parillo will take you behind the scenes to see specimens from our huge collection.

Families with children grades 1 and up
Friday, March 22, 6–8pm
$15, members $12



Dr. Wendy Taylor, TFM Geology Dept.

Go back in time 600 million years and meet the creatures that lived in the Paleozoic Era. Discover how fossils form and learn how and where fossil hunters find specimens. Next, journey to the Mesozoic Era with a model of a life-size Velociraptor!

Saturday, March 23
10–11:30am, families with children ages 4–6
1–2:30pm, families with children ages 7–9
$10, members $8

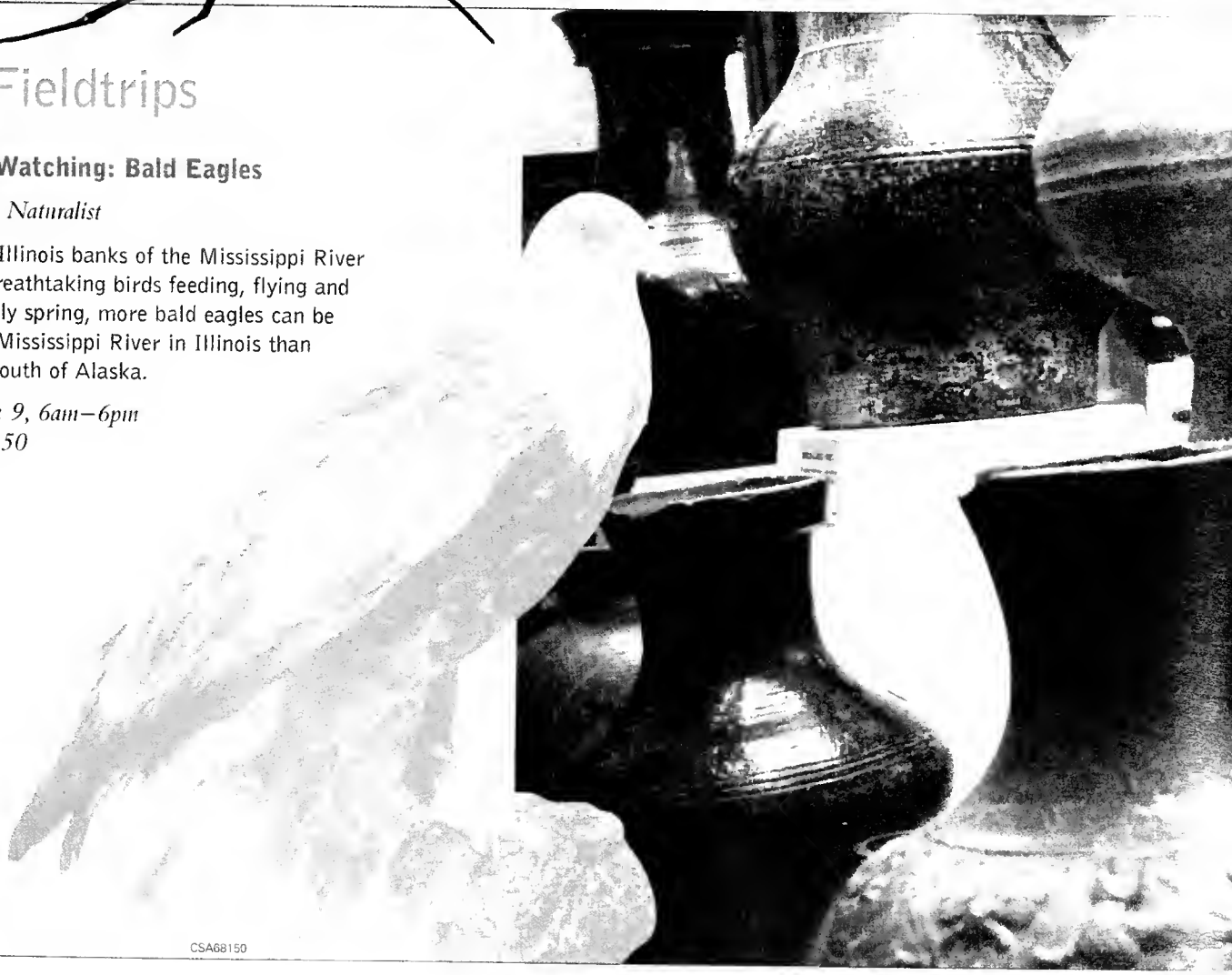
Adult Fieldtrips

Spring Bird Watching: Bald Eagles

Alan Anderson, Naturalist

Journey to the Illinois banks of the Mississippi River to view these breathtaking birds feeding, flying and roosting. In early spring, more bald eagles can be seen along the Mississippi River in Illinois than anywhere else south of Alaska.

Saturday, March 9, 6am–6pm
$60, members $50



CSA68150

A Celebration of Souls:
Day of the Dead in Southern Mexico
March 8, 2002–January 12, 2003

Tiniest Giants:
Discovering Dinosaur Eggs
March 15–September 2

Pier Walk Maquettes
March 26–May 13

New Exhibition Opens

Expedition Dinosaur:
Discovering Dinosaur Eggs

March 15–Sept. 2, 2002

Where you can join the expedition!

Imagine you are a scientist on one of the most incredible dino digs ever. In this hands-on family exhibition, you'll join a team of scientists in Argentina who have just unearthed tens of thousands of fossilized dinosaur eggs—including some with baby dinosaurs still inside. You'll see what it is like to plan an expedition, get your hands dirty digging for fossils and examine specimens under the magnifying glass. Be sure to collect all seven expedition stamps in your field notebook.

This exhibition was developed by the Natural History Museum of Los Angeles County and the Carmen Funes Museum of Argentina.

Adult Courses

Mining the Museum: Special Vessels

Studio Course

Cyd Engel, Milwaukee Art Museum

From vases to mummy coffins, examine all sorts of containers, then create your own special vessel. Come prepared to explore, experiment and have fun!

Saturdays, Feb. 16 and 23, 10am–1pm
$72, members $64

Botanical Illustration

Marlene Hill-Donnelly, TFM Geology Dept.

Connect with nature in a whole new way as you portray plants with scientific accuracy and artistic style. All experience levels are welcome.

Tuesdays, March 12–April 9, 6–8pm
$80, members $68

M. HILL-DONNELLY

Egyptian History: Roman and Christian Egypt

Frank Yurko, Egyptologist

Examine Egyptian history after conquest by the Roman Empire ended a 3,000-year tradition of dynastic pharoahs. Discover what life was like for Egyptians, Greeks and Jews under Roman and Byzantine rule and follow the rise of Christianity in this ancient land.

Wednesdays, March 13–April 17, 6–8pm
$85, members $72

Other Programs

Check our website at www.fieldmuseum.org for a list of Naturalist Certificate Program classes, exhibition tours and a variety of other programs.

Fossils
8, 2002–January 5, 2003

Archaeology News from the Holy Land
July 9–October 6

Bamboo Masterworks: Japanese Baskets from the Lloyd Cotsen Collection
November 16, 2002–February 23, 2003

Speaker Series Offers A World of Adventure

This season **The Field Museum** is collaborating with the **National Geographic Society (NGS)** to present the *Live... from* National Geographic series as part of our annual *Voices from the Field* program. Find adventure, insight and inspiration from real-life encounters with the world's top photographers, scholars and writers.

©MARK THEISSEN

©MARIA STENZEL

Vanishing Cultures, Enduring Lives

Wade Davis, Anthropologist/Author

Celebrate life's diversity with renowned anthropologist Wade Davis, author of the international bestseller *The Serpent and the Rainbow*. Davis' latest book features breathtaking photographs and explores what traditional cultures have to teach us about different ways of living and thinking. (See a one-on-one interview on page 6.)

Tuesday, Feb. 26, 7:30pm

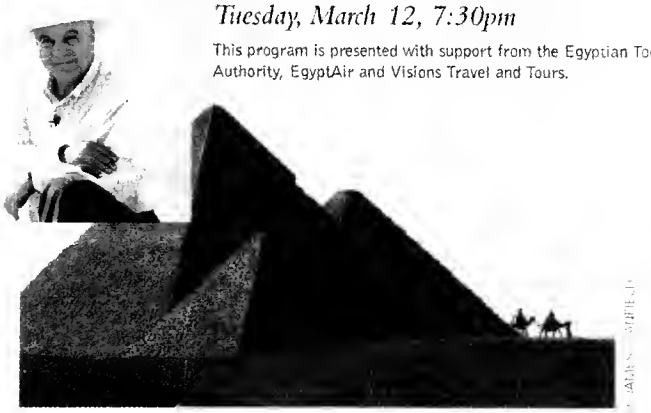
Mysteries of Ancient Egypt

Zahi Hawass, Egypt's Director of the Pyramids

Find out what Egypt's sands reveal about an ancient civilization's mysteries from one of Egypt's most visible spokespeople. Hawass has led excavations in the "Valley of the Golden Mummies" at the Bahariya Oasis since 1999. Learn about his November 2001 discovery in Cairo of a 2,500-year-old limestone tomb, possibly of a palace worker.

Tuesday, March 12, 7:30pm

This program is presented with support from the Egyptian Tourist Authority, EgyptAir and Visions Travel and Tours.



Crossing the Heart of Africa

Michael "Nick" Nichols, NGS Photographer, and Michael Fay, Conservationist

Experience the adventure of a lifetime with award-winning photographer Nick Nichols and conservationist Mike Fay, who trekked 2,000 miles through the heart of Africa.

Tuesday, April 9, 7:30pm

©MICHAEL NICHOLS

©MICHAEL NICHOLS

Filming on the Edge

Michael "Mick" Davie, Filmmaker

See the world through the eyes of this Emmy® award-winning filmmaker, whose gritty documentaries reveal life on the front lines of political, social and environmental change.

Tuesday, May 7, 7:30pm

©NEVADA WIER

Four-part Series Subscription

Patron tickets: sold out

General admission: $84; TFM, NGS and Geographic Society of Chicago members $70; students $48

Individual Events

Patron tickets: sold out

General admission: $24; TFM, NGS and Geographic Society of Chicago members $22; students $15

A 10 percent discount is available for groups of 10 or more with pre-registration.

Educational outreach programs related to the series are being presented through a collaboration between The Field Museum, the Geographic Society of Chicago, the National Geographic Education Foundation and the Illinois Geographic Alliance.

The National Geographic Society and The Field Museum gratefully acknowledge the support of our series sponsor, LaSalle Bank, and media sponsors Pioneer Press and Chicago Public Radio WBEZ-FM.

Chicago and the World Forum: Islam and the West

Join us for an important and timely series of forums on the historical, religious, cultural and political relationships between the Islamic and Western worlds. For an in-depth analysis of the issues, each event includes a keynote lecture, followed by breakout discussion forums and dinner.

The Field Museum and the Chicago Council on Foreign Relations are co-sponsoring this series.

An Evening with Ambassador Frank G. Wisner

Vice Chairman, External Affairs, American International Group

Wisner holds the rank of career Ambassador—the highest grade in the Senior Foreign Service. He has served as U.S. ambassador to India, Egypt, Zambia and the Philippines and has held a number of senior posts in government.

Future speakers: Tariq Ramadan, Europe's leading Islamic thinker, author and lecturer; Dr. Rashid Khalidi of the Center for International Studies at the University of Chicago; Oleg Grabar of Princeton.

Call 312.665.7400 for dates.

Series Subscription (includes four lectures)

$90, TFM and Chicago Council on Foreign Relations members $70

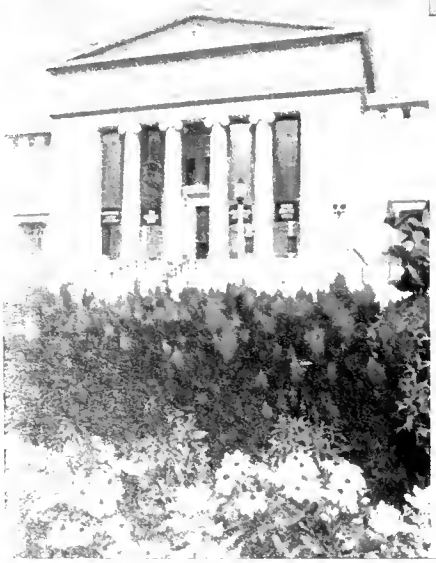
Individual Events

Lecture: $25, members $20

Breakout discussion forums (includes dinner): $25

For tickets and a series brochure call 312.665.7400.

Visitor Information



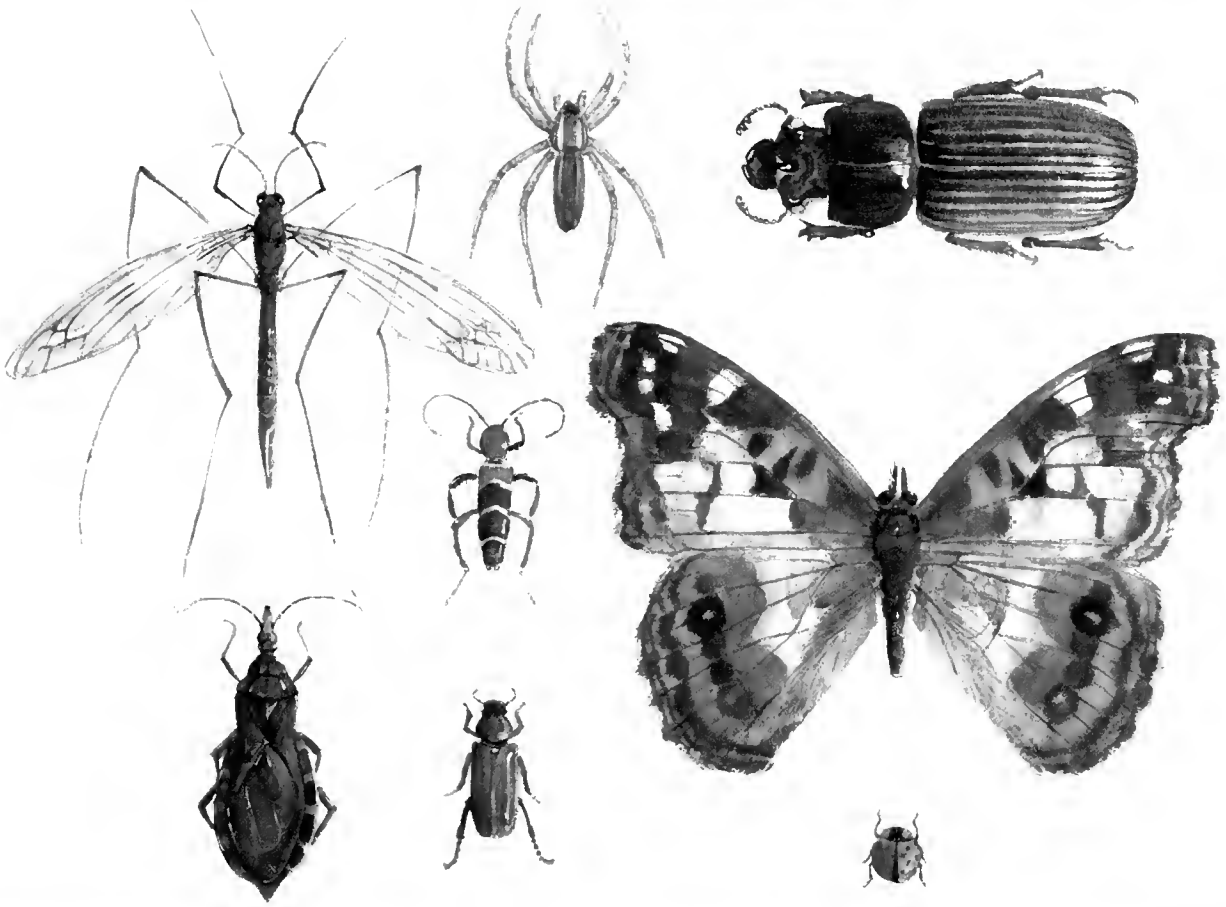
Hours. Beginning in March, our public hours will be 10am-5pm daily. Closed Christmas and New Year's Day. Doors open at 9am from Memorial Day weekend to Labor Day. Last tickets sold at 4pm.

New Free Day Schedule. The Field Museum offers free basic admission on Mondays and Tuesdays from September through February. This schedule replaces the Museum's previous free days on Wednesdays. Remember, members receive free admission every day.

To get tickets. *Cleopatra of Egypt* and *Chocolate* are specially ticketed exhibitions. Member passes can be reserved in advance by calling Ticketmaster at 312.902.1500 (service charges apply) or coming to the membership desk near the Museum's south entrance (no service charges). Non-member tickets can also be reserved in advance through Ticketmaster or in person at the Museum's will call desks. Day-of tickets are available at the Museum, while supplies last.

Information: 312.922.9410 or www.fieldmuseum.org

Illinois' Illustrious Insects



P. MACNAMARA

"Hey, guys, look at this giant mosquito!" Exclamations like this always draw a smile out of Phil Parrillo, a collections manager in insects. While its size might arouse great imaginings about giant blood-sucking monsters, the misidentified creature is always a crane fly, he said.

Artist-in-residence Peggy Macnamara and the insects division are collaborating on watercolors of 200 Illinois insects from the Museum's collections. While you would almost never see beetles and butterflies illustrated together scientifically, Macnamara is grouping insects differently so that anyone can learn about their wondrous diversity. The paintings will be published as an introductory field guide.

The crane fly (*Tipula* sp., upper left) may resemble mosquitoes, but it does not feed on blood. Its eggs are laid in wet soil, and the larvae feed on organic matter. The bessbug (*Odontotaenius disjunctus*, upper right) lives in family groups in moist, rotted logs. While most bugs do not exhibit parenting behaviors, the adult bessbug mixes decaying wood with its saliva and feeds it to the larvae. The nursery-web spider (*Pisaurina mira*, top center) makes a web not to catch prey but for its babies. The mother carries the egg sac in her fangs for nearly four weeks, and when it's ready to hatch, she spins a web atop tall grasses where the babies live before dispersing in the wind.

Researchers from the zoology department's insects division chose this Scientist's Pick. Peruse www.fieldmuseum.org for more information on our insect research.

Macnamara's Illinois insect paintings will be on display at the Aron Packer Gallery, 118 N. Peoria in Chicago, from Feb. 15 through March 21. Call 312.226.8984 for information.

A Virtual Garden: Regional Plants Growing Online

Amy E. Cranch, Editor

It's the kind of place that might make Peter Rabbit dizzy with delight. On the Museum's infamous third floor, in what look like ordinary storage cabinets, are 2.7 million plant specimens representing our global vegetation. Some are common, some extinct. Some are tropical, prairie or mountainous, others are of divine beauty or frightening deadly power.

Few people besides scientists have seen the specimens, but botanists from The Field Museum (TFM), the Chicago Botanic Garden in Glencoe and the Morton Arboretum in Lisle are embarking on a grand project, vPlants, to bring many of them into worldwide view. With an unprecedented grant from the Institute of Museum and Library Services, the partners are developing an online herbarium that will provide detailed data and digital images to anyone with Internet access. The website, www.vplants.org, will initially contain about 110,000 specimens of Chicago-area flora from the three institutions' collections, and may later be expanded to include plants from the Western Great Lakes and beyond.

White pine
(Pinus strobus)

W. BURGER

It is not a new challenge to find ways in which different databases—between departments or institutions or individual researchers—can communicate with one another. Everyone wants the ability to share information, but it gets sticky when partners are trying to determine which database is best for their combined goals. What makes vPlants extraordinary is its use of state-of-the-art computer and Web-based technology that allows anyone to search through one portal to access information from three different sources. While this is becoming a standard elsewhere, Gregory Mueller, chairman of TFM's botany department, said, "To our knowledge, we may be the only North American science partnership to use this format. International business and the Web are going this way. Now it's our turn."

The system allows you to take institution-specific, structured data and transport it into a common language. While each partner will maintain its own database, when a student or researcher uses a Web browser to search for "Mead's milkweed," for example, the information from all three institutions will be retrieved. Some information will be standardized, such as where and when a specimen was collected, who collected it and its scientific and common names. "Because we're using extensible markup language (XML)," said Bil Alverson, TFM adjunct curator in botany, "it will be easy to pool the common information that most users want to search. And for additional details such as a specimen's habitat, flower color or associated species, each institution can decide what to make available without compromising the strength of the common XML database."

The project's collaborative nature adds to its uniqueness. Other online herbaria highlight only one institution's collections and are not as comprehensive or regional in coverage. By pooling data from three botanical institutions, the website will include information on all plant species within the Chicago Wilderness region—a regional nature reserve of 200,000 acres. "We live in this incredible place with

W BURGER

Top: Garlic-mustard (Alliaria petiolata), *an invasive species, creeps into Pilcher Park near Joliet, squeezing out native species. Right: Pitcher's thistle* (Cirsium pitcheri), *endemic to the dunes of Lakes Huron and Michigan, dies when flowering. Here you can see both a young and dying plant.*

nature just around the corner," Mueller said. "We want to make these specimens available to the world."

The vPlants website, with its high-resolution images, habitat photos and other tools, will benefit users of all backgrounds. "An inner city school class could walk into the lot next door and conduct an ecology experiment. They may go to vPlants first to identify the plants and tie it all together," said Alverson. It could also help landowners and stewards make informed decisions about restoring habitats that have been damaged or managing land without compromising the species that live there. By looking at the historical data of a plant, you can determine changes in its distribution, the effects of pollution and other factors that would aid in defining the goals of land management.

The partners are meticulously entering the data and scanning images. They expect to complete the project by the end of 2002. Not only will it serve as an excellent model for other organizations and partnerships, it will be easily expandable to include plants beyond the region and additional partners/databases. We are already discussing vPlants with the Illinois Natural History Survey in Champaign, the Illinois State Museum in Springfield and the University of Wisconsin in Madison. **ITF**

Your family will be able to identify the plants you find on www.vplants.org.

FERMI NATIONAL ACCELERATOR LAB

Examples of specimens that will be found on www.vplants.org

Thismia americana This odd, colorless plant about the size of a pencil eraser has not been seen alive since 1913 and is believed to be extinct. Its only known location in the world was in a wet prairie near Lake Calumet, and The Field Museum's specimen is the only known collection. The closest relative to this species occurs in Tasmania and New Zealand. There is a somewhat legendary annual hunt for *Thismia* near Lake Calumet.

Prairie rose-gentian (*Sabatia campestris*) It's now wiped out of the Chicago region. The Field Museum's herbarium contains the only known collected specimen from the area.

Mead's milkweed (*Asclepias meadii*) Our 1888 specimen is one of the only collections made of this species, now federally listed as threatened, from Lake County, Ind. The only other known site in the Chicago region, near Palatine, was destroyed.

Pitcher's thistle (*Cirsium pitcheri*) Now threatened, this endemic thistle only grows on the dunes of Lakes Michigan and Huron. Unlike other thistles, it has distinctive, creamy-white flowers that help minimize water loss in the harsh conditions of exposed dunes.

White pine (*Pinus strobus*) Once a dominant tree of the dune landscapes of Chicago and northwest Indiana, the white pine barely survives today. Its population was especially hit hard when Chicago was rebuilt after the Great Chicago Fire of 1871.

Garlic-mustard (*Alliaria petiolata*) You would have never noticed this white flower in the 1940s, but that's because it didn't exist in the area. It's an invasive plant, and it's wiping out many native woodland species with inexhaustible speed.

Science Essay Asks Museums to Step Up to Conservation Plate

Greg Borzo, Media Manager, Academic Affairs

When it comes to conservation, museums must stop being wallflowers, said Field Museum experts in a groundbreaking essay published in *Science* on Dec. 7. They must step into the limelight and lead.

D. BRINKMEIER

Children from the Cofan community in Ecuador look at colorful field guides of local plants. Containing both scientific and Cofan plant names, the guides help preserve local knowledge of the plants and reinforce their traditional uses.

President John McCarter, Georgie Boge, special assistant to the president for environmental initiatives, and Gillian Darlow, manager of business development and operations for environmental and conservation programs, coauthored the essay. Called *Safeguarding the World's Natural Treasures*, it acknowledges the challenge of breaking through old perceptions of museums as dusty warehouses for dinosaurs, mummies and stuffed animals. Instead, museums, zoos and botanic gardens are critical forces not only for understanding the world's biological and cultural diversity, but also for conserving it.

With the aid of collections-based research, biological inventories, public outreach, advocacy and partnerships, "natural history museums can and should directly advance conservation goals." Citing major environmental achievements of several museums around the world, the essay said, "When science informs conservation, the results can be dramatic."

Protecting the Earth's living heritage can be accomplished in many ways. Museums must continue collecting specimens; make collections and data more accessible to others, especially through advanced database and imaging technologies; disseminate information faster to government officials, scientists and community leaders; draw new audiences into the conservation camp; and engage local communities everywhere to take immediate action.

The invaluable information that collections worldwide hold—anatomic, morphologic, genetic and geographic—helps us understand evolution, distribution and how species become extinct. Also, the data gleaned from collections-based research inform policy makers in setting conservation priorities. For example, a rapid biological inventory conducted last year by The Field Museum and several Peruvian partners in the Cordillera Azul mountains yielded at least 28 new species. "Armed with critical science data, the Peruvian government worked hard and fast to create a 5,212-square-mile park barely eight months after the team left the field," the essay said. Events like establishing this park would not be possible if it were not for collections and collections-based research.

While exhibitions draw visitors to museums, education programs help nurture the knowledge, skills and personal commitment needed to delve deeper into conservation issues and become involved. Whatever the outreach effort—distance-learning for children, advanced training for university students, or specialized programs for groups such as forest rangers and land managers—museums can greatly increase the global capacity for conserving threatened environments.

And since no single organization can protect the Earth alone, museums can be powerful initiators of productive, lasting partnerships. For example, museums, zoos and botanic gardens were central in creating Chicago Wilderness, an unprecedented partnership of some 130 public and private organizations dedicated to restoring prairies and woodlands, marshes and meadows in the Chicago region. (Visit www.chiwild.org to learn how you can help protect our native plant and animal communities.)

The economic forces that drive the depletion of our natural resources are strong and gaining force. "Now more than ever," the essay asserts, "scientific leadership is necessary" for investigating, preserving and restoring biologically and culturally significant areas. "Time is running out." ITF

Our Generous Friends

As our country strives to regain strength from the events of Sept. 11, we are grateful that contributions to The Field Museum have remained strong. Throughout 2001, we received continuous support for the Museum's Annual Fund, exhibition, education and research programs.

Thanks to thousands of caring individuals, the Annual Fund (annual contributions of $100 to $1,499) grew by 23 percent, providing essential support for the Museum's everyday operations. The Founders' Council (Annual Fund donors who contribute $1,500 or more each year) contributed more than $1.6 million in unrestricted support and more than $1.2 million in restricted support to special projects in education and anthropology.

Sponsorships accounted for more than $966,000. We are especially grateful to BP and Exelon, the international and national sponsors of *Cleopatra of Egypt*. Other corporate gifts exceeded $740,000, and foundation support surpassed $785,000.

Among the auxiliary boards, the Women's Board made an unrestricted gift of $750,000 to the Museum and an additional $100,000 to the new vice president for academic affairs, Dr. Robert Martin, to be used at his discretion for special projects. The Field Associates supported *Wrapped in Pride* with $30,000 and raised more than $70,000 through its Butterfly Ball. The Cultural Collections Committee generated more than $300,000 to endow field- and collections-based internships in anthropology. And the Friends of the Library transformed the Museum's third floor into an art gallery showcasing incredible digital reproductions of Audubon's 50 best.

C. EISENBURG

Max Farrell (left) and Liz Martinez (right), co-chairs of The Cleopatra Ball, with Women's Board President Barbara Pearlman (middle)

We deeply appreciate the City of Chicago for its generous, ongoing commitment to the Museum. In particular, the Chicago Park District gave $7.5 million in annual operating funds in 2001.

No matter how much you give, sustaining and growing the Museum would not be possible without you. We thank all our supporters for helping to keep The Field Museum an invaluable part of Chicago's heritage, and of your lives.

Collections Resource Center Commences

Behind the Museum's southeast construction fence, you might find archaeologist Scott Demel elbow-deep in mud. As is required on any public land, he's conducting salvage archaeology and searching for clues to the origin of the lakefront's landfill. Not all of what lies beneath the top 15 feet is rubble from the Great Chicago Fire. It consists primarily of early 20th-century hotel and restaurant debris. Demel even found a metal baggage claim that was x-rayed to determine its origin.

That's not all that Demel is observing. Construction has just begun for the new Collections Resource Center (CRC). Demel will be coordinating the move of portions of our collections into the new 183,000-square-feet facility.

Designed by Skidmore, Owings & Merrill LLP (SOM), the CRC will house ethnographic objects and archaeological artifacts, rocks and paleobotanical fossils, skeletal specimens, wet-preserved animals and oversized items such as totem poles and dinosaur bones. It will meet exceptional environmental standards for conserving organic materials and provide essential office, lecture and laboratory space. It will also free up about 45,000 square feet for new exhibition and program areas inside the Museum. Completing the CRC will take two and a half years and is estimated to cost $50 million. A new loading dock, designed by Vernon Williams Architects, P.C., and a new East Entrance will be built at the same time.

Last year, our campaign to gain support for these projects amassed more than 35,000 messages to Gov. George Ryan and members of the Illinois General Assembly. Thanks to you, we received the first $20 million of the $40 million that we requested. We are now working to obtain additional funding through a coordinated campaign with our Museums in the Park colleagues.

Visit the "Send a Message from the Queen" booth in Stanley Field Hall to create personalized postcards for your elected officials. Or, fill out and mail the enclosed postcards. Your participation ensures that our collections and research remain the lifeblood of this institution.

COURTESY SOM

Instead of the current shelves, where organic materials are prone to damage from humidity, insects and other risks, the new CRC will utilize space-saving, mobile cabinets.

From Mountaintops to the Ocean Floor, New Program Takes You There

Note: From the Archives was replaced in this issue with breaking news. The Field Museum is piloting a new program in March that will allow the public to follow our scientists to remote sites around the globe. We want you, our members, to have the opportunity to participate.

What is it like to conduct research in the field?

The unexpected. Dr. Gary Feinman peers over four long, flat stones just excavated that had been hidden under the plaster floor of a Classic-Period house in Oaxaca, Mexico.

The hard work. Patiently waiting for her equipment to rise, with watchful eyes on the rising swells slapping against the boat, Dr. Janet Voight knows the challenges of collecting deep-sea animals 3,600 meters below on the Pacific Ocean floor.

The unknown. Flying over high-altitude lakes among eroded red-rock hills and impenetrable sheer rock walls, Dr. Debra Moskovits will soon be with a team of biologists conducting a rapid biological inventory of the animals and plants in an unexplored region of central Peru.

J. VOIGHT

Above: The Remotely Operated Vehicle, Jason, provides Dr. Voight with real-time video of deep-sea octopuses.

Through technology, The Field Museum's new pilot project, **expeditions@fieldmuseum,** can put you there. It is The Field Museum at work … shared through the eyes of scientists on field expeditions. What is it like to unexpectedly uncover a tomb beneath the floor of a house? What is it like to try to understand a world so remote that no one can even visit it? What is it like to look across a mountain ridge brimming with plants previously unknown to science? And what is it like, after weeks of hard work, to find nothing at all?

Field Museum scientists invite you to become a part of the Museum's working science by participating in the 2002 pilot season of **expeditions@fieldmuseum.** Through emails and online video reporting from the field, scientists will describe their work as they explore and discover. Project Manager Jennifer Eagleton said the program's immediacy makes it unique. "We are not presenting our research results. We are not staging an event," she said. "We are offering the public an opportunity to come behind the scenes and into the field with small groups of scientists to participate in the process of discovery."

Dr. Voight said that while there are many ways to learn about research results, **expeditions@fieldmuseum** is a unique forum for scientists to share the process of fieldwork with the public. The program is not scripted, and with fieldwork, said Dr. Voight, "There are no guarantees."

Except one. Through **expeditions@fieldmuseum** you will be right there.

L. NICHOLAS

Right: A tomb uncovered by Dr. Feinman in Oaxaca, Mexico

We will launch the pilot with Dr. Feinman's excavation in Oaxaca, Mexico, in March and Dr. Voight's Pacific cruise in May. To sign up for these opportunities, email us at expeditions@fieldmuseum.org. You can also check the 2002 expedition schedule at www.fieldmuseum.org/expeditions.

This project is generously funded by The Negaunee Foundation.

2002 Membership Policy Changes

Call the membership department at 312.665.7700 with questions about your benefits.

1) Present a photo I.D. along with your membership card for admission.

This new procedure is designed to protect the use of your benefits. Please remember that memberships are non-transferable and benefits are for the purchasing individual or family.

2) Membership Card Replacement Fee

We are happy to replace one lost membership card each year per household at no charge. Additional replacement cards cost $3.

3) Member Passes for Special Exhibitions

When you request member passes for members'-only viewing nights, they will be subtracted from the total number of free passes that you can receive during the exhibition's run. Family members and Annual Fund contributors can receive four passes, and senior, student, individual and National Affiliate members receive two passes.

Chocolate Previews

Membership Chocolate Previews

Feb. 15, 20, 21 and 24, and March 18 and 19.
All preview times are 5 to 10pm.
Invitation and details to come in the mail.
Call 312.665.7700 for information.

Annual Fund Chocolate Preview

For donors who contribute $100–$1,499
Tuesday, Feb. 19
Invitation and details to come in the mail.
Call 312.665.7777 for information.

Steppenwolf Theatre Offers Discount Tickets

Call the Steppenwolf Theatre box office at 312.335.1650 for these great offers to Field Museum members.

Ensemble member Tina Landau directs the world premiere of *Maria Arndt*, a story of passion, unrequited love, loss and the unbreakable bond between mother and daughter. Mention code FMU to receive two tickets for the price of one ($35 to $50 full price) any Tuesday, Wednesday or Thursday, Feb. 7 to March 31.

In Sherwood Anderson's *Winesburg, Ohio*, a young boy is surrounded by ordinary people who gradually reveal that they are twisted, burdened and elated by extraordinary passions. Fridays and Saturdays, Feb. 22 to March 16. Mention code FMU for $7.50 discounted tickets.

Hotel Packages for Family and Friends

With convenient locations, wonderful amenities and a range of options for every budget, several Chicago hotels are offering special packages that include tickets to Chocolate, open Feb. 14 through Dec. 31, 2002.

Chicago's Essex Inn
800.621.6909

The Drake Hotel
312.787.2200

Executive Plaza Hotel
800.621.4005

Fairfield Inn and Suites
800.228.2800

Four Seasons Hotel Chicago
312.280.8400

The Hilton Chicago
800.HILTONS

Hotel Burnham Chicago
877.294.9712 or
312.782.1111

Hyatt Regency McCormick
800.233.1234

Lenox Suites Hotel
800.44.LENOX

Millennium Knickerbocker
800.621.8140

The Palmer House Hilton
800.HILTONS

Park Hyatt Chicago
312.335.1234

Sheraton Four Points–Midway
773.581.5300

Field Museum Tours at a Glance

For information, call Field Museum Tours at 800.811.7244 or email fmtours@sover.net. Please note that rates, prices and itineraries are subject to change and that prices are per person, double occupancy.

Island of Legends: Circumnavigation of Crete

April 21–May 2, 2002

Circumnavigate Crete on a luxurious 34-passenger yacht, and discover the wonders of the Minoans. Visit the magnificent palaces of Knossos, Phaestos, Mallia and Kato Zakros, and the ruins of Gortyn and Lato. Tour the Heraklion Museum, historic Chania and the monasteries of Toplu and Preveli, and drive through beautiful Kourtaliotiko Gorge.

Galápagos Islands Adventure

With FM President John McCarter
July 5–July 15, 2002 (wait-listed)

The Best of Kenya: An Exclusive Field Museum Luxury Safari

Aug. 24–Sept. 8, 2002
Leader: Dr. Bruce Patterson, TFM MacArthur curator of mammals and president-elect of the American Society of Mammalogists

Travel in comfortable, roomy land cruisers, feast on excellent cuisine and camp in luxury tents that provide an authentic glimpse into the "bush life" of historical safaris. Plus, Dr. Patterson's expertise and the camaraderie of your driver-guides will greatly enhance your experience of these safari spectacles:

The Serengeti's Maasai Mara National Reserve—Witness one of the greatest wildlife spectacles in the world as countless wildebeest, zebra and gazelle migrate across the plains.

Tsavo National Park—Notorious for its man-eating lions, Tsavo is home to more than 400 bird species and at least 128 mammal species, including elephant, giraffe, buffalo, gazelle, hippo, lesser kudu, antelope and black rhino. Dr. Patterson, an expert on Tsavo lions, will offer perspective on their evolution, behavior and forensic clues to man-eating.

Amboseli National Park—Dominated by Mt. Kilimanjaro, this park supports more than 1,000 elephants and other large mammals such as cheetahs, leopards, wildebeest, zebra, eland and buffalo.

Samburu/Buffalo Springs Game Reserves—Experience the unique pastoral culture of the Samburu people, and see such distinctive animals as Beisa oryx, Grevy's zebra, reticulated giraffe and gerenuk.

Rift Valley Lakes—Take a refreshing break from the game trails to enjoy teeming flocks of flamingoes and hippos reveling in cool, buoyant waters.

Ancient Wonders of Peru—Women's Board Trip

Sept. 13–25, 2002 (sold out)

Egypt Revisited

Oct. 13–27, 2002

Egypt has so much to see that it is worth an in-depth, second visit. Sites include Abusir, Dashur, Maidum, Faiyum, Tanus, Abydos, Dendara, dawn at Abu Simbel and Amada, plus lesser known sites in Cairo, Luxor and Aswan. Enjoy a cruise on Lake Nasser.

The Amazon by Riverboat

Jan. 18–26, 2003

Explore the Amazon, Ucayali and Tapiche Rivers in Peru for eight days aboard a 14-cabin riverboat. Search for river dolphins; howler, squirrel and capuchin monkeys; sloths; capybaras; and unusual birds. Optional extension to Machu Picchu.

Egyptian Odyssey

Jan. 26–Feb. 9, 2003

By land and riverboat, explore the famed pyramids of Giza, The Egyptian Museum, the Valleys of the Kings and Queens, Karnak, the temples of Khnum, Horus and Isis, and Abu Simbel's three colossi of Ramses II. Five-star accommodations throughout.

COURTESY FIELD MUSEUM TOURS

INTHEFIELD

Spring 2002
April
May

The Field Museum's Member Publication

Nueva para Ecuador
ARACEAE Anthurium

Nueva para Ecuador
BOMBACACEAE Matisia

Especie nueva
BROMELIACEAE Guzmania

Especie nueva
BROMELIACEAE Pitcairnia

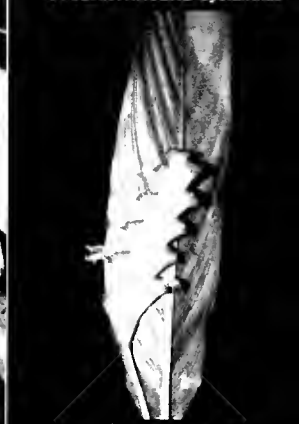
Variedad o especie nueva
CYCLANTHACEAE Cyclanthus

Primera vez en el norte
ANTHACEAE Purdiaea nutans

Especie nueva
ERICACEAE Cerratostema

Nueva para Ecuador
EUPHORBIACEAE Conceveiba

Especie nueva
FABACEAE-CAES Macrolobium



Especie nueva
MARANTACEAE Calathea

Especie nueva
ARANTACEAE Calyptranthes

Especie prob. nueva
OLACACEAE Heisteria

New Ecuadorian Reserve in Cofán Hands

Fossils Reveal Extinct Lake Community

Especie prob. nueva
ASSIFL. Passiflora (arbol)

Especie nueva
RUBIACEAE Palicourea

Especie nueva
RUBIACEAE Psychotria

Especie prob. nueva
RUBIACEAE Rudgea

Género nuevo para Ecuador
SCROPHULARIACEAE Basistemon

Field Museum's Got It Covered

JOHN WEINSTEIN/GN88119.6

The Field Museum is blessed with an extraordinarily talented group of scientists. Our tradition of maintaining world-class collections and conducting research around the world dates back to 1893. But our team of curators, collections managers, graduate students, volunteers and other academic staff—nearly 400—has come to full fruition in the past two decades under the dynamic leadership of Willard "Sandy" Boyd, Peter Crane and now Robert "Bob" Martin, who officially joined the Museum last fall.

Our scientists are at the core of this institution's success. Without them, we would not be able to collect or maintain 22 million artifacts and specimens for research by the international scientific community. We would not have active research on every continent of the Earth. We would not be able build exhibitions such as *Sue*, *Chocolate* or the upcoming *Pearls*, which was created in collaboration with the American Museum of Natural History (AMNH) in New York.

Field Museum scientists have distinguished themselves in recent years with overwhelming financial support from major funding organizations, including the National Science Foundation, NASA, the National Endowment for the Humanities and the Institute of Museum and Library Services. Last year alone, the Museum received $3.4 million in restricted support for academic research and conservation education. Over the past few years, other major foundation support for science has included the Regenstein Foundation, Robert R. McCormick Tribune Foundation, John D. and Catherine T. MacArthur Foundation, Gordon and Betty Moore Foundation and The Elizabeth Morse Charitable Trust.

Another key measure of productivity is publishing. Last year, Field Museum scientists authored nearly 300 books and papers in a variety of international journals. The photo collage and list below represent our scientists' range of intellectual and geographical coverage:

- *Pearls: A Natural History*—co-written by Rüdiger Bieler, zoology, and Bennet Bronson, anthropology, with Neil H. Landman and Paula M. Mikkelsen of the AMNH
- *The Evolution of Plants*—co-written by J.C. "Jenny" McElwain, geology
- *Stress and Resilience: The Social Context of Reproduction in Central Harlem*—co-written by Alaka Wali, anthropology
- *The Journal of Experimental Biology*—an article on turtle mechanics by Mark Westneat, zoology
- *Phylogenetic Relationships of the Earliest Anisostrophically Coiled Gastropods*—Peter J. Wagner, geology
- *From Leaders to Rulers*—Jonathan Haas, anthropology
- *Evolutionary Patterns: Growth, Form, and Tempo on the Fossil Record*—co-edited by Scott Lidgard, geology

John W. McCarter, Jr.
President & CEO

What do you think about In the Field?

For general membership inquiries, including address changes, call 312.665.7700. For questions about the magazine *In the Field*, call 312.665.7115, email acranch@fmnh.org, or write Amy E. Cranch, Editor, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496.

INTHEFIELD INSIDE

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Cover: These rare plant species, many new to science, are found in a new protected reserve in the Andean foothills of Ecuador. All cover photos by Robin Foster. See the story on pages 2–3, or visit www.fieldmuseum.org/rbi.

The Field Museum salutes the people of Chicago for their long-standing, generous support of the Museum through the Chicago Park District.

The Field Museum

1400 South Lake Shore Drive
Chicago, IL 60605-2496
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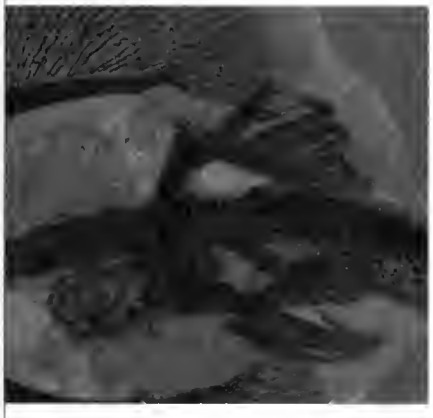
www.fieldmuseum.org

J. COE



J. WEINSTEIN/GE086344 1C

Museum Campus Neighbors

Shedd Aquarium Just for the preschool set, Shedd offers a day of special activities during "Tots on Tuesdays." Between 9am and 5pm every Tuesday, children ages 3 to 5 can take part in story times, crafts, animal touch programs and videos, all related to an aquatic theme. Programs are ongoing; locations will be posted in the main foyer. For more information, call 312.939.2438, or visit www.sheddaquarium.org.

Adler Planetarium In *Bringing the Heavens to Earth: Cultural Astronomies Around the World*, our new interactive exhibition, you can become an Assyrian king determining your fate, or a Polynesian navigator using the starry night to chart your path home. This exhibition unveils the diverse cultures that have contributed to the quest to understand humans' place in the Universe. Also, don't miss the new sky show, *Skywatchers of Africa*. Visit www.adlerplanetarium.org, or call 312.922.STAR.

The Aguarico Valley

On Jan. 30, Ecuador's Minister of Environment, Hon. Lourdes Lugue de Jaramillo, signed a decree creating a new, globally outstanding protected area in Ecuador's Andean foothills at the Colombia border. The biological information that motivated the Ecuadorian government to take this important step came from the results and recommendations of a rapid biological inventory (RBI) led by scientists from The Field Museum and their Cofán counterparts.

The new 195-square-mile Reserva Ecológica Cofán Bermejo lies in rugged terrain previously unmapped by scientists but familiar to the local indigenous Cofán residents. These are the Cofán foothills in northern Ecuador (Serranías Cofán), where the world's most diverse mountain range rises out of Earth's biologically richest lowland forests. The Serranías are a complex tangle of topography and biodiversity, with a rich mix of natural communities found nowhere else on the planet.

"The wet slopes of the Andes pack unique species of plants and animals all along their length from Venezuela south to Bolivia," said Debra Moskovits, Ph.D., director of the Museum's Environmental and Conservation Programs (ECP), who coordinated the biological research that led to the government's decision to protect the foothills. "The new Reserva Ecológica adds a vital link to the chain of protected, distinct communities along the Andes."

This marks the first time in Ecuador that federally protected lands have been placed in official custody of the resident indigenous people, in this case the Cofán. It will create a model for science-based stewardship of land by indigenous people.

"Finally, we are getting legal support for protecting one of the wildest, least explored, most beautiful regions left on the globe," said Randy Borman, executive director of the Cofán Survival Fund. "Abundant wildlife, high mountains, thick forests, crystalline rivers, a culture living intimately with its environment: This is a major victory for conservation."

BACKGROUND AND ABOVE PHOTOS BY D. MOSKOVITS

Top left: Hyla phyllognatha, *a species of the upper hill forests*

Top middle: Earthworms can grow to more than a meter long.

Top right: The Cofán protect Enyalioides cofanorum *and other animals driven extinct.*

Science-Based Collaboration for Conservation

The Cofán have long considered conservation of natural areas as key to their long-term survival. For example, a recent documentary by Bill Kurtis that aired on A&E's *Investigative Reports*, called *American Chief in the Amazon*, portrayed how the Cofán successfully stood up to oil companies that were devastating their lands and rivers.

Borman, who was raised among the Cofán by his American missionary parents, has helped focus international attention to the plight of this indigenous community. In 1998, The Field Museum awarded him with the Parker/Gentry Award for Conservation Biology. Since then, Field Museum scientists have worked closely with the Cofán to boost the levels of dangerously declining populations of Amazonian river turtles. Roberto Aguinda, then president of the Cofán community Zábalo, also spent weeks working in the Museum's herbarium with Dr. Robin Foster and other scientists to document the Cofán's knowledge of local plants. Additionally, ECP's Dan Brinkmeier has developed a series of illustrated technical booklets to help the Cofán extend their conservation knowledge to neighboring communities.

Scientific Fieldtrip

In the summer of 2001, ECP, the Cofán Survival Fund, the Indigenous Federation of the Cofán Nation in Ecuador and other Ecuadorian and Peruvian scientists conducted an RBI of the region's plants and animals. The John D. and Catherine T. MacArthur Foundation, which also supported the RBI that led to the creation of the Parque Nacional Cordillera Azul in Peru last year (see May–June 2001 *In the Field*), funded this RBI in Ecuador. The Museum's RBI program is designed to catalyze effective action for conservation in threatened regions of high biological diversity.

In the Andean foothills of Ecuador, the RBI team found a spectacularly diverse mix of plants and animals, including at least 12 species new to science. In just three weeks in the field, the scientists identified:

- 800 species of plants, including 129 species in the coffee family alone
- 42 species of large mammals, including 12 species of monkeys and eight species that are listed as globally threatened
- 399 species of birds, including large populations of many that are rare or threatened elsewhere in the Andes
- 31 species of amphibians and reptiles, including one lizard new to science.

"The number of threatened and near-threatened bird species recorded from even this brief survey of the Serranías Cofán make this region one of the most important sites for bird conservation anywhere in the eastern Andes of Colombia, Ecuador or northern Peru," said Thomas Schulenberg, Ph.D., a Field Museum conservation ecologist.

The New Reserva Ecológica

The conservation of these foothills is increasingly critical. A new, interoceanic highway that links the Atlantic to the Pacific has split a once continuous expanse of forest. Waves of colonists already are following the highway, clearing and fragmenting the area. Illegal hunting and fishing have increased. Commercial logging companies have begun to cut hardwoods along the road, their chainsaws audible throughout the mountains.

Meanwhile, Colombia's civil war and drug trafficking problems are spilling heavily over into Ecuador. "Between the colonists, guerillas, warlords, oil companies, loggers and miners, we are sitting on a bomb," Borman said.

Under the groundbreaking governmental decree, the Cofán residents will manage the reserve, collaborate with research, patrol against incursions and monitor progress toward conservation goals. "The Cofán's determination to protect the spectacular biodiversity that is central for their survival and their knowledge of the plants and animals in their backyard make the Cofán critical players in the effective, long-term conservation of this region," said Dr. Moskovits. "The Reserva Ecológica will create a model of successful, science-based stewardship of ancestral lands by an indigenous community." ITF

For more information, visit www.fieldmuseum.org/rbi.

Field Museum's At-Sea Research Dives Deeper

Story and Photos by Dr. Janet R. Voight, Associate Curator, Zoology

Imagine you could win a million dollars if, after randomly sticking a pin in a globe, you go to that place and set foot on the ground. It might sound like a pretty sure bet, but your chances of winning are less than 50:50. That's because oceans cover two-thirds of the Earth's surface, and 90 percent of them are deeper than 300 meters (984 feet)—too deep for anyone but the most highly skilled and properly equipped diver to touch bottom.

The U.S. research submersible Alvin

Just 150 years ago, the deep sea was thought to be so hostile to life that no animals could live there. Certainly no plants could live below 200 meters (660 feet), where the sunlight they require for photosynthesis is extinguished. The 1860 discovery of deep-sea animals attached to seafloor cables that had been pulled up for repair was among the first contributions of technology to deep-sea biology. Those animals led to the *Challenger's* round-the-world trawling cruise in 1873, launching our present fascination with and discovery of the deep sea's enigmatic inhabitants. Deep-sea biology remains technology-dependent because the habitat is one of perpetual cold, inky darkness and crushing pressures from the overlying water column. The latter fact is critical, as breathable air is of no use at 2,000 meters depth (6,560 feet) if the ambient pressure of 207 kilograms per square centimeter (2,940 pounds per square inch) flattens one's lungs.

Given the rigors of the deep sea, why go there? Quite simply, the deep sea hosts the most exotic, unknown fauna on the planet. It's the one place to go for a zoologist like me who studies cephalopod mollusks. Only a tiny part of the deep sea and its fauna have been explored, meaning that unimagined squids, octopuses or other invertebrates may live undiscovered. Air breathers like us or insects or birds can't occur there, but representatives of nearly every phylum of the animal kingdom have been found on the seafloor.

Technology is helping to improve our knowledge of these animals and their habitat. Until 40 years ago, the only way to see deep-sea animals was to trawl—drag a net through the water column or across the seafloor and pull it up a few hours later to see what's inside. Trawls often damage the fragile animals, which arrive on the ship's deck jumbled together in densities much higher than would ever occur in nature. Most animals live at low densities because they rely on bits of food that drift down from the upper ocean where plants harvest light to make sugars. Looking only at the contents of a trawl net gives an unrealistic view of deep-sea animals.

The only way to see the deep seafloor and its inhabitants with your own eyes and come back alive is via one of the world's five deep-diving, manned research submersibles. Russia has two, and Japan, France and the United States each have one. Military submarines carry many people and can stay submerged for long periods, but they can typically only dive to a few hundred meters depth. Research submersibles are small, carry three people and dive for just a day to depths greater than 4,000 meters (13,230 feet).

The U.S. research submersible, *Alvin*, is approved to dive to 4,500 meters depth (14,765 feet), which is only 750 meters (461 feet) deeper than the ocean's average depth. During 37 years of service, *Alvin* has averaged about 100 dives each year. With a maximum speed of about one mile an hour—a slow stroll in the park—and lights that only penetrate the pitch black about 10 feet ahead, *Alvin* may not seem to be the best vessel to explore a massive, unknown world. Its abilities are proven, however, even though it only dives in the upper half of the ocean. To use *Alvin*, one also needs its 274-foot-long mother ship, the *R/V Atlantis*, and a crew of about 34 people—all for an estimated cost of $35,000 a day. Scientists apply to use *Alvin* and

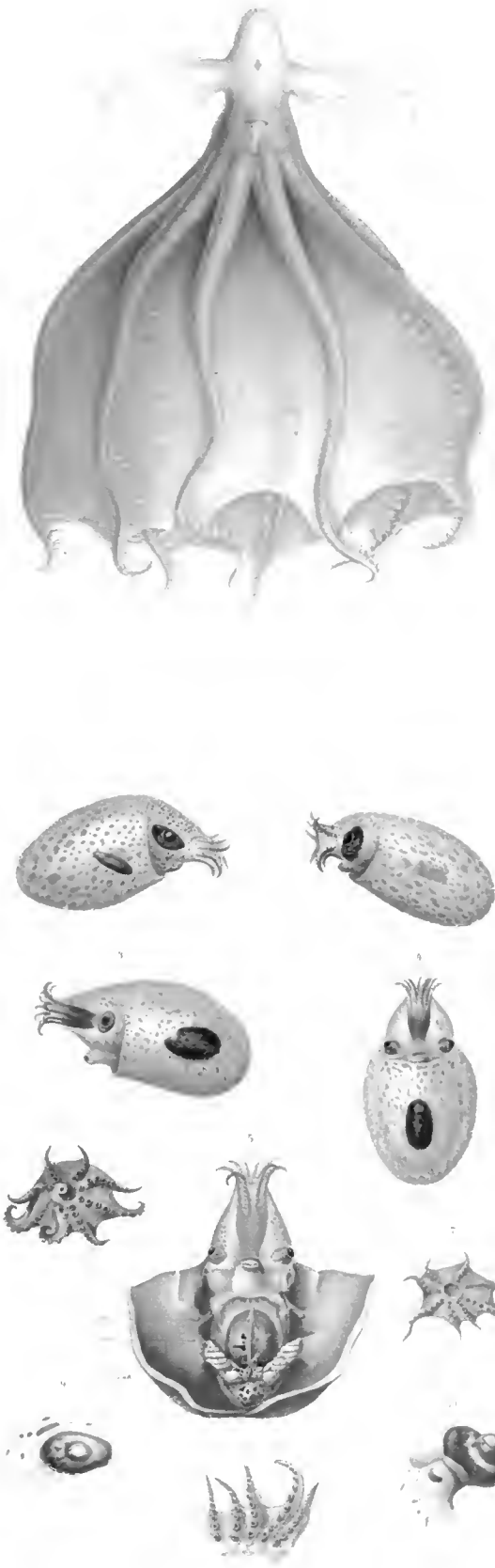
other national research vessels through competitive research proposals. A panel of scientists ranks the quality and feasibility of a proposal, judged in part on the requester's experience in deep-sea research.

This summer, I will lead FIELD (Focused Investigations of Environment and Life at Depth), a 12-day research cruise using *Alvin*. I developed my deep-sea research experience using *Alvin* with help from other sea-going scientists, such as geologists and physical oceanographers, who let me join their cruises. This both allowed me to learn and broadened the impact of their research. Sampling animals can be done quickly, or is unavoidable if the animals live on rocks that they are collecting. As a sea-going museum curator, I preserve biological samples for The Field Museum and make them available for research by the international community. My colleagues' generosity has helped me gain considerable at-sea experience, including three dives in *Alvin* as deep as 2,663 meters (8,737 feet) since 1997.

As the chief scientist of FIELD, funded by the National Science Foundation, I will direct *Alvin* to collect animals from hydrothermal vents at Gorda Ridge and at cold seeps in the canyon off Monterey, California. Gorda Ridge lies due west of the California-Oregon border, and like the Monterey Canyon sites, is covered by more than 3,000 meters (9,843 feet) of Pacific Ocean waters. The animals here are not sustained by food that has drifted down from the sun-lit waters above, but by bacteria that convert chemical energy percolating from beneath the Earth's crust into forms that animals can use. Scientists in *Alvin* only discovered hydrothermal vents and their animal assemblages in 1977. While they didn't intend to change our view of the Earth's diversity, they came upon the right place on the deep, dark seafloor and did so. Overnight, the statement "All life on Earth relies on energy from the Sun" went from being an absolute truth to having a major exception.

The FIELD science party will include *Alvin*-experienced and neophyte scientists, chemists, geologists, a microbiologist and zoologists such as myself. Our discoveries will probably not change dogma, but, unless rough weather prohibits it, some of us will get to crouch inside the 7-foot titanium sphere that is *Alvin* and peer out its thick windows at a small part of the seafloor that has never before been seen by human eyes. I've done it. There is nothing like it. **ITF**

If you would like to follow Dr. Voight into the deep, dark sea, email us at ***expeditions@fieldmuseum.org*** *to join a new program in which scientists describe their fieldwork as they're conducting it through emails and online video reporting.*



ILLUSTRATIONS COURTESY FIELD MUSEUM LIBRARY

Cephalopod illustrations from a report of the 1898–1899 German deep-sea expedition on board the Valdivia.

Top: Cirrothauma murrayi *Chun, which may be encountered during Dr. Voight's cruise this summer.*

Bottom: Bolitaena diaphana

New Dinosaur Species Clarifies Bird-Dinosaur Link

Greg Borzo, Media Manager, Academic Affairs

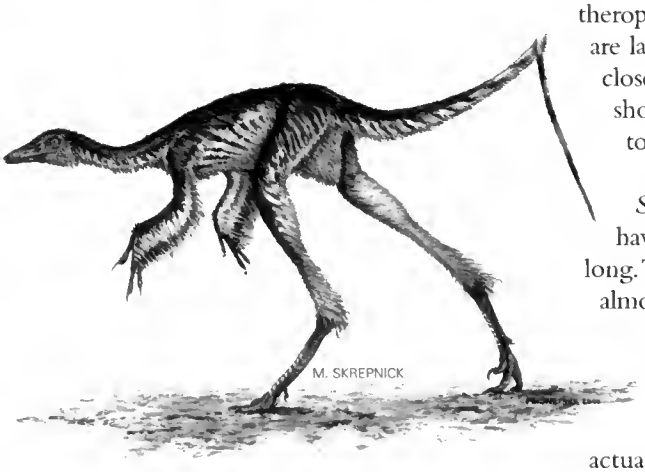
The discovery and analysis of an early carnivorous dinosaur, *Sinovenator changii*, are clarifying the evolutionary relationship between dinosaurs and birds, according to a paper published in *Nature* on Feb. 14, 2002.

The small, relatively complete fossil was found in the rich Yixian Formation of western Liaoning in China, where scientists have recently discovered many groundbreaking fossils, including feathered dinosaurs.

"This new dinosaur, which was probably feathered, is closely related to and almost the same age as the oldest known bird, *Archaeopteryx*," said Peter Makovicky, Ph.D., Field Museum assistant curator of dinosaurs and co-author of the paper. "It demonstrates that major structural modifications toward birds occurred much earlier in the evolutionary process than previously thought.

"Furthermore, these findings help counter, once and for all, the position of paleontologists who argue that birds did not evolve from dinosaurs," he added.

The fossil is more than 130 million years old and sheds light on dinosaurs during the transition from the Jurassic period to the Cretaceous period. *Sinovenator changii* (sigh-no-ven-ay-tor chang-eye) is a troodontid (tro-don-tid), a type of theropod (tare-a-pod). Although many theropods, such as *Tyrannosaurus*, are large animals, theropods close to the ancestry of birds show an evolutionary trend toward small body size.


M. SKREPNICK

Accordingly, an adult *Sinovenator changii* would have been less than a meter long. This particular specimen, almost fully grown, is slightly larger than a chicken.

"Although big dinosaurs may be more spectacular, we can actually learn more about evolution from the often overlooked smaller dinosaurs because they tend to be more primitive," said Dr. Makovicky. "*Sinovenator changii* is more basal or primitive than any other known troodontid."

Troodontids are a type of theropod distinguished by a puzzling combination of features, such as large air-filled spaces surrounding the braincase, small teeth with unusually large serrations and a large sickle claw of the foot. These variations can occur in different types of theropods, so troodontids have been hard to place on the evolutionary tree. In the past, they have been classified as close relatives of therizinosaurs, ornithomimods and dromaeosaurs.

Being a primitive troodontid, *Sinovenator* shows some features more similar to dromaeosaurs than to advanced troodontids. Dromaeosaurs, which include *Velociraptor*, and troodontids are related to birds.

> "Although big dinosaurs may be more spectacular, we can actually learn more about evolution from the often overlooked smaller dinosaurs..."

The *Sinovenator changii* fossil is preserved three-dimensionally because it was found in rocks deposited by a river. While this provides more data on the animal's three-dimensional structure, it explains why *Sinovenator's* feathers were not preserved. The feathered dinosaurs recently discovered in the same part of China were found in rocks at the bottoms of lakes that were derived from lake sediment.

Sinovenator changii is named after Dr. Meeman Chang, a leading Chinese paleontologist who spent more than a year time studying fossil fishes at The Field Museum on different occasions, most recently in 1998.

"As head of the Beijing's Institute of Vertebrate Paleontology and Paleoanthropology for many years, Dr. Chang has helped raise the standards for paleontological inquiry in China," said Lance Grande, Ph.D., curator in geology at the Field. "She is dedicated to improving the quality and productivity of Beijing's natural science institutions through training students, publishing and improving collection and research facilities in China. She has also played an important role in making it easier for foreign paleontologists to work in China, thereby broadening the scope and importance of paleontological sciences there."

Dr. Makovicky plans to conduct collaborative fieldwork in China to look for more fossils. "This area is yielding extremely important information on the evolution of dinosaurs, mammals, insects and flowering plants," he said. "I hope to find even more primitive specimens than *Sinovenator changii*." ITF

Best-selling Author Discusses Chocolat

Chocolat—a novel

World of Words Series

Let chocolate capture your imagination with critically acclaimed writer Joanne Harris, author of the international bestseller Chocolat. In a magical story about a small town in France, Harris offers mouthwatering descriptions of chocolate and reveals how this luscious sweet is a metaphor for pleasure, passion and life. Half British and half French, Harris was born in her grandparents' candy shop in France and now lives in England.

Saturday, April 6, 2pm

$15, students/educators $12, members $10

Chocolat—a movie

Live from the Field! Series

View the 2000 hit film Chocolat, starring Juliette Binoche, Judi Dench and Johnny Depp. Joanne Harris, author of the novel Chocolat, will introduce the film and be available for questions and discussion afterward.

Sunday, April 7, 2pm

$10

See inside for more information about The Field Museum's Chocolate *exhibition and related programs.*

New Exhibition–Tiniest Giants: Discovering Dinosaur Eggs

Through Sept. 2, 2002

Imagine being a scientist on one of the most incredible dino digs ever.

In 1997 a team of scientists went to Patagonia in southern Argentina in search of ancient birds. Instead, they unearthed the largest nesting site of dinosaur eggs ever found. More than a mile square, the site held tens of thousands of eggs, some containing fossilized embryos so well preserved the scientists could see patterns of reptilian scales in their skin.

Experience the thrill of this incredible discovery in *Tiniest Giants: Discovering Dinosaur Eggs*. This hands-on exhibition lets you take on the roles of paleontologists, curators and others involved in the expedition and the lab work that followed it. See what it's like to plan an expedition and get your hands dirty digging for fossils. Learn how scientists transport fossils from the field to the lab and prepare them for scientific study. Examine real specimens of dinosaur embryo bones under the magnifying glass and make your own rubbing of the scale patterns.

As you pass through each phase of the research, you'll collect an expedition stamp for your field notebook.

Join the *Tiniest Giants* team and find out what life is really like as a fossil hunter!

This exhibition was developed by the Natural History Museum of Los Angeles County and the Carmen Funes Museum of Argentina.

The Field Museum

General Museum Information: 312.922.9410

Family and Adult Program Tickets and Information: 312.922.9410

Immerse yourself in the story of a luscious treat.

Chocolate—The Exhibition

Through Dec. 31, 2002

Where does chocolate come from? How is it made? And how has it sweet-talked its way into our hearts?

Immerse yourself in the story of this luscious treat in *Chocolate*, the traveling exhibition developed by The Field Museum. Take a sweet journey for all ages—from the rainforest to the ancient civilization of the Maya, from 16th-century Europe to a modern-day candy factory. This exciting exhibition will engage your senses and reveal facets of chocolate that you've never thought about before.

Chocolate is a specially ticketed exhibition, with all labels in English and Spanish.

Chocolate and its national tour were developed by The Field Museum, Chicago.

This project was supported in part, by the National Science Foundation.

Chocolat—a novel

World of Words Series

See calendar cover for details.

Saturday, April 6, 2pm
$15, students/educators $12, members $10

Chocolat—a movie

Live from the Field! Series

See calendar cover for details.

Sunday, April 7, 2pm
$10

Chocolate in the Spanish Empire

Dr. Marcy Norton, George Washington University

Travel back to the 15th century to understand the value of chocolate to the Spanish empire as it built a powerful trade in goods from the New World.

Tuesday, April 16, 6pm

Unwrapping Chocolate: History and Culture

Unless otherwise indicated, individual lectures are: $12, students/educators $10, members $8

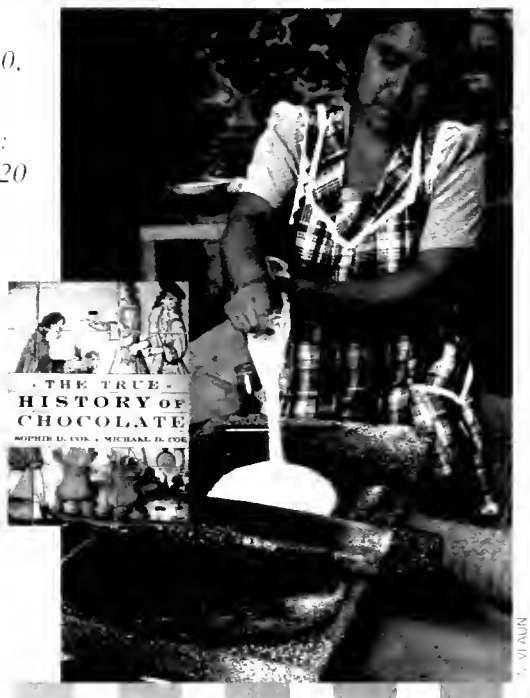
Attend three lectures and save 15 percent: $30, students/educators $25, members $20

The True History of Chocolate

Dr. Michael D. Coe, Yale University

Explore the rich history chocolate has had in many different cultures. Dr. Coe's book, *The True History of Chocolate*, covers everything from the ancient Maya and Aztec civilizations, to the introduction of chocolate in Europe, to modern chocolate production today.

Tuesday, April 2, 6pm



The Chocolate Tree

Dr. Allen M. Young, Milwaukee Public Museum

Explore the natural history of cacao with Dr. Young, author of *The Chocolate Tree*. Dr. Young will examine the rainforest environment in which the cacao tree thrives and illustrate the properties of this unique tree as they relate to the production of the prized cacao bean.

Tuesday, April 23, 6pm

Unwrapping Chocolate is presented by The Field Museum in collaboration with the Humanities Laboratory at the University of Illinois at Chicago.

Celebrate Earth Month with us!

Delicious Fieldtrips

An Old-Fashioned Chocolate Good Time

Peter George Poulos, Margie's Candies

Celebrate the child in all of us at a legendary Chicago ice cream parlor and sweet shop. Discover how Margie's Candies, established in 1921, makes its own ice cream, hot fudge sauce and chocolates.

Adults and families
Saturday, May 11, 10:30am–noon
$30, members $25
Meets at Margie's Candies, 1960 N. Western Ave.

Truffle Making: A Hands-on Lesson

Katrina Markoff, Vosges Haut-Chocolat

Savor the world's finest chocolate-making techniques and create your own collection of nine exotic truffles. A gourmet chocolatier, Markoff is famous for her daring combinations of spices, flowers and liqueurs with chocolate. Bon appetit!

Adults
Saturday, May 4, 9–11am
$55, members $47
Meets at Vosges, 520 N. Michigan Ave.

It's Wild in Chicago

Festival

Celebrate Chicago's rich natural heritage and find new ways to connect with nature. The theme of this year's festival is Chicago Wilderness: Get Into It! You'll learn about our region's diversity of plants and animals and meet dozens of local organizations that are devoted to protecting and restoring its natural resources. Discover how you can get into nature—from enjoyable hikes to volunteer opportunities to exciting classes.

This festival is organized by The Field Museum and the Chicago Wilderness coalition, which brings more than 140 local organizations together to promote conservation of biological diversity in the Chicago region.

Free with Museum admission
Saturday, April 6, 10am–3pm

Brazilian Ecosystems

Symposium

Explore the history of and environmental challenges in Brazil's unique but threatened ecosystems. This symposium brings together scientists from all over the world to discuss issues ranging from new archaeological findings, to the history and impact of climate and vegetation changes, to efforts to document aquatic diversity of vanishing tropical forests and savannas.

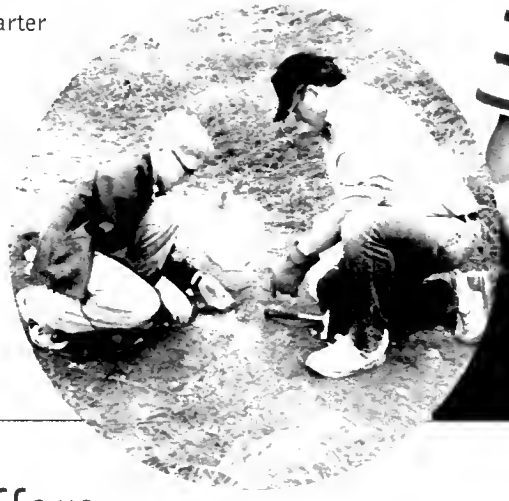
Friday–Saturday, May 10–11
Call 312.665.7448 or 7730 for details and registration.

This symposium is a joint effort between The Field Museum and the Brazilian Consulate General of Chicago.

David Dolak, Columbia College

Do you like to hunt fossils? Come with us to search for clues to the past and learn about Tully monsters—bizarre, unclassifiable animals that are the official state fossil of Illinois. Plan on a one-quarter mile walk to fossil locations.

Families with children ages 7–12
Saturday, April 6 or Saturday, April 20
(Choose one date.)
8am–3pm
$38, members $27



Speaker Series Offers a World of Adventure

This season The Field Museum is collaborating with the National Geographic Society (NGS) to present **Live...from National Geographic** as part of our annual **Voices from the Field** program. Find adventure, insight and inspiration from real-life encounters with the world's top photographers, scholars and writers.

Nick Nichols, Photographer, and Mike Fay, Conservationist

Experience the adventure of a lifetime as you journey through the heart of Africa. For 15 months, Nichols and Fay traveled 2,000 miles through vast swamps and dense tropical forests to chronicle Africa's unique environments before their greatness succumbs to civilization. Hear how these travelers braved everything from parasites to poachers to accomplish their goal.

Tuesday, April 9, 7:30pm

Mick Davie, Filmmaker

See the world through the eyes of Emmy® award-winning filmmaker Mick Davie, whose gritty documentaries reveal life on the front lines of political, social, cultural and environmental change. Davie is series creator and producer for the National Geographic Channel's *World Diary*. He has investigated post-Apartheid poverty in South Africa, war in Kosovo and examined violence against women in Pakistan.

Tuesday, May 7, 7:30pm

General admission: $24; TFM, NGS and Geographic Society of Chicago members $22; students $15

A 10 percent discount is available for groups of 10 or more with pre-registration.

Educational outreach programs related to the series are being presented through a collaboration between The Field Museum, the Geographic Society of Chicago, the National Geographic Education Foundation and the Illinois Geographic Alliance.

The National Geographic Society and The Field Museum gratefully acknowledge the support of our series sponsor, LaSalle Bank, and media sponsors Pioneer Press and Chicago Public Radio WBEZ-FM.

Below is a calendar of the temporary exhibitions you will have an opportunity to visit in 2002. Some dates may change. Remember to call 312.922.9410 or visit our website for specific information.

Pier Walk Maquettes
Through July 13

Urban Gardens:
Growing Chicago's Communities
Through July 7

Tiniest Giants:
Discovering Dinosaur Eggs
Through September 2

N88712 17C

Connie Sulkin, TFM Education Dept.

Join us for an eight-week exploration of The Field Museum. We'll see exhibitions, hear stories, sing songs, touch objects, make art projects and enjoy snacks.

Families with children ages 3–5
Tuesdays, April 2–May 21
10–11:30am or 1:30–3pm (Choose one time.)
$95 per child, $80 per member child
For each child, one adult attends at no charge.

This program is sponsored by The Siragusa Foundation Early Childhood Initiative.

Chicago and the World Forum: Islam and the West

Join us for an important and timely series of forums on the historical, religious, cultural and political relationships between the Islamic and Western Worlds. For an in-depth analysis of the issues, each event includes a keynote lecture, followed by breakout discussion forums and dinner.

The Field Museum and the Chicago Council on Foreign Relations are co-sponsoring this series.

Recognized as one of Europe's leading Islamic thinkers, Tariq Ramadan is working to create an Islamic identity that bridges Islamic values with the culture of Western Europe. Ramadan's work is particularly intriguing because his grandfather founded an Islamic revival movement in 1928 that has criticized the Western secular approach to life and advocated a return to traditional Muslim values. Ramadan currently teaches at the University of Fribourg and the College of Geneva.

Thursday, April 4
Lecture: 6–8pm
Breakout dinner session: 8–9:30pm

Rashid Khalidi is professor of Near Eastern Languages and Civilizations and director of the Center for International Studies at the University of Chicago. He also has taught at the Lebanese University and the American University in Beirut. Khalidi is currently the president of the American Committee on Jerusalem. From 1991 to 1993, he served as an advisor to the Palestinian delegation at the Madrid and Washington Arab-Israeli peace negotiations.

Tuesday, April 30
Lecture: 6–8pm
Breakout dinner session: 8–9:30pm

A Celebration of Souls: Day of the Dead in Southern Mexico
Through January 12, 2003

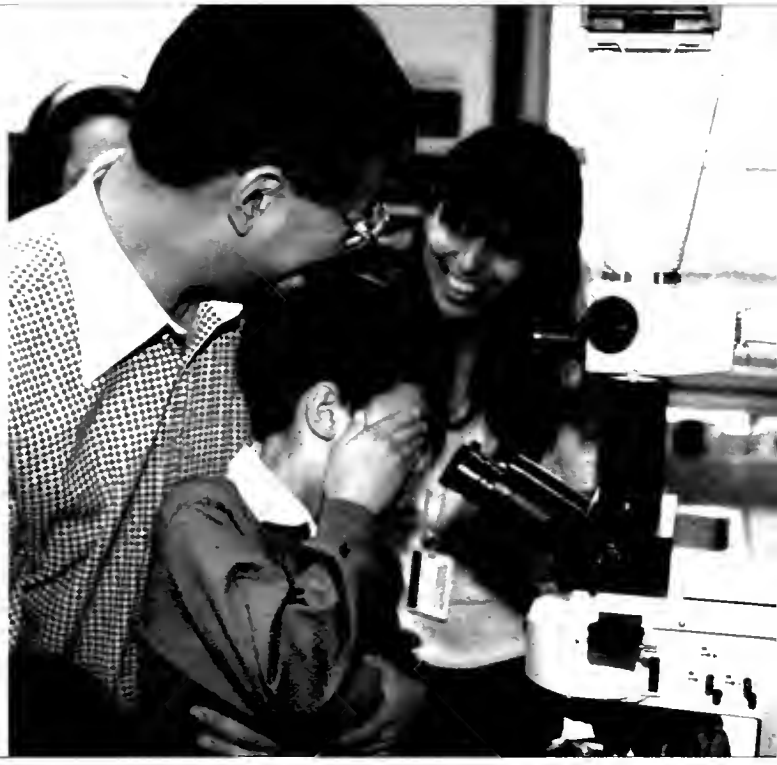
Chocolate
Through December 31

Pearls
June 28, 2002 January 5, 2003

Hug, Sculptor

ght up in the peculiar and puzzling world of plant predators. about Venus fly traps and pitcher plants, then create your own rous plant out of clay, pipe cleaners, felt and, of course, BUGS!

ies with children ages 7–14
ays, April 27 and May 11, 10am–noon, $15, members $12



Liz Cruger, TFM Education Dept.

Explore the history of paper from the ancient Egyptians to the present and try your hand at the craft of papermaking.

Families with children ages 7–12
Saturday, May 4, 10am–noon
$10, members $8

Workshops and Courses


©C. MOORE

A recognized historian of Islamic art and archaeology, Dr. Oleg Grabar is a professor emeritus at Princeton University. He has written 18 books and has received the Charles Lang Freer Medal from the Smithsonian Institution "for distinguished contribution to the knowledge and understanding of Oriental civilizations as reflected in their arts." This medal has been awarded only 11 times since its introduction in 1956.

Tuesday, May 14
Lecture: 6–8pm
Breakout dinner session: 8–9:30pm

Lecture: $25, TFM and Chicago Council on Foreign Relations members $20
Breakout dinner sessions: $25

Kris Wrede, Natural Scents Aromatic Creations

Breathe in the scents of time-honored aromatic ceremonies. Explore how ancient cultures brought the use of scents to a high art that permeated every aspect of life.

Saturday, April 6, 11am–2pm
$18, members $15

Dave Dolak, Columbia College

Learn about fossils, prepare a real fossil fish and enjoy Dolak's own quirky fossil songs in this introduction to the field of paleontology.

Wednesdays, April 24–May 8, 6–8pm
$42, members $36

ology News from the Holy Land

From Prairie to Field: Photographs by Terry Evans
July 19, 2002–January 5, 2003

Bamboo Masterworks: Japanese Baskets from the Lloyd Cotsen Collection
November 16, 2002–February 23, 2003

Behind the Scenes

Dr. Meenakshi Wadhwa, TEM Geology Dept.

Where do meteorites come from? How are they formed? What are they made of? Examine meteorites from the Museum's collections and learn what these amazing rocks teach us about the Earth and solar system.

Families with children ages 8–14
Friday, May 31, 6–8pm
$15, members $12

Summer Worlds Tour 2002

Don't miss the exciting and unique summer camp organized collectively by The Field Museum, Adler Planetarium and Shedd Aquarium. This summer camp is as educational as it is fun!

Children ages 5–10
Weekdays, 8:30am–3pm
Choose from one of four week-long sessions:
July 8–12, July 15–19, July 22–26 or July 29–Aug. 2
Register through the Adler Planetarium at 312.322.0329.
$200, members $180

Fieldtrips

Alan Anderson, Naturalist

Join us for an exciting weekend of hiking and birdwatching near the shores of Lake Erie. Look for wetland birds, shorebirds, ducks, herons, hawks, warblers and nesting bald eagles.

3pm, Friday, May 17–4pm, Sunday, May 19
$185, members $170
Includes bus transportation and lodging.

The Field Museum and Chicago Audubon Society are cosponsoring this trip.

Coming in June...

Dr. Irving Cutler, Chicago State University

Cruise 70 miles of Chicago's waterways for a unique perspective on the area's ecological, economic and historical development.

Saturday, June 1, 8:45am–4pm
$50, members $43
Meet at the Wendella Boat Dock at Michigan Avenue and the Chicago River.

Other Programs

Check our website at www.fieldmuseum.org for information about the Naturalist Certificate Program, which offers in-depth classes about ecology and the environment, and exhibition tours or hands-on activities to enjoy during your visit.

...ve you heard about Pearls?

...ver nature's perfect gem. The exhibition Pearls, which opened at [illegible] ...New York Times and others, will appear at The Field Museum from its ... ...ugh Jan. 5, 2003.

...rganized by the American Museum of Natural History, New York, in collaboration with The Field Museum, Chicago.
...National Sponsor Tasaki Shinju Co., Ltd.

Unique photography exhibitions feature vibrant communities.

Urban Gardens: Growing Chicago's Communities

Through July 7

See how vacant lots are transformed into blooming gardens as neighbors come together to create positive change in their communities. Combined with the stories of the gardeners themselves, inspiring photographs tell dramatic stories of empowerment and personal expression.

This exhibition was developed by The Field Museum in partnership with Openlands Project, and with the generous contributions of photographers Patricia Evans, Joan Hackett and Glenda Kapsalis. It is based in part on the Urban Research Initiative of The Field Museum's Center for Cultural Understanding and Change.

G. KAPSALIS/C118U8_118_CL

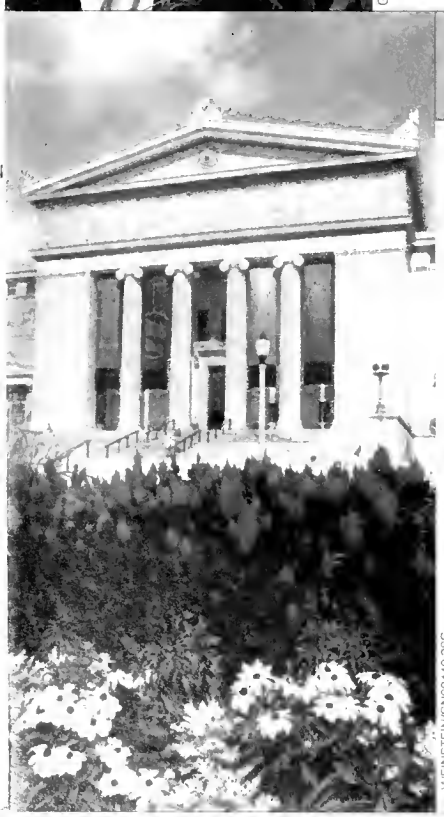
A Celebration of Souls: Day of the Dead in Southern Mexico

Through Jan. 12, 2003

Celebrate the continuity of life with 26 stunning photographs of the uniquely Mexican holiday that honors departed relatives. See images of candlelit home altars, public processions and rich offerings of food, as well as regional folk art pieces, as you explore the history and significance of this ancient ritual. This exhibition is completely bilingual, with all exhibition labels presented in English and Spanish.

This exhibition was developed by The Field Museum in collaboration with Mars, Incorporated.

S. VLAUN



J. WEINSTEIN/GN89448.38C

Visitor Information

Hours: 10am–5pm on weekdays; 9am–5pm on weekends. Last admission at 4pm. Doors open at 9am every day from Memorial Day through Labor Day. Closed Christmas and New Year's Day.

New Free Day Schedule: The Field Museum offers free basic admission on Mondays and Tuesdays from September through February. This schedule replaces the Museum's previous free days on Wednesdays. Remember, members receive free admission every day.

To get tickets: Chocolate is a specially ticketed exhibition. Member passes can be reserved in advance by calling Ticketmaster at 312.902.1500 (service charges apply) or coming to the membership desk near the Museum's south entrance (no service charges). Non-member tickets can also be reserved in advance through Ticketmaster or in person at the Museum's admission desks. Day-of tickets are available at the Museum while supplies last.

Accessibility: Visitors using wheelchairs or strollers may be dropped off at the west entrance. Handicapped parking and wheelchairs are available on a first come, first served basis. Strollers may be rented. Call 312.665.7400 to check on the accessibility of programs that take place outside of the Museum.

Information: 312.922.9410 or www.fieldmuseum.org

Maya Masterpiece

Carved by a Maya artist between A.D. 800–1000, this exquisite pearl oyster plaque was found in the early 1880s at the Toltec capital of Tula in central Mexico, far away from the Maya areas of southeastern Mexico, Yucatán, Guatemala and Honduras. It may shed light on how and whether the Maya and Toltec peoples interacted, a contentious topic in the annals of Mesoamerican research. Donald McVicker, research associate, and Joel Palka, adjunct curator, both of the Museum's anthropology department, were the first to examine the piece in depth and decipher its hieroglyphs.

On the front, a lord sits on a pillowed throne, donned in a monster maw (war or fire serpent) headdress, beads and possibly a mirror around his neck. The text above his head may read *u huch* (his shell); the owner's name that would have followed has broken off. There is a longer text on the opposite side. Interestingly, the plaque has to be turned upside down to read these hieroglyphs, which were deciphered as *pul* (burn), *pumuw* (exhale/blow), *k ak* (fire) and *k inich* (sun-eyed one). This text most likely describes a sacred fire ritual or a Maya noble who used "fire" in his epithets.

The plaque closely resembles Maya jade plaques that have been found from central and southern Mexico to Guatemala. These objects were often cached or left as offerings during ritual ceremonies. McVicker and Palka hypothesize that the Maya shell plaque was a sacred offering at Toltec Tula. That ceremonial act, however, may have followed its original carving by decades, if not centuries.

Anthropology curator Gary Feinman chose this Scientist's Pick. This text was derived from a research publication by McVicker and Palka. The plaque will be on exhibit at The Royal Academy of Art in London later this year. As a reminder, Scientist's Pick showcases artifacts from the Museum's collections that visitors would not normally have the opportunity to view on exhibit—items that have an important story to tell or that are, in this case, held aside for research by the international scientific community.

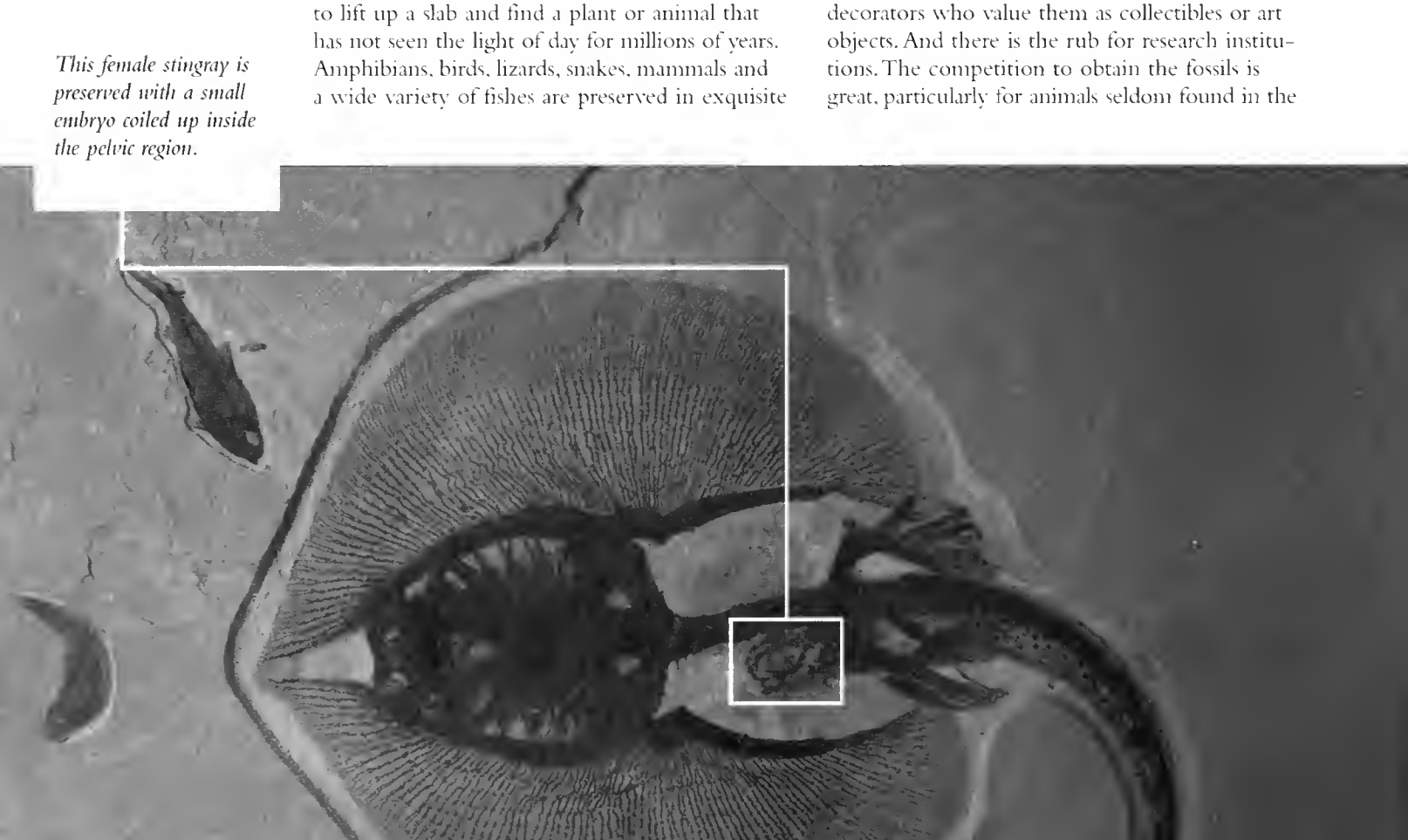
Portraits of Nature's Past

Lance Grande, Curator of Vertebrate Paleontology, Geology
All photos by John Weinstein

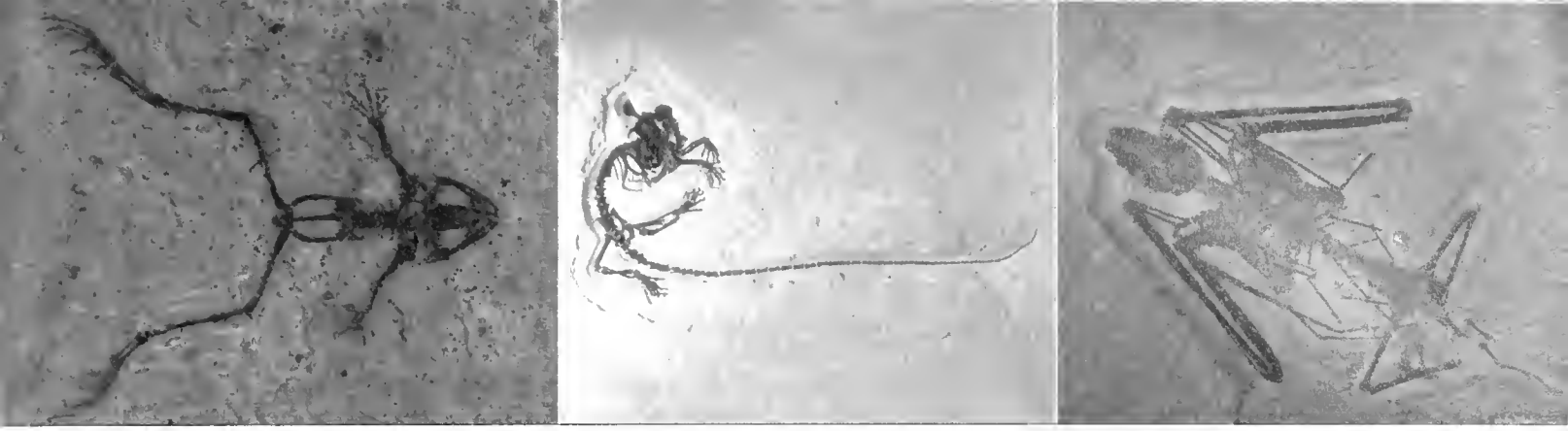
Some fossil localities produce specimens of great scientific value, and others generate pieces of great aesthetic beauty. The Green River Formation of Fossil Basin, in southwestern Wyoming, contains a mother lode of fossils with both of these qualities. Entombed within layers of high mountain desert rock are some of the most scientifically valuable and artistically stunning fossils discovered anywhere in the world.

Beautiful orange-to-brown skeletons on pale, flat limestone slabs offer virtual snapshots of an extinct tropical lake community that flourished some 52 million years ago. Since the site was discovered in the mid-1880s, millions of plant and animal specimens—all long extinct—have been unearthed, including everything from microscopic bacteria, pollen and tsetse flies to 13-foot crocodiles, enormous palms and banana leaves. Even after 25 years of fieldwork there, I'm still thrilled to lift up a slab and find a plant or animal that has not seen the light of day for millions of years. Amphibians, birds, lizards, snakes, mammals and a wide variety of fishes are preserved in exquisite detail as entire skeletons and together in community associations. In one slab that's in *Life Over Time*, for example, you can see a turtle, three different fish species and several different insects. The fossils' unsurpassed preservation and diversity tell us a lot about the evolution of North American biota (flora and fauna).

Today the fossils are in high demand from scientists who value them as research specimens, as well as collectors, art galleries and interior decorators who value them as collectibles or art objects. And there is the rub for research institutions. The competition to obtain the fossils is great, particularly for animals seldom found in the



This female stingray is preserved with a small embryo coiled up inside the pelvic region.



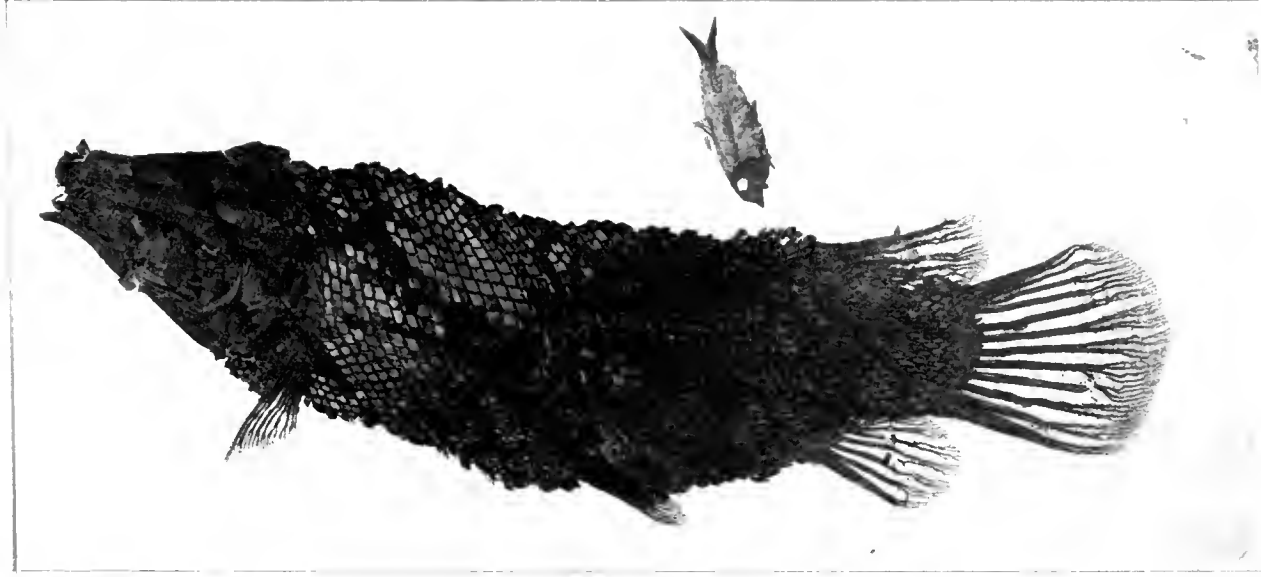
Above left: The first frog discovered in Fossil Basin. Above middle: This complete mammal skeleton is truly a rare find in Fossil Lake. Above right: The world's oldest known complete bat skeleton.

Below left: An extinct relative of today's snapping turtle. Below middle: Complete bird skeletons are extremely rare in the fossil record. Below right: Olivier Rieppel, geology, and I are describing this veranid lizard species. To date, it was known only by jaw fragments and a few other bones.

deposits. Consider the remarkably rare probability that a bird, mammal or non-fish vertebrate fell into the lake, sank to the bottom and was quickly and completely buried before scavengers ate it or bacteria caused it to decompose. Part of The Field Museum's mission is to bring truly important specimens such as these into the public domain.

The Field Museum holds by far the world's best collection of Fossil Basin specimens, which will be preserved under our care for public exhibition and research by present and future generations of scientists. While only a few of the thousands in our collection are illustrated here, you will be able to view several of these in *Life Over Time* when it is renovated. TF

Editor's note: In the Field *usually publishes a species' scientific name, but most of the specimens in this unique collection are new to science and have yet to be named. Scientists from The Field Museum and elsewhere are studying them to uncover clues to a biological history long past.*



This gar species appears to have fed on snails and other invertebrates.

ROW ONE GE086335 3C GE086340 1C, GE086338 1C, GE086347 1C
ROW TWO GE086340 1C, GE086338 1C, GE086347 1C
ROW THREE GE086346 1C

Help Us Build the Bushman Files

As a baby in West Africa, Bushman, the Museum's well-loved gorilla, got daily soap baths and constant adoring attention. Missionaries who helped raise him before his sale to Chicago's Lincoln Park Zoo in 1930 took this photo of him calmly submitting to his scrubbing. It is an especially delightful piece of our "Bushman File," a compilation of everything we can find about his life. We'd like your help with this project.

Z93692C

James and Annie Mary Allen, missionaries in West Africa, took this photograph of baby Bushman in the late 1920s. Their son, John, donated it in 1992.

Because of hunting and habitat loss, gorillas no longer live in the area of Cameroon where Bushman was born, and the future of gorillas is uncertain. Beginning with tales of Bushman's life in West Africa and Chicago, Museum researchers would like to tell the whole story of gorillas, one of our closest relations in the animal kingdom.

Bushman, a western lowland gorilla *(Gorilla gorilla)*, lived at Lincoln Park Zoo from 1930 to 1951. Those who knew him recall his gentle nature, interest in people and the excitement he created, whether by throwing his birthday cake at photographers or escaping his cage during his last year. He arrived at The Field Museum following his death in 1951, and lives on in a display on the ground floor.

Did you or your parents visit Bushman at Lincoln Park Zoo? Did you attend any of his parties, watch him play football or visit him in 1950 when he was ill? Did you take films or photographs? We're interested in borrowing your materials and hearing your remembrances.

Help us build the Bushman memoirs. If you have stories, photos or films to share, please contact us at bushman@fmnh.org, or Bushman Project, c/o Academic Affairs, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496.

Conservation Reigns in Royal Kingdom of Bhutan

In a country where the government is stable, the people are devout and government policy prioritizes the Gross National Happiness over the Gross National Product, a new agreement has legitimized a national reverence for nature's wonders.

In January, The Field Museum, Government of Bhutan and World Wildlife Fund (WWF) signed a conservation agreement to save one of the most pristine and biologically important places on Earth—Bhutan, nestled in the Himalayas between China and India. (See the November-December 2001 *In the Field.*) The agreement calls for joint scientific studies of Bhutan's wildlife, training programs for Bhutanese conservationists and development of the country's biodiversity museum and research center. Work has already begun, with two Bhutanese biodiversity specialists having visited the Museum in March to train in conservation.

Sangay Wangchuck, director of Bhutan's Nature Conservation Division, said, "With this new arrangement, benefits are likely to increase manifold to help the Royal government manage the country's rich biological resources."

While a powerful Buddhist ethic has left about 72 percent of the land undisturbed, the challenge remains to preserve Bhutan as an environmental jewel. The country lies at the crossroads of three great biological regions, and its range of elevations, from 500 to 24,000-plus feet, has created a wealth of environmental niches to which local plants and animals have adapted in remarkable ways. More than 50 species of rhododendron have evolved, and exotic animals such as the takin (a goat-sheep-cow-like mammal) or tiny black-throated parrotbill will teach us a lot about evolutionary and biogeographical history.

Field Museum scientists surveyed Bhutan's small birds and mammals last year. While it yielded tremendous results, the agreement calls for the first comprehensive inventory. "We hope our careful documentation of birds and mammals will help determine conservation priorities so that a stable balance can be achieved between humans and wild species," said Lawrence Heaney, associate curator of mammals at The Field Museum.

J. WEINSTEIN/GN90389.89D

Sangay Wangchuck, director of Bhutan's Nature Conservation Division, Dr. Robert Martin, vice president of academic affairs at The Field Museum, and Kinzang Namgay, Bhutan representative for the World Wildlife Fund, at the conservation agreement signing in January.

Dive into Underwater Fantasy at Pearls Event

From an opulent symbol of wealth, to a religious association with the moon, to an essential element of almost every American and European woman's wardrobe, pearls have enchanted cultures around the world for thousands of years.

Be among the first to explore your own fascination with pearls at Underwater Peal Jam on June 28, 8pm to 1am. Hosted by The Field Associates, the event celebrates *Pearls*, an exhibition here from June 28 through Jan. 5, 2003. The event will include several splendid visual elements, cocktails, hors d'oeuvres and live music and dancing with Underwater People, a pop band favorite.

"Stanley Field Hall will be transformed into an underwater fantasy, complete with exotic creatures, sea-inspired décor and watery sounds," said Cathy Elward, marketing vice president for Tiffany & Co., the event's sponsor. Meryl Tankard, who choreographed the opening ceremony for the Sydney 2000 Olympics, will compose a dreamlike recreation of a pearl's natural habitat. Dancers in flowing costumes by Angus Strathie, costume designer for the film *Moulin Rouge*, will portray imaginary and real sea creatures called to life by the enchanting sounds of dolphins, whales and water drums.

Jennifer Krug and Colette Cachey are co-chairing the event. Tickets are $55 for Field Associates members, $65 for non-members and $75 at the door. To purchase tickets, please call 312.665.7137.

Pearls was organized by The American Museum of Natural History, New York, in collaboration with The Field Museum, Chicago.

National Sponsor Tasaki Shinju Co. Ltd

Halls of the Americas to Face Sweeping Renovation

With a planning grant from The Brinson Foundation, The Field Museum has begun ambitious plans to renovate the Halls of the Americas, which focus on ancient and contemporary peoples from North, Central and South America and the Caribbean. Major funding from The Robert R. McCormick Tribune Foundation will go a significant way toward realizing these plans.

The new galleries will draw upon our extensive Americas collection of more than 225,000 objects, including the world's largest collection of prehistoric artifacts from this region; archival photographs; historic field notes from the Museum's previous notable scientists; and current archaeological investigations throughout the area.

This comprehensive reinterpretation will add to our understanding of cultural change and bring new wisdom to modern-day concerns. "This is a once-in-a-lifetime opportunity to transform people's understanding of the Americas," said Sophia Siskel, director of exhibitions and education programs. "We will create not only a compelling exhibition experience, but groundbreaking educational programs, a rich website and relevant companion publications."

The first phase, which focuses on the ancient Americas before the Europeans arrived, is scheduled to be complete in fall 2005 in 14,000 square feet of the Museum's east wing. It will help visitors understand that the ancient Americas were brimming with diverse environments, governments, languages, economics, religions and artistic practices. The second phase, a 7,000-square-foot exhibition also in the east wing, will explore 1492 to the present. Phase two planning has not yet begun, and an opening date has yet to be determined.

"The Americas project provides the Museum with a marvelous forum to bring together collections, exhibitions, education, research and contemporary technology to literally redefine the way anthropology exhibitions are presented in the 21st century," said Jonathan Haas, the exhibition's co-curator and an expert on southwestern U.S. cultures.

C. CARPENTER/CSA13533

Photo of Nootka artisan from Vancouver Island, British Columbia, taken for the 1904 Louisiana Purchase Exposition

Nature Rearranged—Construction Photos of the Panama Canal

Mark Schmeltzer, Writer
Nina M. Cummings, Library Photographic Archives

When humans rearrange a piece of geography, the surrounding environment is altered forever. This makes documenting the area's biodiversity especially critical. One of history's most monumental geographic rearrangements was the construction of the Panama Canal, the long-desired shortcut between the Atlantic and Pacific Oceans. So, in 1911 and 1912, while U.S. construction equipment was chewing a path through the narrow isthmus of Panama, an ichthyologist from The Field Museum was there.

During the spring of both years, Field Museum Assistant Curator of Fishes Seth Meek and his assistant, Samuel Hildebrand, took part in the Smithsonian Biological Survey of the Panama Canal Zone, a cooperative project between the Field, the Smithsonian Institution and the U.S. Bureau of Fisheries. The team surveyed the rivers and streams on both the Atlantic and Pacific slopes of the isthmus, collecting hundreds of species of fishes, reptiles and crustaceans. They also encountered large crocodiles, caimans and several species of monkeys while exploring the dense forests of the Canal Zone.

A giant tunnel culvert under construction at the Pedro Miguel locks

CSZ34013 LS

Meek died in July 1914 while he and Hildebrand were drafting their report on the expeditions, but it was finally published in 1923 in the Museum's *Fieldiana: Zoology* series, vol. XV. In it, the authors explain that the collecting was done after the natural conditions had been disturbed, but before the water was allowed to flow into the canal and the species from the Atlantic and Pacific sides of the continental divide could intermingle. The report included some expedition photographs.

In 2001, a scientist in Panama conducting research saw the *Fieldiana* photographs and asked the Museum whether there were any more images from Meek and Hildebrand's expeditions. The request led to the discovery of a catalogued but undescribed collection of black-and-white negatives and hand-colored lantern slides in the Museum's photographic archives. The images depict the environs of the Panama Canal Zone prior to the waterway's opening in August 1914, as well as glimpses of life in the shadow of the extraordinary undertaking.

Some photos show villages on the verge of elimination as the waters of the recently dammed Rio Charges rose to create the artificial 422-square-mile Gatun Lake, 85 feet above sea level. Others show canal workers living in socially and racially stratified housing, standing in long cues to the railroad cars that brought the payroll and relaxing. Other images convey the scale of the canal's structures, such as the massive lock gates, before the water filled the trench. Cables laced the sky while giant cranes and steam shovels moved unprecedented amounts of earth. Meek and Hildebrand's photos also documented the surrounding forests before they disappeared. Several of the rivers and streams they surveyed, and the vegetation that grew there, today lie buried under the lake.

Members' Nights—Save the Date

Something to look forward to every year ... the 49th Annual Members' Nights
June 5, 6 or 7, 5pm–10pm

- **Explore** parts of our collections that are normally closed to the public.
- **Meet** scientists from the Museum's academic departments.
- **Enjoy** special children's entertainment, games and exhibits.
- **Dance** to music from various cultures.
- **Discover** where exhibitions are developed.

Your invitation will arrive in the mail soon.

If You Haven't Yet Tasted Chocolate...

Member passes and advance tickets are now available for *Chocolate*. Family members get four passes, and senior, student, individual and national affiliate members receive two passes. If you attended the members' viewings, those tickets were deducted from the total number for which you are eligible. For information, call the membership office at 312.665.7700.

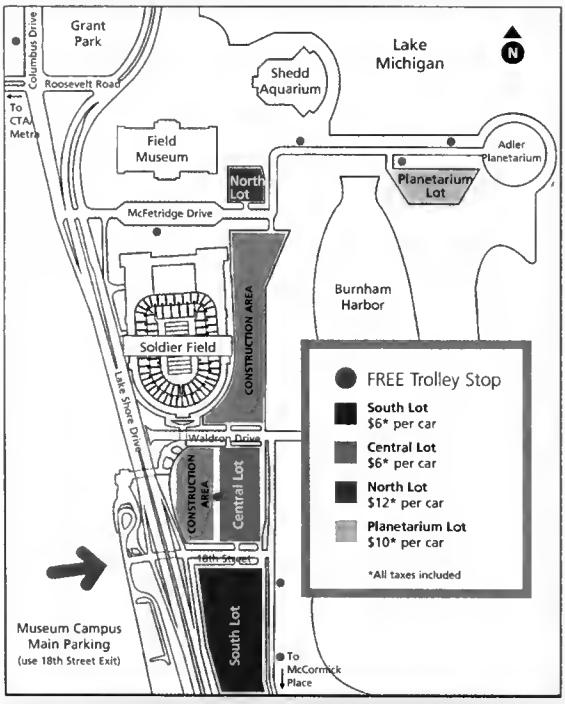
Additional Tickets: *Chocolate* tickets for an additional member in your household are $6 each, or $6 plus general admission for a non-member guest.

Ordering Tickets for Future Dates: To guarantee entry at the time of your choice, reserve your tickets through Ticketmaster at 312.902.1500 (additional fees), or visit the membership desk (no additional fees). Both advance and same-day tickets are available on a first-come, first-served basis.

Exchanging Tickets: If you need to exchange your tickets, please visit the membership desk no later than one week before the date you currently hold. No refunds or exchanges are available for unused tickets.

Traveling to Museum Campus this Spring

With Soldier Field construction underway, you may find that your usual route to Museum Campus has changed. Here are some tips to help you plan your travel:



Public transit: Enjoy the ride without having to worry about traffic, construction or parking. Direct bus service connects Museum Campus to downtown, Metra stations and all CTA train lines. Call the transit information line at 312.836.7000.

Free trolleys: Choose from two routes:

1: Museum Campus trolleys offer daily service to the CTA and Metra stations on Roosevelt Road, running every half hour from 10am–6pm.

2: The City of Chicago's trolleys connect Museum Campus to downtown, Metra's Ogilvie Center and Union stations and the CTA Roosevelt station. Throughout spring, these trolleys will run every half hour from 10am–6pm on Saturdays and noon–6pm on Sundays. Special Spring Break daily service March 23–April 7 and April 13–21. For information, visit www.cityofchicago.org/transportation/trolleys.

Driving: Plenty of discounted $6 parking is available south of Soldier Field; enter via McFetridge Drive or 18th Street. Limited, closer-in parking is also available at higher rates, accessible by McFetridge Drive. Download a map from www.museumcampus.org. Once you've parked, take a free trolley from the lot to any of the three museums. Parking lot trolleys operate daily from 10am–6pm.

We look forward to seeing you at Museum Campus soon.

Field Museum Tours at a Glance

For information, call Field Museum Tours at 800.811.7244 or email fmtours@sover.net. Please note that rates, prices and itineraries are subject to change and that prices are per person, double occupancy.

The Best of Kenya: An Exclusive Field Museum Luxury Safari

Sept. 7–22, 2002

Leader: Dr. Bruce Patterson, TFM MacArthur curator of mammals and president-elect of the American Society of Mammalogists

The Serengeti's Maasai Mara National Reserve—Witness one of the greatest wildlife spectacles in the world as countless wildebeest, zebra and gazelle migrate across the plains.

Tsavo National Park—Notorious for its man-eating lions, for which Dr. Patterson is an expert, Tsavo is home to more than 400 bird species and at least 128 mammal species, including giraffe, lesser kudu, antelope and black rhino.

Amboseli National Park—Dominated by Mt. Kilimanjaro, this park supports more than 1,000 elephants and other large mammals such as cheetahs, leopards, wildebeest, zebra, eland and buffalo.

Samburu/Buffalo Springs Game Reserves—Experience the unique pastoral culture of the Samburu people, and see such distinctive animals as Beisa oryx, Grevy's zebra, reticulated giraffe and gerenuk.

Rift Valley Lakes—Take a refreshing break from the game trails to enjoy teeming flocks of flamingoes and hippos reveling in cool, buoyant waters.

B. PATTERSON

Ancient Wonders of Peru—Women's Board Trip

Sept. 13–25, 2002 (sold out)

Egypt Revisited

Oct. 13–27, 2002

Sites include Abusir, Dashur, Maidum, Faiyum, Tanus, Abydos, Dendara, dawn at Abu Simbel and Amada, plus lesser-known sites in Cairo, Luxor and Aswan. Enjoy a cruise on Lake Nasser.

The Amazon by Riverboat

Jan. 18–26, 2003

Explore the Amazon, Ucayali and Tapiche Rivers in Peru for eight days aboard a 14-cabin riverboat. Search for river dolphins; howler, squirrel and capuchin monkeys; sloths; capybaras; and unusual birds. Optional extension to Machu Picchu.

Egyptian Odyssey

Jan. 26–Feb. 9, 2003

By land and riverboat, explore the famed pyramids of Giza, The Egyptian Museum, the Valleys of the Kings and Queens, Karnak, the temples of Khnum, Horus and Isis, and Abu Simbel's three colossi of Ramses II. Five-star accommodations throughout.

The Origins of Chocolate in the Americas

Feb. 5–16, 2003

Leader: Dr. Jonathan Haas, TFM MacArthur curator of the Americas and the lead curator of Chocolate, *the exhibition*

Trace the origins of chocolate and legacies of pre-Columbian civilizations in Mexico. Familiarize yourself with the ancient Olmecs, Teotihuacan, Maya and Zapotec civilizations. Visit several museums and sites, including: The Regional Museum of Oaxaca; Mexico City's world-class Museum of Anthropology; Puebla, a UNESCO World Heritage Site; and the archaeological sites of Palenque and Teotihuacan.

The Seychelles and Madagascar

Feb. 16–March 5, 2003

Sail with us to sun-drenched isles where palm trees on endless white beaches fringe sparkling coral lagoons rich with sea life. The Seychelles islands sparkle like gems in the vast Indian Ocean. Madagascar, the world's "eighth continent," harbors wondrous plants and animals that have evolved in splendid isolation.

Also Planned for 2003:

- Rediscovering the New World
- The Pantanal Region: Argentina, Iguassu Fall, Paraguay, Bolivia and Brazil
- Behind the Scenes in Moscow and St. Petersburg
- Wonders of Ancient China
- Great Museums of Europe

IN IEFIE
Th seum's Member Publication

From Mollu
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Industry and Natu

What's Happening Behind the Fences?

JOHN WEINSTEIN /GN88119 6

The Field Museum has embarked on a series of ambitious expansion and renovation projects that will enhance both the public experience and behind-the-scenes operations. The projects combined, expected to be completed in 2004, will add more than 230,000 square feet to the Museum's 1 million square feet and cost an estimated $97 million. Our 1921 building has served us well, yet success and growth have led to the need to expand our physical facilities. None of these projects will significantly change the exterior of our landmark building.

An **east entrance** will be built to provide accessibility for schoolchildren, people in wheelchairs and families with strollers. It will also have its own visitor services, such as admissions desks, restrooms and a coat check.

The **Collections Resource Center** (CRC) on the **southeast side** will provide humidity- and temperature-controlled, space-saving units for storage and research of our collections. Conservation and study of our 22 million specimens are at the core of our mission. This expansion will free up new space for public exhibitions and provide enough room for the collections to grow for decades. A two-feet-thick slurry wall surrounding the area will serve both as a foundation for a landscaped public terrace that will cover the CRC, as well as a waterproof barrier to protect the collections from Lake Michigan.

On the **south side**, the **loading dock** will be expanded underground to accommodate six trucks instead of its current capacity for two. This will allow for year-round, more efficient delivery and reception for our collections, exhibitions, special events and other operational enterprises. We will have an improved system for sorting recyclables and large walk-in freezers where incoming artifacts will be quarantined to eliminate pests. Finally, we will install liquid nitrogen tanks to preserve the 40,000—and growing—tissue samples for DNA analysis.

A new **central plant** is being built on the **west side**. Efficient gas-fired boilers will replace 60-year-old boilers, and a new cooling system that makes ice at night—when electricity costs one-fifth the day rate—will replace aging chillers. We are also adding more solar panels to the roof. (See story on page 19.)

Construction of the new central plant

MARK WIDHALM/GN90438 05D

Your well-being and convenience are a priority throughout the construction period. We have added staff and directional signs to ease access and ensure safety. Handicap parking is available in all the lots on a first-come, first-served basis. Finally, take advantage of the free trolleys running from the parking lots to all three Museum Campus institutions. (See the map on the Table of Contents for travel and parking information.)

We look forward to keeping you updated on the Museum's renovation and expansion projects.

John McCarter

John W. McCarter, Jr.
President & CEO

A Note from the Editor

As a reminder, *In the Field* is changing from six to four issues annually. This issue, which covers June through August, is the first one in the new quarterly schedule. Not only will this save the Museum nearly $100,000 a year in design, printing and fulfillment costs, I am confident that four issues is ample for sharing our scientific successes and giving you the opportunity to participate in exhibitions and educational programs.

If you have any comments about the magazine, email acranch@fmnh.org, or write Amy E. Cranch, Editor, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496. For general membership inquiries, including address changes, call 312.665.7700.

IN THE FIELD INSIDE

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Cover: Discover nature's perfect gem in Pearls, open June 28, 2002, through Jan. 5, 2003. Photo by Denis Finnin © American Museum of Natural History.

The Field Museum salutes the people of Chicago for their long-standing, generous support of the Museum through the Chicago Park District.

The Field Museum

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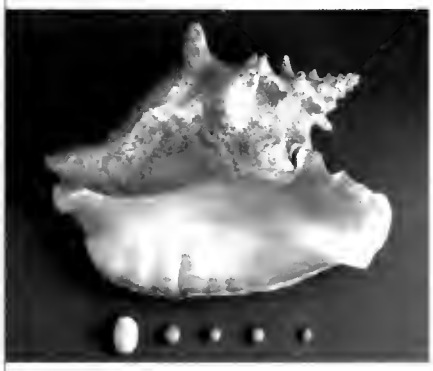


CRAIG CHESEK, © AMNH

2

The natural history of pearls is as alluring as their association with wealth and purity. *Top: Queen conch* (Strombus gigas) *with the pink pearls it produces*

DOUG STOTZ

4

In Lake Calumet, outstanding natural communities are juxtaposed with areas seriously damaged by industrial development. *Middle: Lake Calumet marsh*

DAVID OUEDNAU

16

New research shows that primates originated 85 million years ago (Mya) rather than 65 Mya. *Bottom: Proposed reconstruction of primates' earliest common ancestor*

Expedition Update: Dr. Janet Voight's deep-sea expedition announced in the spring issue has been postponed to 2003 because of problems with the mother ship's propulsion system. You can still email expeditions@fieldmuseum.org to receive updates from Dr. Peter Makovicky, who will be visiting Wyoming's Bighorn Basin in July in search of Cretaceous dinosaur fossils. Check www.fieldmuseum.org/expeditions for the latest schedule.

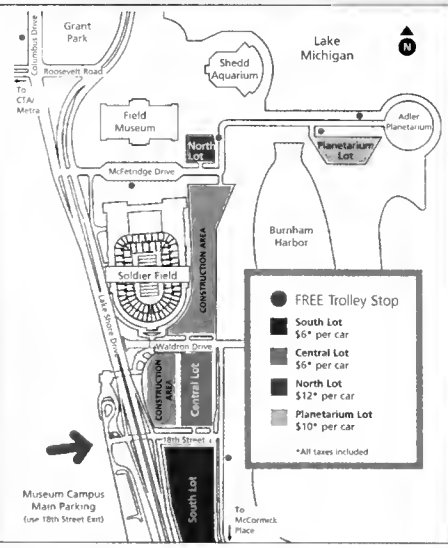
Museum Campus Neighbors

While Soldier Field construction is under way, check www.fieldmuseum.org for updated travel and parking information, or follow these helpful tips:

Public transit: Direct bus service from Museum Campus to downtown, Metra stations and all CTA train lines.

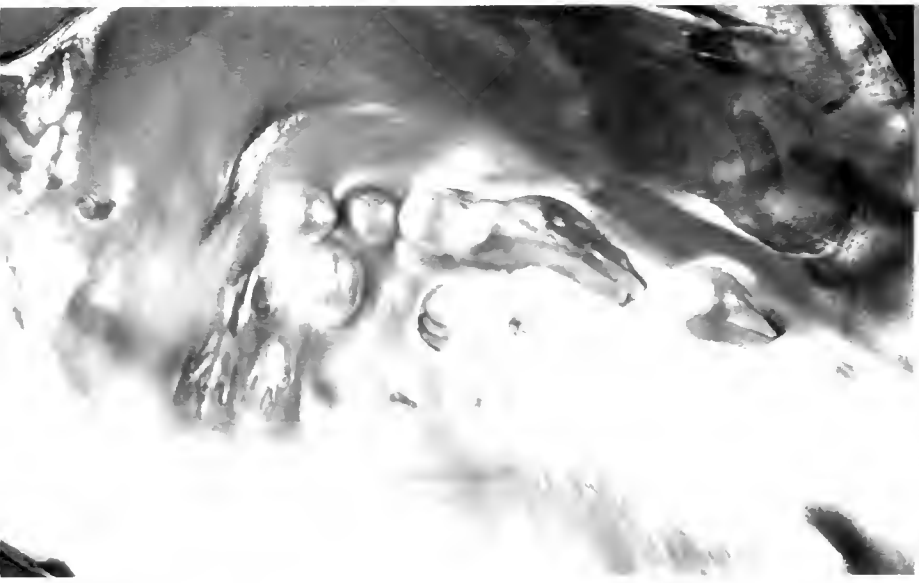
Free trolleys: Museum Campus trolleys run 10am–6pm daily to the Roosevelt Road CTA and Metra stations. City of Chicago trolleys connect Museum Campus to downtown, the CTA Roosevelt station and Metra's Ogilvie Center and Union stations, 10am–6pm daily, now through Labor Day.

Driving: $6 parking south of Soldier Field; enter via McFetridge Drive or 18th Street. Limited, closer-in parking at higher rates; enter via McFetridge Drive. Handicap parking in all lots on a first-come, first-served basis. Free parking lot trolleys to all three museums 9am–6pm daily.



From Mollusk to Museum: An Exhibition on Pearls

Sections of this article are derived from Pearls: A Natural History, *the accompanying publication co-authored by Neil H. Landman and Paula M. Mikkelsen of the American Museum of Natural History and Rüdiger Bieler and Bennet Bronson of The Field Museum.*



DENIS FINNIN © AMNH

This Chinese freshwater pearl mussel, Hyriopsis cumingii, *produced a range of pearls that attached to the shell.*

Are they the frozen tears of gods? An undeveloped egg or entombed parasite? The children of sleeping clams impregnated by the morning dew?

Across the world and throughout time, the shimmering droplets we call pearls have mesmerized humans for their beauty and association with wealth, virtue, purity and glamour. Yet unlike any other gem, they emerge from living animals and require no shaping by human hands, making their natural history as intriguing as their cultural history.

As leading museums and research institutions, The Field Museum and the American Museum of Natural History (AMNH) are especially suited to present a joint exhibition, *Pearls*, running June 28, 2002, through Jan. 5, 2003. The largest, most comprehensive exhibition ever created on the topic, *Pearls* reveals how they are made, cultured and harvested and the roles they have played throughout human history. Among more than 600 objects from more than 100 lenders worldwide, some of these lustrous items—from ancient fossil pearls to the exquisite adornments of queens and celebrities—have rarely been exhibited.

A pearl of an idea

Over a bottle of wine in a New York cafe, Rüdiger Bieler, chair of The Field Museum's zoology department, was discussing his research interest in mollusks with his colleagues at the AMNH, Paula Mikkelsen, curator of invertebrate zoology, and Neil Landman, curator of paleontology. They discovered a common vision: an exhibition on pearls for their museums.

"By the time we had emptied the bottle," Bieler said, "we had outlined a joint exhibit that would use the combined strengths of our institutions—biology, anthropology, mineralogy and paleontology—to tell the story of pearls and the mollusks that produce them." To complete the human side of the story, they called on Bennet Bronson, Field Museum curator of Asian archaeology and ethnology.

Together the team journeyed to the world's major pearl-producing regions, co-authored a book, developed a far-reaching exhibition and cemented a relationship between these two grand museums. "We're a well-matched group of curators," Bronson said.

A natural wonder

Pearls have been part of mollusks' evolutionary history since the Cambrian Period 530 million years ago. Although the most familiar pearls are flawlessly spherical and creamy, they are more commonly irregular and come in a variety of colors—cotton-candy pink, black, gold, plum purple or fiery red. While early speculations on their origin took a romantic spin—the offspring of moonbeams or lightning strikes, for example—science pulled us back to Earth.

"Pearl formation is really just an extension of shell formation," said Bieler. "Most pearl gems come from a small set of marine and freshwater mollusks, pearl oysters and pearl mussels. But any mollusk that has a shell—abalone and conchs, even land snails and chambered nautilus—can theoretically produce a pearl."

RUDIGER BIELER

A worker near Zhuji, China, implants tissue grafts into Hyriopsis cumingii *to instigate the pearl-making process.*

When an irritant such as a tiny parasite or shell bit—rarely, if ever, a grain of sand—becomes lodged in the mollusk, the mantle secretes alternating layers of aragonite, a form of calcium carbonate, and conchiolin, an organic material. These layers are the magic behind a pearl's shape and iridescence.

A limit on luxury

Chinese naturalists from the 5th century B.C.E. are thought to have produced the first cultured pearls by inserting a small object, such as a miniature Buddha, into a mussel to jumpstart the pearl-making process. In the 18th century, Linnaeus, known for developing the way we scientifically name plants and animals, invented a technique for producing the first spherical cultured pearls. In the 20th century, Japan's pearl farmers refined and industrialized culturing techniques, making pearls more plentiful and inexpensive.

Despite pearls' abundance, however, the animals' ecological limits are testing the perliculture industry. "Pearl-producing mollusks are imperiled by both natural and human-induced environmental factors," said Bieler. "Red tides, which are especially severe in Japan, along with typhoons, industrial pollution and human activities such as dredging and damming are threatening mollusk populations."

North American freshwater pearl mussels, whose shells are cut into tiny beads and implanted in pearl oysters for culturing, are among the most endangered groups of animals on Earth. More than 35 species are already extinct from habitat destruction and pollution, and twice that number are endangered or threatened. The industry may soon be forced to find a substitute material for the beads.

Increasing efforts to protect mollusks are largely dependent on research gains. In one project involving both The Field Museum and AMNH, for example, museum-based researchers are developing a comprehensive inventory of all marine mollusk species in the Florida Keys. Whereas previous research focused on vertebrates and corals, little is understood about mollusks, the most species-rich group. Since 1995, this project has increased the number of known molluscan species in the Keys from 630 to 1,600, many of which are new to science. The knowledge gained from collections and fieldwork is crucial for devising plans that will preserve, protect and restore our near-shore underwater habitats.

LYNN FUNKHOUSER

Rüdiger Bieler unexpectedly turns up a conch during his research on mollusks in the Florida Keys.

Unlike most major exhibitions, the AMNH and Field Museum curators involved in creating *Pearls* served as both content developers and subject specialists, supporting everything from conception to background research, initiating the loan of objects to writing labels. What started off as a research partnership among individual scientists has evolved into collaborations between many areas of both museums. Their expertise and enthusiasm, combined with the compelling story behind pearls, make this exhibition a true gem.

Be sure to visit our Museum stores, where you can purchase Pearls: A Natural History, *the gorgeous accompanying book featuring the curators' research. Also, check the magazine calendar or website for related education programs.*

Pearls was organized by The American Museum of Natural History, New York, in collaboration with The Field Museum, Chicago.

National Sponsor Tasaki Shinju Co, Ltd.

The Legend of Boepple the Button Maker

Near Hamburg, Germany, John Frederick Boepple (1854–1912) made buttons with Pacific Ocean seashells until he received a box of North American freshwater pearl mussels and discovered their thick layer of mother-of-pearl. In 1887, facing his wife's death and prohibitive inflation, he decided to move closer to the source and ultimately settled in Muscatine, Iowa.

Boepple started producing mother-of-pearl novelty items and, later, buttons. He eventually founded the J. F. Boepple Company and was soon out-producing Europe's button centers. Former employees copied his methods, new companies sprang up and by 1898, nearly 40 enterprises were established. By the turn of the century, Boepple had transformed this small Iowa town into the "Pearl Button Capital of the World."

Boepple was a master craftsman but a poor businessman. Resisting automation of his plant and embroiled in legal battles, he ultimately lost the use of his company name and most of his financial interest in the factories. By 1909, he held a government position at the Fairport, Iowa, fishery, where he assessed pearl mussel quality in various rivers, reseeded depleted riverbeds and developed less destructive collecting techniques. The man who started the button-business boom had become a spokesperson for conservation.

In 1912, in an ironic twist of fate, Boepple cut his foot wading in an Indiana river (on a pearl mussel shell?) and died from a foot infection—on the first day of a pearl-button workers' strike.

MUSCATINE ART CENTER, MUSCATINE, IOWA

and Nature Meet

Gustav Dalen, Manager, Business Development and Operations, Environmental and Conservation Programs

ROB CURTIS/THE EARLY BIRD

The answer is rooted in the region's history. In 1875, famed ornithologist E.W. Nelson noted Calumet's tremendous bird activity and described the overall region as "an unusually fertile field for the ornithologist."[1] But Nelson would live to see Calumet become a major transportation hub. During the latter half of the 19th century, nine railroad companies set down tracks through Calumet. Later, in the 1900s, the lake's geography was significantly altered so that ships could navigate through the shallow system. The steel industry grew throughout the 20th century and attracted large numbers of immigrants to its factory jobs, resulting in a vibrant mix of cultures—still a feature of the area today despite the many jobs lost during the industry's rapid decline in the 1970s. In the absence of government regulation, waste of all kinds (industrial, municipal, liquid and solid) and an aggregate mineral byproduct of steel production called slag were dumped in Calumet, creating a new, contaminated topography.

ROB CURTIS/THE EARLY BIRDER

Yellow-headed Blackbird, Xanthocephalus xanthocephalus, a threatened species for Illinois

Vital patches of habitat still thrive

Calumet remains a study in contrasts—outstanding natural communities juxtaposed with areas seriously damaged by industrial development. Stretching from southeast Chicago to northwest Indiana, the 15,000-acre Lake Calumet region harbors critical remnants of highly endangered ecosystems—small jewels of wetlands, prairies and oak woodlands with an amazing amount of biodiversity.

For several years, ten Field Museum scientists have been mapping the region's biological richness. By documenting birds throughout the Calumet region, they have determined that there are sizeable breeding populations of at least seven endangered or threatened species. Despite extensive habitat degradation and pollution, Calumet is among the best spots in the state for migratory shorebirds. In addition, Museum scientists have conducted detailed studies of fungi, mosses, beetles, reptiles and amphibians, and vegetation at Powderhorn Prairie. They report significant findings, including many first records for the region and/or the state—a unique set of fungi and a population of Blanding's turtle, a threatened species.

The biological and cultural riches of Calumet have captured the imagination of hundreds of individuals, research and cultural institutions, conservation organizations and government agencies. Chicago Mayor Richard M. Daley and Illinois Governor George H. Ryan recently announced a groundbreaking collaboration for sustainable development in Calumet, with many implications for conservation—the creation of the 4,800-acre Calumet Open Space Reserve, a new environmental center to concentrate on habitat restoration and the remediation of polluted industrial sites, marshes and wetlands.

Field Museum President and CEO John McCarter is one of four chairs of the Calumet Sustainable Advisory Committee. "Through this collaborative effort," he said, "we envision thriving plant communities, abundant migrant and breeding birds, living rivers and healthy lakes replete with aquatic life. This will all be supported through ongoing, ecologically sensitive economic development and environmental education."

Enlisting a vibrant community of stewards

More than 100,000 people now live in the Calumet region. Funded by the USDA Forest Service, anthropologists and student researchers in the Museum's Center for Cultural Understanding and Change (CCUC) are mapping the communities' assets—social relationships, social institutions and community events and activities—to identify sites for environmental activism and illuminate ways to involve community members in local revitalization efforts. The results already indicate that residents have tremendous pride for Calumet despite the landscape's degraded appearance.

Using the Calumet asset maps, The Field Museum's environmental educators and several Chicago Wilderness members are building partnerships with local organizations. The Hegewisch community is already participating in eight stewardship, restoration, environmental leadership and monitoring programs.

As part of the new city-state partnership, The Field Museum is contributing its scientific expertise to help further identify Calumet's biological and cultural values and involve local communities in restoration management and conservation design.

1 Nelson, E.W. 1876. Birds of north-eastern Illinois. Essex Institute Bulletin 8 (9-12): 90-155.

Community gardens are one way East Side residents interact with their environment.

HILARY DEL CAMPO

Get Involved: the Calumet Biodiversity Blitz

A lively first step toward widespread community involvement in conservation is the Calumet Biodiversity Blitz (BioBlitz). From 2pm on Friday, August 23 until 2pm on Saturday, August 24, 2002, a multitude of scientists will descend on Calumet to find as many species as they can in just 24 hours. Surveying birds, mammals, plants, fungi, lichens, insects, fish, reptiles, amphibians, microbes and more, scientists from The Field Museum, the Illinois Natural History Survey, Illinois Department of Natural Resources (IDNR) and Chicago Wilderness organizations will evaluate the overall biodiversity of the sites inventoried.

Everyone can participate in the BioBlitz, including you. Watch scientists at close range while they identify specimens in the science tent, or join special tours, presentations and round-the-clock programs—from discussions about local snakes, turtles and mammals to demonstrations of black-light insect netting and night programs for bat banding and owl identification. Abundant hands-on conservation opportunities will include cutting invasive buckthorn, collecting native seeds for replanting, releasing beetles to control loosestrife and observing the quality of local wetlands and green space.

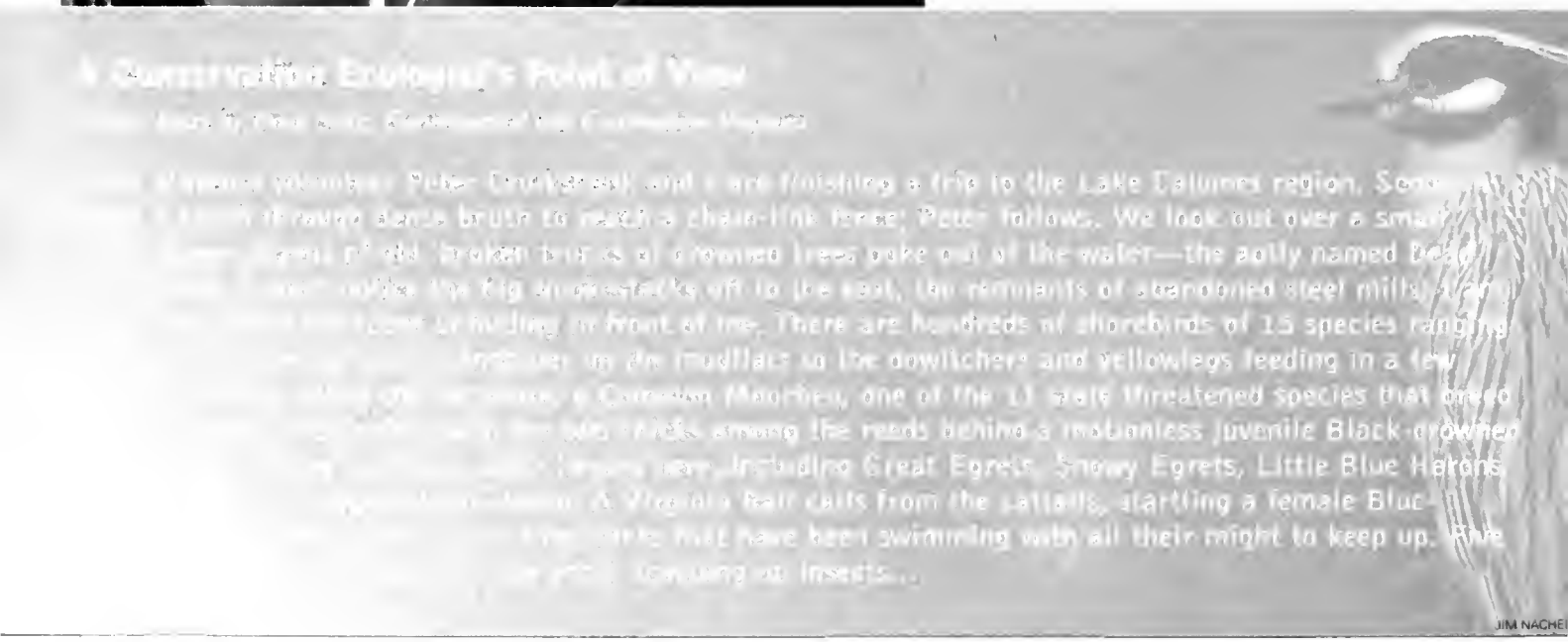
More than just a fun opportunity to participate first-hand in a biological inventory, the BioBlitz will also provide a database of species that will pinpoint areas of high diversity in three sites. During the BioBlitz, scientists and their community assistants will enter the inventory data directly into a database at a centralized, on-site field station. These data will provide critical baseline information for conservation management decisions.

The concept of a BioBlitz is not new. BioBlitz events have been held around the country since 1996 when the National Park Service and the National Biological Survey sponsored the first BioBlitz at Kenilworth Park in Washington, D.C. Closer to home, Allerton Park in central Illinois hosted a BioBlitz last year, with more than 160 scientists participating and a record-breaking 1,957 species documented.

What makes the Calumet BioBlitz unique is that it will launch a variety of community-based conservation initiatives. For example, the data will establish the baseline for UrbanWatch, a partnership between The Field Museum and IDNR in which high school students and adult volunteers inventory and monitor the biological quality of local urban green spaces. We have learned that the long-term success of efforts such as those in Calumet will depend on how much local communities, armed with critical scientific data, embrace conservation management plans as their own. **ITF**

For more information about how you can participate in the Calumet BioBlitz on Aug. 23–24, email bioblitz@fieldmuseum.org, or call 312.665.7450.

MCHENRY COURTY CONSERVATION DISTRICT



JIM NACHEL

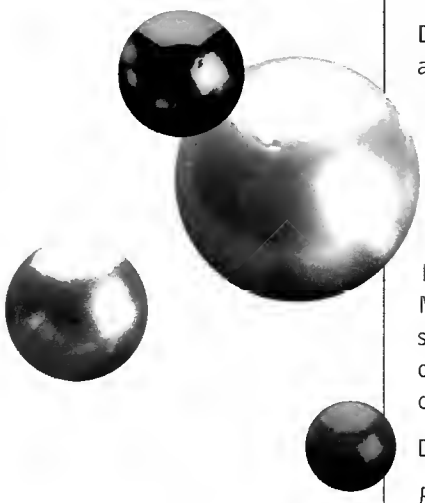
The Making of the Pearls Exhibition

New Discoveries Series

Dr. Bennet Bronson, TFM Anthropology Dept., and Dr. Rüdiger Bieler, TFM Zoology Dept.

Meet two of the curators for the *Pearls* exhibition. Field Museum scientists will share their expertise and discuss how The Field Museum and the American Museum of Natural History in New York melded science, history and culture to create an extraordinary exhibition about these natural treasures.

Saturday, June 29, 2pm
$15, students/educators $12, members $10



New Exhibition–Pearls

June 28, 2002–Jan. 5, 2003

Discover nature's perfect gem.

Magical and radiant, pearls are unlike any other gem in the world. They are the only gems to be formed by a living organism. And from the bottom of the world's oceans, lakes, rivers and streams, they emerge perfectly luminous, not needing to be cut and polished.

Dive into the mysterious realm of the pearl, from its watery origins to its history as a treasured symbol of purity, wealth and glamour. Curated by scientists at The Field Museum and the American Museum of Natural History in New York, *Pearls* is the largest, most comprehensive exhibition ever put together on this subject and has attracted national media attention.

The most spectacular collection of pearls ever assembled, *Pearls* features more than 600 objects and nearly half a million pearls. See some of the world's oldest, largest and most valuable pearls. See exquisite ornaments worn by Queen Victoria, Marie Antoinette, Marilyn Monroe and Elizabeth Taylor. See pearls of every size, shape and color–ranging from white to pink, gold, purple and black. You'll also discover the wide variety of mollusks that form these rare treasures and trace their cultivation by humans throughout history.

Don't miss this gorgeous exhibition!

Pearls is a specially ticketed exhibition.

Pearls was organized by The American Museum of Natural History, New York, in collaboration with The Field Museum, Chicago.

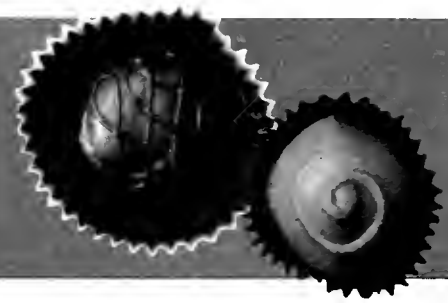
National Sponsor Tasaki Shinju Co, Ltd.

DENIS FINNIN/ AMERICAN MUSEUM OF NATURAL HISTORY

The Field Museum

General Museum Information: 312.922.9410
Family and Adult Program Tickets and Information: 312.[illegible]

Enjoy delicious summer fun with Chocolate!



Did you know cacao seeds were once so valuable that the Aztecs used them as money?

Immerse yourself in the story of a luscious treat in *Chocolate*, an exciting exhibition developed by The Field Museum. Take a sweet journey for all ages—from the rainforest to the ancient civilization of the Maya, from 16th-century Europe to a modern-day candy factory. This exhibition will engage your senses and reveal facets of chocolate that you've never thought about before.

Chocolate is a specially ticketed exhibition. All labels are in English and Spanish.

Special Summer Activities

Hands-on activity stations around the Museum let you learn more about rainforest ecology and trace chocolate's journey from a bitter seed to a sweet candy bar. Volunteers will facilitate these activities daily from July through August.

Make your own chocolate modeling clay.

Before or after your visit to *Chocolate*, try your hand at this unusual recipe. For sweet and sticky sculptures, shape the clay into animals, people or anything your heart desires. For delicious pastry decorations, create leaves, flowers, baskets and vines!

Ingredients:

10 ounces semi-sweet chocolate, coarsely chopped
(Don't use chocolate chips or expensive imported chocolate. They won't have the right consistency.)

1 3 cup light corn syrup

Directions:

1) In a shallow bowl, melt the chocolate without heating it above 100 F. Do this by placing the bowl of chocolate over another bowl that contains hot—but not boiling—water.

2) Once the chocolate has melted, add the corn syrup. Using a rubber spatula, stir and fold the mixture until the shiny syrup is invisible and the mixture forms a thick ball. Do not overmix.

3) Turn the clay out onto a sheet of waxed paper. Using the rubber spatula, pat it into a 7-inch square. Let it sit uncovered at room temperature until firm, about two hours. Use the clay at once, or store in an airtight container at room temperature for up to one month.

For special tips on using this recipe, visit www.fieldmuseum.org/Chocolate/kids.

Recipe reprinted with permission from Elaine Corbett

Plan your own Dino Day!

This summer, plan a special expedition into the kingdom of the dinosaurs. From Sue to sauropod eggs just discovered in South America, we've put together a dynamic dinosaur dual presentation that's fun for the whole family.

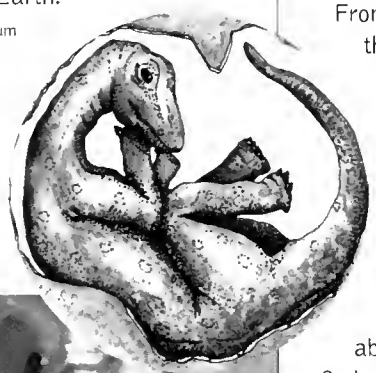
Start the day with a visit to Tiniest Giants: Discovering Dinosaur Eggs, open through Sept. 2.

Imagine being a scientist on one of the most incredible dino digs ever—a site in Argentina with thousands of fossilized dinosaur eggs. You'll see what it's like to plan an expedition, get your hands dirty digging for fossils and examine specimens under the magnifying glass. Collect all seven expedition stamps in your field notebook!

Then say hi to Sue, the world's largest, most complete and most famous *T. rex*. Even if you've seen Sue before, you'll enjoy seeing this 67-million-year-old star again. Finish off the day with a trip to the *Life Over Time* exhibition, which traces 3.8 billion years of life on Earth.

Tiniest Giants was developed by the Natural History Museum of Los Angeles County and the Carmen Funes Museum of Argentina.

Sue at The Field Museum is made possible by McDonald's Corporation. A major sponsor of Sue is Walt Disney World Resort. Additional support has been provided by the Illinois Department of Natural Resources/Illinois State Museum. The Elizabeth Morse Charitable Trust is the generous sponsor of this exhibition.



G PAPADAKIS/89860 3C

Get involved in the Biodiversity Blitz.

Help scientists preserve a fragile ecosystem.

Join scientists to learn more about and help preserve Chicago's valuable natural resources.

The Biodiversity Blitz, or BioBlitz, will bring scientists to one of Chicago's wilderness areas to see how many birds, mammals, plants, fungi, insects, amphibians and other species they can identify in 24 hours.

From 2pm on Friday, Aug. 23 until 2pm on Saturday, Aug. 24, the BioBlitz will focus on the Lake Calumet region on Chicago's southeast side. One of the most heavily industrialized landscapes in the city, Calumet is also home to rare plants and animals that survive in prairie, wetland and woodland fragments. The valuable data collected will be used to better understand and protect these fragile ecosystems.

The BioBlitz also offers exciting ways for you to get involved. Observe scientists working in the field. Enjoy special tours and presentations, ranging from discussions about local turtles to night programs about identifying owls. Or become a citizen scientist and conservationist yourself by collecting native seeds, removing invasive plant species or monitoring the quality of local wetlands and green space.

For more information about the Calumet BioBlitz, email bioblitz@fieldmuseum.org or call 312.665.7450.

Family Overnight

Imagine the chance to roam The Field Museum at night! Bring your sleeping bags to one of the most exciting spots in town for an evening of family workshops, performances, hands-on activities, tours and fun. Explore a mummy's tomb by flashlight, prowl an African savannah with man-eating lions and travel back in time to the Mesozoic Era—all in one evening. An evening snack and breakfast are included.

Families with children ages 6–12

5:45pm on Friday, June 21, to 9am on Saturday, June 22, or 5:45pm on Friday, Aug. 30, to 9am on Saturday, Aug. 31 (Choose one date.)

$45 per participant, members $38

JOHN WEINSTEIN/87011

New Discoveries Series

Lam Dorji, Royal Society for the Protection of Nature, and Hishey Tshering, Bhutan Heritage Travels

Explore the pristine wildernesses of Bhutan, a nation visited by few outsiders. For centuries, a powerful Buddhist conservation ethic has left about 72 percent of Bhutan's natural forests intact. Nestled in the Himalayas between China and India, these forests are home to a stunning variety of species including the Bengal tiger, snow leopard, takin, golden langur and black-necked crane. Now, increased population and connections with the outside world are exerting new pressures on these precious ecosystems. Dorji and Tshering will introduce you to Bhutan's people, plants and animals, and discuss the challenges they face in preserving this environmental jewel. Dr. George Archibald, co-founder of the International Crane Foundation, will introduce the speakers.

Monday, June 17, 7:30pm

$10

Co-presented by the International Crane Foundation

Professor Gabriela Bijovsky, Curator, The Israel Antiquities Authority

Hear about one of Israel's most incredible archaeological finds in recent years, on display at The Field Museum this summer. Dr. Bijovsky will discuss an extraordinary hoard of gold coins discovered in the ancient city of Beit Shean in the Jordan Valley, a cultural crossroads for thousands of years.

Friday, June 28, noon

Free with Museum admission

Exhibition organized by The Israel Antiquities Authority. Made possible by the Pritzker Foundation.

HARALD SCHUETZ

Below is a calendar of the temporary exhibitions you will have an opportunity to visit in 2002. Some dates may change. Remember to call 312.922.9410 or visit our website for specific information.

Queen Elizabeth Medallion
Through June 23

Urban Gardens: Growing Chicago's Communities
Through July 7

Tiniest Giants: Discovering Dinosaur Eggs
Through September 2

Family Workshops

Connie Sulkin, TFM Education Dept.

Join us for a two-week exploration of The Field Museum. We'll see exhibitions, hear stories, sing songs, touch objects and make art projects. This summer we'll learn about birds and snakes.

Families with children ages 3–5
Tuesdays, July 16 and 23, 1:30–3pm
$24 per child, $20 per member child
For each child, one adult attends at no charge.

This program is sponsored by The Siragusa Foundation Early Childhood Initiative.

Experience Chicago's best bands, schmooze with Sue and mix culture with cocktails. Join us on the Museum's northeast terrace to unwind after work. If it rains, the festivities will move inside. Each month explore a new exhibit and experience a new band.

Event is for ages 21 and over.

Thursdays June 13, July 18 and Aug. 15
6–11pm

Advance tickets are $10 and are available through Ticketmaster at 312.559.1212 or www.ticketmaster.com. Tickets may also be purchased at the door with cash or credit card. Includes two drinks. Other food and beverages available for purchase.

All proceeds benefit The Field Museum.

For more details, call 312.665.7600.

Sponsored by FM93 WXRT and Big Creek Productions.

David Dolak, Columbia College

Learn techniques for finding the fossils that time left behind. Reconstruct what Illinois was like 425 million years ago, when this area was covered by a shallow, subtropical sea. This is an adults-only trip.

Saturday, June 22, 8am–3pm
$48, members $41

Chocolate
Through December 31

A Celebration of Souls: Day of the Dead in Southern Mexico
Through January 12, 2003

Pearls
June 28, 2002–January 5, 2003

Summer Camp

Summer Worlds Tour 2002

JOHN WEINSTEIN/GN8728

Explore the cosmos, meet creepy creatures from the ocean's floor and travel the world to unwrap the story of chocolate. Organized collectively by The Field Museum, Shedd Aquarium and the Adler Planetarium, this unique summer camp offers fascinating activities and exhibitions that are as educational as they are fun!

Children ages 5–10
Weekdays, 8:30am–3pm
Choose from one of four week-long sessions:
July 8–12, July 15–19, July 22–26 or July 29–Aug. 2
Register through the Adler Planetarium at 312.322.0329.
$200, members $180

Liane Cochran-Stafira, St. Xavier University

Discover the genetic, biological and ecological factors that affect the growth of plant and animal populations. Learn the importance of these factors in planning for species conservation.

Wednesdays, June 5 and 12, 7–9pm
Saturdays, June 8 and 15, 9am–1pm
$140, members $116

Brad Woodson, McHenry County Conservation District

Witness the changes brought about by wetland restoration. Once seen as a nuisance, wetlands are now highly valued as habitat for a rich diversity of species and for their importance in water management. Bring a lunch and be prepared to get wet!

Saturday, June 1, 9am–4pm
$85, members $70

Tom Hintz, TFM Instructor

Learn how a land manager returns fragmented prairies, woodlands and wetlands to biologically diverse and healthy ecosystems. We'll meet environmental professionals at a variety of natural areas.

Tuesday, Aug. 6, 6:30–8:30pm
Sundays, Aug. 11–25, 9am–noon
Tuesday, Aug. 27, 6:30–7:30pm
$140, members $116

Archaeological News from the Holy Land: The Beit Shean Hoard
[illegible] October 6

From Prairie to Field: Photographs by Terry Evans
July 19, 2002–January 5, 2003

Bamboo Masterworks: Japanese Baskets from the Lloyd Cotsen Collection
November 16, 2002–February 23, 2003

Sound and Light Show

Watch Chicago's fascinating story take shape in an outdoor sound and light show that features the words of poet Gwendolyn Brooks, columnist Mike Royko, novelist Mark Twain and other luminaries. Historical images will be projected onto the Museum as these legendary voices tell Chicago's story.

Wednesdays–Sundays in August
Presented on the Museum's north facade at dusk, approximately 9pm

Call 312.665.7114 for more information.

During Your Visit

Summer is a wonderful time for [illegible] enjoy hands-on activities at The Field [illegible] Experience life as the Pawnee Indians [illegible] on the Great Plains when you join us [illegible] full-size replica of a traditional Pawnee Earth Lodge, daily June through August. Listen to a story, sing a song and make an art project to take home at Story Time: Facts, Fables and Fiction, daily July through August. For details and other fun activities, visit our website at www.fieldmuseum.org, or ask at the information desk when you arrive.

Philip Parillo, TFM Division of Insects

Investigate insects and their close relatives. Visit different habitats to observe and collect specimens, enjoy a behind-the-scenes look at The Field Museum's extensive insect collection and make a collection of your own for teaching purposes.

Wednesdays, June 26–July 17, 6–8pm
Saturdays, June 29 and July 13, 9am–noon
$140, members $116

D TODD

The Field Museum salutes the people of Chicago for their long-standing, generous support of the Museum through the Chicago Park District. This project is partially supported by a CityArts Program 4 Grant from the City of Chicago Department of Cultural Affairs and the Illinois Arts Council, a state agency. This project was made possible with the assistance of the Illinois Department of Natural Resources and Illinois State Museum.

Coming in 2003–Baseball As America

February 8–July 20, 2003

See how our national pastime symbolizes America's spirit when you rediscover baseball through the lenses of science, economics and popular culture. This exhibition represents the first time that the treasures that belonged to baseball's legendary heroes have left the National Baseball Hall of Fame and Museum in Cooperstown, NY.

This exhibition was organized by the National Baseball Hall of Fame and Museum, Cooperstown, New York.

The national tour of Baseball As America is sponsored by Ernst & Young.

From Holy Land to British Isles, single artifacts reveal centuries of history.

This summer, look for two unusual treasures at The Field Museum.

Admire the superb workmanship and powerful symbolism of a gold medallion created in 1580 for England's Queen Elizabeth I.

On display through June 23, the medal reflects the enduring tradition of the English monarchy and is on loan from The British Museum in honor of the 50th anniversary of Queen Elizabeth II's ascension to the throne.

THE BRITISH MUSEUM

Exhibition of the Queen Elizabeth medallion was organized by The British Museum, the British Consulate-General, Chicago, and The Field Museum. Support was provided by Dr. and Mrs. Warwick Coppleson. Additional support was provided by British Airways and Hampton Inn and Suites.

COURTESY THE ISRAEL ANTIQUITIES AUTHORITY

In *Archaeological News from the Holy Land*, on display from July 9–Oct. 6, you'll discover more than 700 gold coins that lay hidden beneath a house floor for 1,300 years.

The largest hoard of gold coins ever discovered in the Jordan Valley, this is one of the most incredible archaeological discoveries found in Israel in recent years.

This exhibition was organized by The Israel Antiquities Authority.

Archaeological News from the Holy Land is made possible by the Pritzker Foundation.

JOHN WOOLFORD

Visitor Information

Getting Here: With construction under way at nearby Soldier Field, your usual route to The Field Museum may have changed. Visit our website at www.fieldmuseum.org for the latest information on parking, free trolleys and public transit.

Hours: 9am–5pm every day from Memorial Day through Labor Day. Last admission at 4pm.

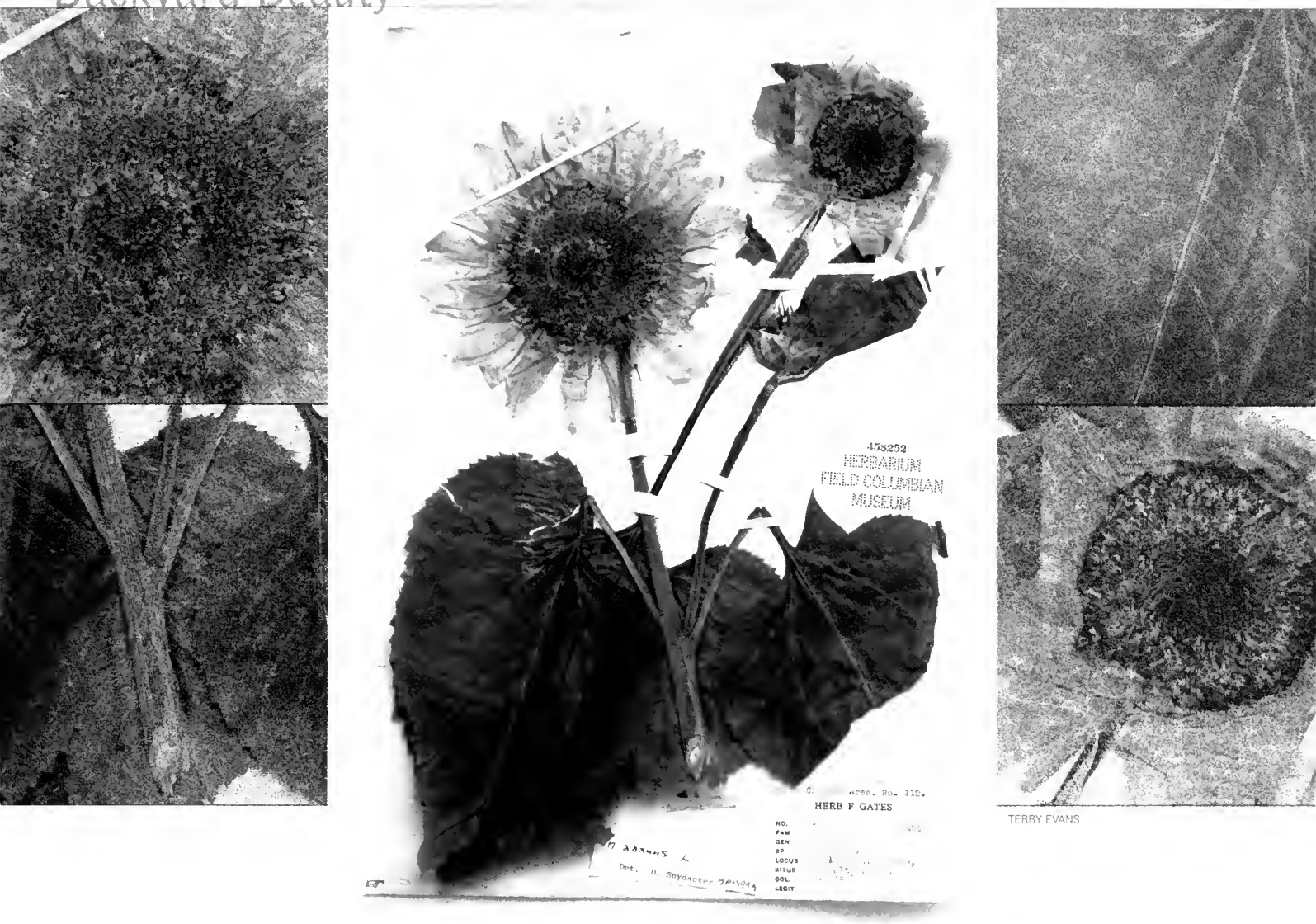
New Free Day Schedule: In 2002 basic admission is free on Mondays and Tuesdays from January–February and Mondays and Tuesdays from Sept. 23–Dec. 24. This summer, the Museum is offering additional free days from Sunday, June 9 through Friday, June 14 for Museum Campus Week. Remember, members receive free admission every day.

To get tickets: *Chocolate* and *Pearls* are specially ticketed exhibitions. Member passes can be reserved in advance by calling Ticketmaster at 312.902.1500 (service charges apply) or coming to the membership desk near the Museum's south entrance (no service charges). Non-member tickets can also be reserved in advance through Ticketmaster or in person at the Museum's admission desks. Day-of tickets are available at the Museum while supplies last.

Accessibility: Visitors using wheelchairs or strollers may be dropped off at the west entrance. Handicapped parking and wheelchairs are available on a first-come, first-served basis. Call 312.665.7400 to check on the accessibility of programs that take place outside of the Museum.

Information: 312.922.9410 or www.fieldmuseum.org

Backyard Beauty



TERRY EVANS

Your carefully tended trees, shrubs and flowers may serve as more than your own private sanctuary. A hundred years from now, they could tell scientists a lot about Chicago's plants as they exist today.

Nationally recognized for her reflective pictures of America's heartland, Chicagoan Terry Evans has been photographing prairie specimens from the botany department's herbarium. In *From Prairie to Field: Photographs by Terry Evans*, color photographs, including the image reproduced here, bring to life Chicago-region plants from our collection of more than 2.6 million specimens from around the world. These specimens document a century of prairie plant life and invaluably enable researchers to detect changes in their makeup and distribution.

Representing our precious urban garden species, this sunflower, *Helianthus annus*, was collected in 1905 from Ravenswood, a neighborhood in Chicago's north side. Gardens do more than beautify the city. While upholding the motto of early settlers—*Urbs in Horto*, The City in a Garden—they also help maintain rich diversity among the region's flora and attract butterflies, which complement an area's splendor and are critical to pollination. Daniel Snydacker, a long-time volunteer and prairie steward, wrote the tiny annotation along the bottom. He confirmed the name of the plant, proving the critical role that volunteers often play in the Museum's collections and research areas.

Gregory M. Mueller, chair of the botany department, chose this Scientist's Pick. From Prairie to Field: Photographs by Terry Evans was developed by The Field Museum in collaboration with the photographer. It runs July 19, 2002, through Jan. 5, 2003, in the Marae Gallery.

Scientists Push Back Primate Origins 20 Million Years

Greg Borzo, Media Manager, Academic Affairs

New research demonstrates that primates originated 85 million years ago (Mya) rather than 65 Mya, as is widely accepted. Using a new approach to interpreting fossils and constructing evolutionary trees, the research, co-authored by Dr. Robert D. Martin, Field Museum vice president for academic affairs, was published in *Nature* on April 18, 2002.

A reconstruction of what the earliest common ancestor of all primates may have looked like

The implications for this revision stretch throughout the primate evolutionary tree, including when humans evolved. Accounting for gaps in the fossil record, the key findings include:

- Primates originated while dinosaurs still roamed the Earth. This challenges the widely accepted theory that primates could not establish a foothold until the end of the Cretaceous (65 Mya), when an asteroid hit the Earth and wiped out dinosaurs.
- If times of divergence are revised accordingly, it is likely that humans diverged from chimps about 8 Mya rather than 5 Mya.
- An earlier primate origin makes it very likely that continental drift played an important part in subdividing primates geographically.
- It is unreliable to date the origin of any group for which the fossil record is sparse, including certain other mammals, such as bats.

"Current interpretations of primate and human evolution are flawed because paleontologists have relied too heavily on direct interpretation of the known fossil record," said Dr. Martin. "Our calculations indicate that we have fossil evidence for only about 5 percent of all extinct primates, so it's as if paleontologists have been trying to reconstruct a 1,000-piece jigsaw puzzle using just 50 pieces."

New statistical approach fills in fossil record

The earliest unequivocal primate fossils date from 55 Mya. Most paleontologists interpret this to mean that primates originated no earlier than 65 Mya. "This view reflects the common procedure of dating a group's origin according to the estimated stratigraphic age of the first fossil representative, and then adding a few million years," Dr. Martin explained. "This doesn't work well for primates because so few fossils have been found, many amount to a few teeth or bone fragments and many species are known from only one specimen."

The new statistical approach, however, estimates the length of time between the oldest known fossil and the earliest common ancestor of a given group. It also estimates the likely number of extinct fossil species in that group. It is based on an assumed species lifetime of 2.5 million years, the number of fossil species known in each stratigraphic interval and the number of species alive today (taken as 235 for primates, now thought to be a minimum).

A painstaking review of the scientific literature revealed 396 recorded fossil primate species. The new approach indicates that there were 8,000 to 9,000 extinct primate species.

"It's as if paleontologists have been trying to reconstruct a 1,000-piece jigsaw puzzle using just 50 pieces."

Broad implications

These conclusions have ramifications throughout paleontology, anthropology, primatology and other disciplines. They require a rewriting of the story of primate evolution. For example, if primates originated 85 Mya, then continental drift that broke up Gondwanaland during the Cretaceous probably contributed to primate divergence.

Also, the earlier date indicates that primates probably originated in southern tropical/subtropical regions and then expanded northward, rather than the current theory that they originated in northern regions. A complete lack of undoubted primate fossils from the southern continents during the late Cretaceous (98–65 Mya) has traditionally been taken as evidence that primates did not exist there during that time. Meanwhile, the first abrupt appearance of primate fossils in the northern continents about 55 Mya is often taken as evidence that they originated there during the Paleocene (65–55 Mya).

Contrary to this accepted theory, the authors attribute the dearth of primate fossils during the Cretaceous and Paleocene to conditions in southern latitudes that did not favor fossil preservation. The earliest primates were presumably quite small, which would greatly reduce the probability of fossilization and discovery.

New dates for calibrating trees

Many scientists use inferred dates of origin provided by paleontologists as temporal anchors for their work. Molecular biologists in particular rely heavily on derived dates to construct a timescale for evolutionary trees of animals. They estimate the length of time along branches between related species by estimating the number of changes in DNA sequences. However, there is no known way of deriving a timescale from molecular data alone.

The standard practice for attaching a timescale to a molecular tree has been to calibrate it using usually only one date derived from the fossil record. If a group's date of origin based on the fossil record is seriously underestimated, the same must be true for any molecular tree calibrated using that date.

"We hope our research will help reconcile the discrepancies between the various dates suggested by paleontologists and molecular biologists, not just for primates but for other groups of organisms, too," Dr. Martin said.

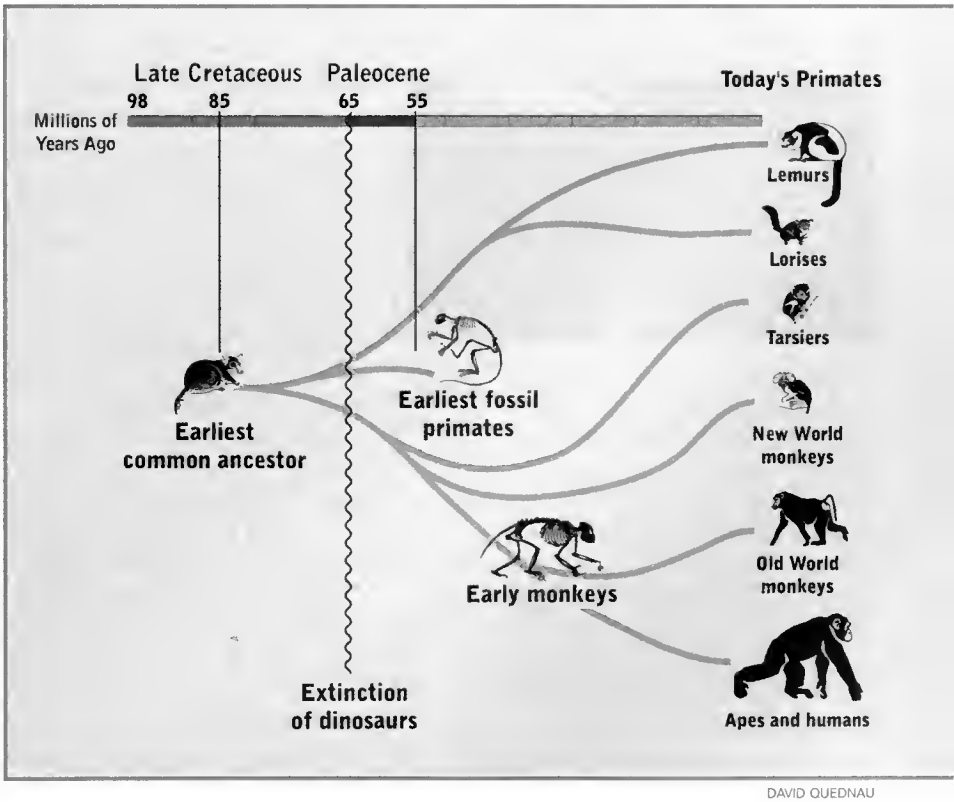
Earliest common ancestor of all primates

Existing primates can be divided into six subgroups: lemurs, lorises, tarsiers, New World monkeys, Old World monkeys, and apes and humans. Their 85-million-year-old earliest common ancestor probably looked like a primitive, small-brained version of today's dwarf lemur, according to Dr. Martin, who has studied primate evolution from many different perspectives for the past 30 years.

That animal would probably have been a nocturnal, tree-living creature weighing about one to two pounds, with grasping hands and feet, also used by the infant to cling to the mother's fur. It probably had large forward-facing eyes for stereovision and a shortened snout. It would have inhabited tropical/subtropical forests and fed on a mixed diet composed mainly of fruit and insects. Like humans, it probably had a slow pace of breeding characterized by heavy investment in a relatively small number of offspring.

These conclusions have ramifications throughout paleontology, anthropology, primatology and other disciplines. They require a rewriting of the story of primate evolution.

The research published in *Nature* represents an unusual combination of mathematicians' statistical expertise with biologists' knowledge of primate evolution. In addition to Dr. Martin, the authors are Dr. Simon Tavaré and Dr. Oliver Will (University of Southern California in Los Angeles), Dr. Charles Marshall (Harvard University) and Dr. Christophe Soligo (Natural History Museum in London). ITF



DAVID QUEDNAU

A revised evolutionary tree for primates, pushing their origin back from 65 Mya to 85 Mya—before dinosaurs went extinct

Building an Anthropology Legacy

Hidden among dense Papua New Guinea rainforests is a small group known to Westerners only since the 1940s—the Usarufa. Vida Chenoweth, an ethnomusicologist, lived among them from 1959 to 1975, assembling hundreds of instruments, ritual paraphernalia, weapons, canoes and other objects. Purchased in 1999, the Chenoweth Collection has become a significant case study in collections management.

As part of the Cultural Collections Committee (CCC), you can be intimately involved in making such vital additions to our anthropology collections. The Museum has one of the largest material-culture collections in the world, but only about 3 percent of the 1.5 million artifacts can be on display at any given time. For this reason, The Field Museum formed the CCC, a lively and dynamic forum that offers its members an unparalleled chance to learn about anthropological collections, craftsmanship and conservation.

The CCC is open to Field Museum members of all ages regardless of their expertise or experience with collecting. Through behind-the-scenes tours and special functions, you will hear firsthand from our curators about ethnographic research under way at the Museum, visit fellow collectors' homes for intimate looks at their private collections or take a tour that might otherwise be unavailable. Your support through the CCC helps the anthropology department purchase exquisite collections and fund internships for future anthropologists.

Don't miss out on upcoming trips to key archaeological sites, private lectures with curators and other experts, and exclusive opportunities related to the upcoming exhibitions, *Pearls* and *Bamboo Masterworks*. Existing Museum members can join the CCC at $60 for individuals or $85 for families. Rates to join both The Field Museum and the CCC are $100 for individuals and $135 for families. Call Megan Sweeney at 312.665.7136 or email msweeney@fmnh.org.

JOHN WEINSTEIN/A113933C

Boar's tusk ornament from the Vida Chenoweth Collection

Trash or Treasure: What's in Our Landfill?

MARK WIDHALM/CN80437.11C

In one ravenous fit of hunger, the Great Chicago Fire devoured most of downtown Chicago and the surrounding areas on Oct. 8 and 9, 1871. Later, the rubble was pushed toward the lakeshore—but how far north and south of the city? Contrary to popular belief, The Field Museum may not have been built upon Chicago Fire landfill after all.

As is required for public land, Scott Demel, who will be coordinating the move of artifacts and specimens into the new Collections Resource Center (CRC), has been conducting salvage archaeology and studying the lakefront's landfill. Sampling from different construction sites around the Museum and at different levels, Demel has found tea pots, metals, slag, electrical insulators, shell, butcher remnants, ceramics, stoneware and bottles (milk, soda, beer, apothecary and ink). Intriguing finds include a rounded bullet bottle that lay on its side so that the carbonation wouldn't blow the cork top off, and a corked medicinal bottle that still contains liquid inside.

But something is missing—household items. "It's most likely that these items came from restaurant and hotel debris," said Demel. Chicago Fire landfill would probably include charred debris, pocket watches, toys and the like, while these artifacts display hotel names and dates circa 1910 to 1915, about 40 years after the fire. At press time, digging for the new central plant had reached down 31 feet. "We haven't found anything from the Great Chicago Fire," said Demel. "We either have to dig deeper, or it could be further north. It's quite possible that it's not out this far."

Demel will continue sampling pockets of fill as construction progresses. He plans to invite DePaul University anthropology students to screen for smaller artifacts. Also, we may compare our fill to what was uncovered during recent Loyola University construction, considering how polar the two institutions are from downtown. After all the digging, sifting and sorting, Demel hopes to publish research about this "narrow window into the early history of Chicago."

Watch for upcoming details on a four-part class in November that Demel will be teaching on Chicago pre- and early history.

SCOTT DEMEL

Above: Demel surveys our landfill for artifacts, such as an assortment of early 20th century apothecary bottles (right).

Museum Awards "Statesman of Nature"

Heralded as the intellectual architect of conservation science, Dr. George Rabb received the distinguished 2002 Award of Merit, presented by The Founders' Council for educating the public about the environment. For nearly 50 years, Dr. Rabb, director of Brookfield Zoo and president of the Chicago Zoological Society (CZS), has pioneered efforts here and abroad in zoo-based research, conservation and education.

Dr. Rabb was one of the first to define and advance the role zoos play in the survival of animal species. From living cabinets to living museums to environmental resource centers, zoos are critical to instilling in people—particularly children—a lifelong understanding and commitment to conservation.

"George clearly recognizes that if we want people to emotionally feel conservation, they have to grow up with it," said Dr. Bob Martin, Field Museum vice president for academic affairs. The zoo's recent undertaking, the Hamill Family Play Zoo and Gardens, inspires children to develop a caring relationship with the natural world.

Under Dr. Rabb's guidance, the CZS has garnered massive community involvement in conserving Australia's million-hectare Bookmark Biosphere Reserve; studied baboons in Kenya's Amboseli National Park; and researched dolphins in Florida and Australia. He is instrumental to Chicago Wilderness, a multi-organizational effort to maintain the region's exceptional biological diversity. His most notable international contribution is working with the Species Survival Commission, the world's largest conservation network, to develop the International Species Information System (ISIS), an indispensable tool for capturing and sharing data.

Dr. Rabb has received numerous other prestigious awards throughout his career. "We are delighted to present the Award of Merit to a close neighbor and friend," said Dr. Martin.

Call Kristen Jacobs at 312.665.7773 for information on The Founders' Council, whose members contribute $1,500 or more annually.

Dr. George Rabb in 1956 with one of his favorite animals, the okapi, a relative of the giraffe from central Africa

New Energy Initiatives Draw in the Elements

People don't usually think about heating and cooling systems until they've stopped working. To decrease costs and increase energy efficiency, The Field Museum is rebuilding its 60-year-old systems. Whether providing freezing temperatures for DNA samples, an even 72 degrees and 40 percent humidity in the collections areas or comfortable temperatures for visitors and staff, the new central plant will better modulate the building's temperature and humidity year-round.

SPIRE SOLAR CHICAGO/K. WHITFIELD

Solar installation on the Museum roof

With support from the Illinois Department of Natural Resources, new boilers will be installed for heating, and obsolete coal storage bins will be reconfigured into chiller rooms. Using seemingly old-fashioned technology, ice will be produced at night when the demand for electricity is lower and energy costs one-fifth the day rate. Low-energy blowers will circulate the cooled air during the day. The new equipment also uses a refrigerant with lower potential for ozone depletion.

Through a joint agreement with the City of Chicago, Illinois Department of Commerce and Community Affairs and Commonwealth Edison, the Museum also installed solar panels on the roof that produce roughly 2 percent of the Museum's annual energy budget. This is the largest solar power system in Illinois, generating enough electricity for approximately 10 residential homes. With partial support from the Illinois Clean Energy Community Foundation, additional solar panels will soon be installed on the Museum's west side. Whereas our current capacity for solar energy reaches 50 kilowatts, we hope to reach 250 kilowatts, which would supply about 8 percent of the Museum's energy usage.

The Museum is also considering wind energy, and reviewing such issues as a wind turbine's impact on wildlife and whether Chicago's winds flow consistently and fast enough to generate electricity.

"Our goal is to reduce the Museum's environmental footprint," said Lou French, manager of facility planning and operations. "Our commitment to conservation extends beyond international research efforts. Whether we're buying recycled paper or using natural energy, it's equally important to evaluate the Museum's impact right here in Chicago."

Global Warming: Insights from Fossil Plants

Dr. Jenny C. McElwain, Assistant Curator of Paleobotany, Geology

Editor's Note: This article is replacing From the Archives.

It's undisputed that human activity in the past 250 years has increased greenhouse gases—pollutants that trap heat in the Earth's atmosphere—at a faster rate than at any time over the past several thousand years. Practices such as the burning of fossil fuels (coal, oil and gas) and deforestation have increased carbon dioxide by more than 30 percent. What's not as clear—among scientists and politicians alike—is whether or not the increase is responsible for a slight but significant warming of Earth's global temperatures over the past two decades.

As a result, two diametrically opposed interpretations have emerged. Some conclude that recent warming trends merely reflect natural variability within the climate system. The 2002 Intergovernmental Panel on Climate Change, however, concluded that a human-induced increase in greenhouse gases, such as carbon dioxide, is most likely contributing to the current trend of global warming, which has the potential to adversely affect our wildlife, health, agriculture, water resources, forests and coasts.

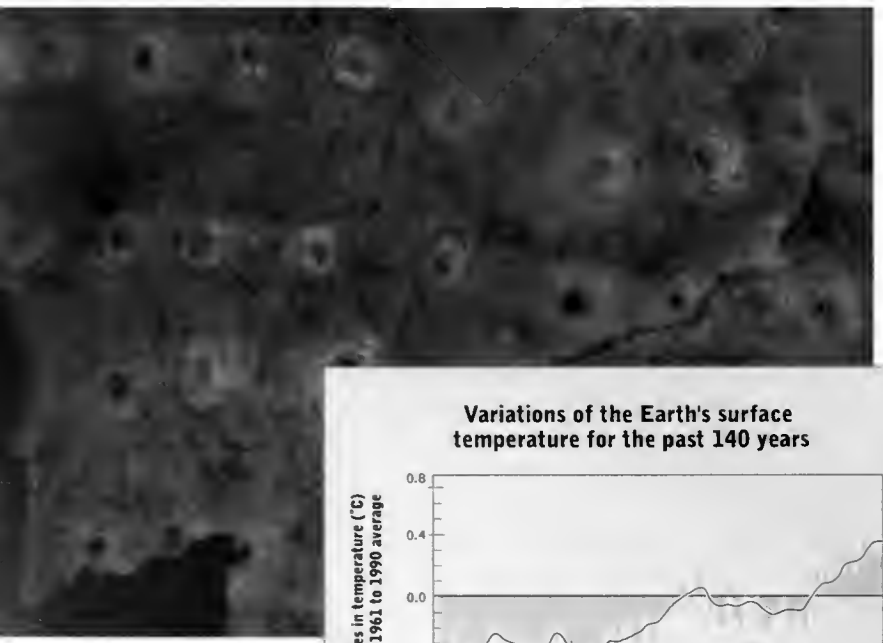
One powerful method to resolve this discrepancy is to investigate the relationship between greenhouse gases and climate in the recent and geological past. We have only recorded global temperatures and atmospheric carbon dioxide concentrations since 1860, so scientists rely on limited data using tree rings, pollen records and air pockets in ancient ice to reconstruct Earth's temperature and greenhouse-gas history. I am studying fossil plants from our collections, or, more precisely, the changing numbers of stomata, microscopic breathing pores of fossil leaves.

Plants take atmospheric carbon dioxide into their leaves through stomata as the main building block in photosynthesis for manufacturing complex carbohydrates such as sugars and starches. Since carbon dioxide is essential to plant growth and survival, it is not surprising to learn that the number of stomata on a leaf's surface directly relates to the atmosphere's concentration of carbon dioxide. As the concentration increases, the number of stomata decreases, thereby enabling plants to lose less water and vice versa.

By tracking changes in the number of fossil plant stomata on time scales of decades to millions of years, my colleagues and I have demonstrated that the current carbon dioxide concentrations are unprecedented for the past 20 million years. We have also demonstrated that a four-fold increase in greenhouse gases 200 million years ago caused severe global warming. We believe this may have contributed to the third greatest extinction event in Earth history—the Triassic-Jurassic extinction—by killing 95 percent of the natural vegetation in Greenland and across Europe and North America.

This coming summer, I will lead an expedition funded by the National Geographic Society to Jameson Land in East Greenland to test this hypothesis. Using fossil plant specimens collected from the momentous but understudied Triassic-Jurassic period (210 to 190 million years ago), we will reconstruct the changes in atmospheric composition and climate that occurred during this interval by tracking the changes in stomatal pores of the fossil plant leaves.

It is projected that the current concentration of greenhouse gases will double by the end of this century. Through understanding climate and vegetation responses to increases in carbon dioxide in the past, such as at the Triassic-Jurassic boundary, we can make more accurate predictions on how climates and life on Earth will respond in the future.



A 178-million-year-old leaf fragment of Pagiophyllum, *a species of conifer. The number of stomata (black dots) indicates that carbon dioxide levels were three to five times higher during the Jurassic period.*

McElwain, J.C., Beerling, D.J. & Woodward, F.I. (1999). Fossil plants and global warming at the Triassic-Jurassic boundary. Science 285, 1386-1390.

IPCC (2001) Climate Change 2001. The scientific basis. Cambridge University Press, Cambridge.

Discover Nature's Perfect Gem at Pearls Private Viewings

Dive into the mysterious realm of the pearl—from its watery origins to its history as a treasured symbol of purity, wealth and glamour. Marvel at the dazzling variety of these lustrous gems and trace their cultivation by humans. With more than 600 objects and nearly half a million pearls, this gorgeous exhibition features the most spectacular collection of pearls ever assembled.

Membership Previews

9am–10pm on June 27, or 5pm–10pm on June 30, July 7, July 9 and July 11

Invitation to arrive soon. Call the membership office at 312.665.7700 for information.

Annual Fund Preview

June 26

Invitation to arrive soon for donors at the Field Adventurer, Field Naturalist and Field Explorer levels (annual contributions of $250 and more). Call the annual fund office at 312.665.7777 for information.

When You Can't Attend the Previews

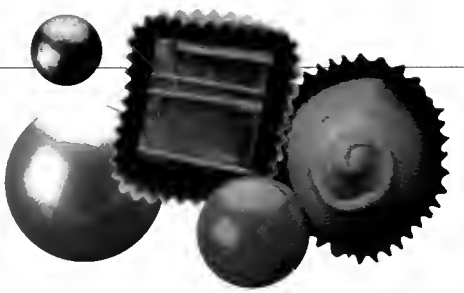
Family members get four passes, and senior, student, individual and national affiliate members receive two passes. If you do attend the previews, those tickets will be deducted from the total number for which you are eligible. For information, call the membership office at 312.665.7700.

Additional Tickets: Each additional household member is $6, or $6 plus general admission for a non-member guest.

Advance Tickets: Reserve future dates through Ticketmaster at 312.902.1500 (additional fees), or visit the membership desk (no additional fees). Both advance and same-day tickets are available on a first-come, first-served basis.

Exchanging Tickets: Visit the membership desk no later than one week before the date you currently hold. No refunds or exchanges are available for unused tickets.

Hotel Packages for Family and Friends



With convenient locations, wonderful amenities and a range of options for every budget, several Chicago hotels are offering special packages that include tickets to *Chocolate*, open through Dec. 31, 2002. After June 28, check www.fieldmuseum.org for *Pearls* packages that will be added. A great treat for family and friends visiting this summer and fall!

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Museum Tours at a Glance

For information, call Field Museum Tours at 800.811.7244 or email fmtours@sover.net. Please note that rates, prices and itineraries are subject to change and that prices are per person, double occupancy.

The Best of Kenya: An Exclusive Field Museum Luxury Safari

Aug. 24–Sept. 8, 2002

Leader: Dr. Bruce Patterson, TFM MacArthur curator of mammals and president-elect of the American Society of Mammalogists

Enjoy a one-of-a-kind natural history safari to Kenya with its amazingly varied wildlife, sweeping grassy plains and dramatic struggles between prey and predator. Travel and camp in luxury and learn from a Museum expert about the infamous man-eating Tsavo lions. Visit such natural treasures as the Serengeti's Maasai Mara National Reserve, Tsavo and Amboseli National Parks, Samburu/Buffalo Springs Game Reserves and Rift Valley lakes.

BRUCE PATTERSON

Ancient Wonders of Peru—Women's Board Trip

Sept. 13–24, 2002 (sold out)

Egypt Revisited

Oct. 12–26, 2002

Leader: Egyptologist Stephen Harvey, field director of excavations at Abydos

Egypt has so much to see that it is worth a second in-depth visit. Sites include Abusir, Dashur, Maidum, Faiyum, Tanus, Abydos, Dendara, dawn at Abu Simbel, Amada, and lesser known sites in Cairo, Luxor and Aswan. Enjoy a cruise on Lake Nasser.

The Amazon by Riverboat

Jan. 18–26, 2003

Leader: Dr. Barry Chernoff, TFM curator and head of the fishes division of zoology

Explore the Amazon, Ucayali and Tapiche Rivers in Peru for eight days aboard a 14-cabin riverboat. Search for river dolphins; howler, squirrel and capuchin monkeys; sloths; capybaras; and unusual birds such as the jabiru and hoatzin. Optional extension to Machu Picchu and other magnificent archaeological sites around Cuzco.

Egyptian Odyssey

Jan. 25–Feb. 8, 2003

Leader: Thomas Mudloff, TFM lecturer and instructor of Egyptology

Explore the world of the ancient pharaohs by land and riverboat. You'll visit the famed Pyramids of Giza, Egyptian Museum, Valleys of the Kings and Queens, Karnak, Abu Simbel's three colossi of Ramses II, and the temples of Khnum, Horus and Isis. Enjoy five-star accommodations throughout.

The Origins of Chocolate in the Americas

Feb. 5–16, 2003

Leader: Dr. Jonathan Haas, TFM MacArthur curator of the Americas and lead curator of Chocolate, *the exhibition*

Trace the origins of chocolate and legacies of pre-Columbian civilizations in Mexico. Familiarize yourself with the ancient Olmecs, Teotihuacan, Maya and Zapotec civilizations. Visit several museums and sites, including: The Regional Museum of Oaxaca; Mexico City's world-class Museum of Anthropology; Puebla, a UNESCO World Heritage Site; and the archaeological sites of Palenque and Teotihuacan.

The Seychelles and Madagascar

Feb. 16–March 5, 2003

Sail with us to sun-drenched isles where palm trees on endless white beaches fringe sparkling coral lagoons rich with sea life. The Seychelles islands sparkle like gems in the vast Indian Ocean. Madagascar, the world's "eighth continent," harbors wondrous plants and animals that have evolved in splendid isolation.

Rediscovering the New World

March 13–April 2, 2003

Leader: Dr. Jonathan Haas, TFM MacArthur curator of the Americas

Travel by private, first-class, 88-passenger jet to the lost civilizations of North, Central and South America. Sites include the Inca ruins at Machu Picchu, Peru; the Maya ruins of Tikal, Guatemala; Mesa Verde National Park, Colo.; Chaco Canyon, N.M.; Palenque, Mexico; the Amazon rainforest; and the Atacama Desert, Chile. This is a remarkable selection of archaeological and anthropological treasures linked by the beauty and complexity of their art, architecture and religions.

Also Planned for 2003 and 2004:

- Tanzania Safari: The Great Migration
- The Pantanal Region: Argentina, Iguassu Falls, Paraguay, Bolivia and Brazil
- Behind the Scenes in Moscow and St. Petersburg
- Wonders of Ancient China
- Prehistoric Cave Art of France

IN THE FIELD

Fall 2002
September–
November

The Field Museum's Member Publication

Special Issue:
The Field Museum in China

INTHEFIELD

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The Field Museum salutes the people of Chicago for their long-standing, generous support of the Museum through the Chicago Park District.

The Field Museum

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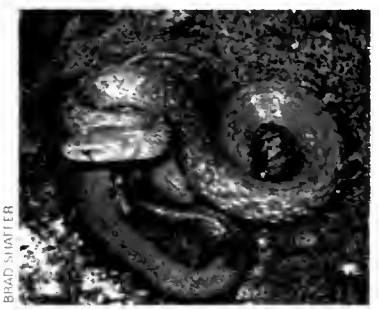
Museum Campus Neighbors
With construction under way at nearby Soldier Field, your usual route to Museum Campus may have changed. Visit www.fieldmuseum.org for the latest information on parking, free trolleys and public transit.

Shedd Aquarium
When darkness falls on Oct. 31, the tall ship Shedd Aquarium sets sail for Spooky Seas, an evening of ghostly sea stories and deep-sea delights. This Halloween bash starts at 6pm with a costume parade in the Oceanarium. Then, party until 9pm with ghosts, goblins and a skeleton crew. $18 (public), $15 (members), children age 2 and under free. For information, call **312.939.2438** or visit **www.sheddaquarium.org.**

Adler Planetarium
On Oct. 26, have a spook-tacular time in your Halloween costume at Haunted Planetarium, 11am to 3pm. Carve your favorite constellation on a pumpkin. Hear monster sky tales, featuring Perseus and the Celtic Sea Monster and Werewolves and Moon Phases. Enjoy mad scientist demonstrations and card block printing. Free with general admission. Visit www.adlerplanetarium.org or call 312.922.STAR for information.



BRAD SHAFFER

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An Extraordinary Peek at the Forbidden City

Exquisite, rarely seen treasures of the Forbidden City are soon to become part of a major Field Museum exhibition.

16

Older, Smaller Relative of Triceratops Found in China

A Field Museum dinosaur specialist co-authors research on the recent discovery of *Liaoceratops yanzigouensis*

LUI JUN

ANNE UNGERFELD

4

Turning Points in the Human Experience

Through two research projects, Field Museum archaeologists are examining how early civilizations developed in China.

Left: Deborah Bekken labels bones found in Panxian Dadong.

Right: Overlooking the excavation of a house at Liangchengzhen.

The Great Divide: Living in Two Places at Once

Greg Mueller, Curator and Chair, Botany, Jun Wen, Associate Curator, Botany, and Edna Davion, Research Assistant, Environmental and Conservation Programs

In 1716 in lower Canada, armed only with a description of Chinese ginseng, a missionary priest searched for the unremarkable root for three months before accidentally discovering it - its bright red berries attracting his attention. While regional tribes had used the plant for countless centuries, Father Joseph Francois Lafitau is generally credited with introducing North American ginseng to China and Western culture. Highly treasured as a panacea in China, its discovery here was a windfall, jumpstarting exports that were rivaled, for a time, only by the size of the fur trade.

Left: Panax vietnamensis, *Yunnan*
Right: Suillus spraguei, *Yunnan*

A geographic enigma

To this day, ginseng is still known to live only in eastern Asia and eastern North America. This peculiar occurrence makes it one of the most famous organisms that shows a disjunct distribution pattern, in which a once continuously distributed species or group becomes split and isolated. Two Field Museum botanists, Associate Curator Jun Wen and Curator and Chair Greg Mueller, are asking what biologic and geologic events caused the pattern and why certain species exist in only two places on Earth. With Wen's focus on ginseng and Mueller's focus on mushrooms, their research is showing that plants and fungi show the same types of distribution patterns and have responded similarly to past geologic and climatic changes.

Imagine a squishy stress ball in your palm. Its shape changes as you squeeze it, indenting in some places, rising in others and remolding the material inside. The Earth, over geologic time, behaves similarly. Mountains emerge, seas dry up and continents shift, for example. And during the process, the flora and fauna that live there also change.

This might help explain the disjunct pattern for ginseng and mushrooms. Scientists suggest that plants and fungi migrated between Asia and North America in the Tertiary period (10 to 60 million years ago [Mya]) via two ancient land bridges that crossed the Pacific and Atlantic oceans. Woody plants and their associated mushrooms and herbaceous plants, such as ginseng, were more widely distributed in ancient times. Later on, glacial activity in western Europe and mountain building in western North America fragmented these communities, leaving remnants in the moist forests of eastern Asia and eastern North America. By coupling current distribution data on ginseng and mushrooms with hypotheses about their evolutionary relationships, we can begin to understand how species migrated, evolved and became locally extinct in relation to Earth's changes.

Charting the "essence of man"

Part of the human apothecary for at least 2,000 years, ginseng has found its way into the Western mainstream and is sold in many forms, including tea, powder and liqueur. Ancient Chinese doctrine says a plant will influence the part of the body that it resembles. Since the ideal ginseng root looks like a human form, it is considered the sovereign remedy for the entire body and is hailed as a stimulant, aphrodisiac, immune enhancer and stress reliever, among other properties. Indeed, ginseng literally translates into "the essence of man."

Although North American and Chinese ginsengs appear similar, recent studies have shown that they are two different species of the plant family Araliaceae. *Panax ginseng* is the Asian species, and *Panax quinquefolius* is the North American species. Wen's research further defines the difference: The two species do not appear to be as closely related as previously thought.

The DNA data imply that two disjunctions occurred at different geologic times. It is likely that birds migrating across the north Atlantic, carrying *Panax ginseng* seeds, caused the first disjunction in the Oligocene (40 Mya). The second disjunction occurred during the middle to late Miocene (10 Mya) when the Bering land bridges existed, connecting North America with Asia across the Pacific Ocean. Wen also suggests that when the Indian geologic plate collided with the Asian plate, causing many isolated, diverse habitats throughout Asia, ginseng species rapidly diversified in eastern Asia and the Himalayas. Through her research, Wen has recently discovered two new species in the mountains of western China and areas bordering China and India.

Mapping the migration of mushrooms

Across the world and throughout time, mushrooms have evoked everything from divine adoration to obsessive fear. With more than 15,000 species, they produce a bewildering array of uses — an offering to the gods, poison, food, hallucinogen or medicine. The sheer variety among such species as portabella, oyster and morel offers distinct flavors and textures to enhance any cook's concoction. And more than 100 species, including shiitake, caterpillar fungus and maitake, are known for their restorative powers, treating a range of ailments from colds to cancer to HIV.

Like ginseng, certain mushroom species are only found in eastern North America and eastern Asia. Essential to forests and grassland ecosystems, mushrooms play a crucial role as parasites, decomposers and symbionts, which means another organism cannot grow or survive without their help. We understand a lot about mushrooms' affinity to certain climates and plants, but little has been studied about their current habitats and evolutionary relationships.

Mueller and a group of Chinese and American scientists are trying to identify where mushroom species occur, how they compare and what caused the observed disjunct distribution patterns. After evaluating what little has been published, they have found a number of potentially disjunct species and that forests in eastern North America and eastern Asia have a similar composition of fungal species.

Using three genera with different ecological roles—*Armillaria*, *Suillus* and *Xerula*—Mueller and his collaborators tested their biologic and geographic relationships within an evolutionary context. Only one of three alleged disjunct species, *X. hispida*, stood up to the test. Supposed disjunct populations of *S. spraguei* were shown to be a separate species altogether even though they are similar morphologically. Another assumed disjunct pair, *S. americanus* and *S. sibiricus*, probably represents a single widespread species and is not a distinct divergence at all. The genus *Armillaria* rapidly radiated into the Northern Hemisphere, but the relationships among these species could not be resolved based on the studied DNA and the distribution patterns could not, therefore, be tested.

Defending these precious species

Why does it matter that we know where a species came from and how it evolved? On one hand, we learn how past geologic changes altered a species forever. On the other hand, which is the basis of much Field Museum research today, we become informed about how to save a species and, ultimately, preserve biological diversity. If ginseng exists in only two places on Earth, and those two places are harmed by logging, pollution or other anomalies, what would happen if ginseng also became threatened, following centuries of reverential use? If certain mushroom species became extinct, how would other plants survive if they rely on them to recycle nutrients or grow? It is only through collaborative research such as Wen's and Mueller's that we can begin to address such conservation issues. **TF**

Left: Calostoma cinnabarina, *North America*
Right: Cantharellus cibarius, *China*

Panxian Dadong cave site

Though focused on different time periods and locations, two Field Museum projects in China are investigating significant turning points in human development. The Chinese government has permitted international collaborative fieldwork only since the mid-1990s. Fewer than 10 projects have been implemented, and there has been limited access to valuable comparative data on human development. The first project, an excavation in China's southwestern province of Guizhou, examines how early human ancestors c. 200,000 years ago adapted to a dynamic local environment. The second project, involving archaeological survey and excavation in the north coastal province of Shandong, focuses on social change during the late prehistoric period c. 2600–1900 BC.

SUSAN MILLER/ANTHROPOLOGY

A Cave's Riches: The Panxian Dadong Collaborative Project

To better understand the evolution of early humans, Adjunct Curator Deborah Bekken is working with researchers from the Institute of Vertebrate Paleontology and Paleoanthropology in Beijing, California State University at Stanislaus and the University of Cincinnati on the Panxian Dadong Collaborative Project. Funded by the National Science Foundation, Henry Luce Foundation and Chinese National Science Foundation, this project is focused on learning more about the Middle Pleistocene occupation of southern China.

The team is excavating a large cave site, Panxian Dadong (or Panxian Grand Cave), on the western Guizhou Plateau, an area characterized by dramatically steep mountains interspersed with narrow, flat [illegible]. Caves are common here, and many contain [illegible] and archaeological remains. Dadong [illegible] middle of an interconnecting series of [illegible] perched within a 230-meter-high [illegible] feet). Fully 8,000 square meters [illegible] in area, its enormous chamber [illegible] range in age from 150,000 to [illegible] ago.

[illegible] fossil hominid teeth in Dadong [illegible] *Homo sapiens*, who had larger brow ridges and greater facial dimensions than modern people. Our focus, however, is on what the animal bones and stone tools we find can tell us about the people who lived there. We can also recover artifacts from unaltered stratigraphic contexts — a rare opportunity for eastern Asia.

The animal bones Bekken studies offer clues to the site's formation, use and former environmental conditions. Guizhou was warmer than it is today, with a subtropical to tropical climate, and patches of bamboo and forest surrounded the cave. Animal species found here include rhinoceros, giant tapir, water buffalo and stegodons, members of a now-extinct family of elephant-like animals. We also have identified bamboo rat, porcupine, panda, hyena and several species of deer.

Most of these animals do not ordinarily inhabit caves, so one line of inquiry is to determine how they became part of the deposits. The porcupine, for example, creates piles of bone on which it can gnaw to sharpen and shorten its incisors. We have found porcupines in Dadong, as well as the bones they gnawed. Similarly, we can see grooves from stone tools in the bones, demonstrating the scavenging and hunting activities of hominids, who likely targeted large-bodied species. Although carnivores commonly use caves as dens or lairs, we have found little evidence of them. It is possible that den sites were established before hominid

groups arrived and may be located further back in unexplored areas of the cave.

Burned remains can be difficult to identify since various mineral stains mimic the discoloration of burning, yet laboratory examination has confirmed the presence of fire in Dadong. While not certain if they were controlled, it is interesting that these deposits are far from the cave mouth, a more likely location for debris from natural brush fires.

We also have found an abundance of stone tools made of limestone, basalt and chert. Limestone and basalt could have been found in the cave, but chert was harder for people to gather. It occurs as small veins within limestone outcrops on the surrounding hills or as riverbed cobbles. Interestingly, the tools reflect different manufacturing and use choices. Limestone is soft and does not hold a sharp edge for long, yet these are the largest tools and appear to have been struck from a core whenever a basic working tool was needed. The basalts, a more fine-grained stone, are smaller and show more evidence of re-sharpening. The even finer-grained cherts are the smallest tools and show extensive flaking. We think they were repeatedly retouched until they were worn down to small size.

The cave deposits are helping us understand how early people adapted to the area and used the available resources. We also have observed how their hunting and scavenging capabilities and use of high-quality cherts for tools increased through time. Though still centuries before the advent of modern humans, we can clearly see the growing complexity that so characterizes the human family tree.

A Regional Picture: Surveying in Shandong

Through regional archaeological survey in the Rizhao area of Shandong, Anne Underhill, Gary Feinman, Linda Nicholas and their Shandong University colleagues are investigating how and why complex societies developed in southeastern Shandong during the Longshan period (c. 2600–1900 BC). After c. 1900 BC, state-level societies with bronze metallurgy developed in northern China, followed by writing systems, cities and other hallmarks of civilization. Before we began our research, many scholars regarded southeastern Shandong as a kind of cultural backwater, concluding that all of the most important social developments had occurred further west in the Yellow River valley.

The Rizhao area is famous for Liangchengzhen, a site initially excavated in 1936 where archaeologists found exquisitely made pottery vessels and jade objects. Little fieldwork was conducted after 1936, primarily due to war and a focus on other rich archaeological sites in western Shandong. Regional survey, which is critical for comparing settlements and understanding how they changed over time, had never been carried out in most of China, so Underhill and her Shandong University colleagues invited Feinman and Nicholas, who have extensive survey experience in Mexico, to join the expedition. The research has been funded by the National Science Foundation, the Wenner-Gren Foundation for Anthropological Research, the Henry Luce Foundation and The Field Museum.

Crew members, spaced about 50 meters (165 feet) apart, walk over the countryside during winter when vegetation is scarce in search of broken pottery and stone tools. Each artifact indicates a site where human activity occurred, whether it was a short-term hunting spot or long-term living settlement. After seven field seasons, we have walked more than 650 square kilometers (403 square miles) and have identified several hundred new sites dating primarily to the Longshan period and three early historic periods—late Shang (c. 1200–1046 BC), Zhou (c.1046–206 BC) and Han (206 BC–AD 220).

The distribution of artifacts reveals that Liangchengzhen was not only the largest Longshan settlement by far in the region at about 246,000 square meters (807,100 square feet), but also one of the largest Longshan sites in all of China. We also have identified three tiers of smaller settlements, demonstrating that Liangchengzhen was a political, religious or trade center. The smaller settlements likely represent subservient villages that provided goods and services to the center. The greatest variety and most finely made pottery occur at Liangchengzhen.

Hundreds of small, dispersed sites from the Shang, Zhou and Han periods indicate a reorganization of the region after an apparent collapse of the social system at Liangchengzhen. Although historical documents recorded in larger urban centers barely

LUI JUN ANNE UNDERHILL

Left: Deborah Bekken labels bone fragments found in Panxian Dadong. Right: Team members in Shandong, spaced about 50 meters (165 feet) apart, survey the land in a meticulous search for artifacts.

Shandong ... a fence, ... noodles that ... hung out to dry.

mention the rural Rizhao area, our survey has shown that the area teemed with small towns and villages that would have contributed significantly to the regional economy.

One of the most rewarding aspects of this field work is meeting wonderful people who allow us to walk through their fields and villages. Some offer advice on where to find ancient sites, and some generously invite us to a meal of delicious flatbread, roasted homegrown peanuts and other local dishes. It is not uncommon for us to be the first foreigners they have ever seen. As we learn about the past through the regional survey, we also have enjoyed learning a great deal about the modern culture of eastern Shandong.

Email ***expeditions@fieldmuseum.org*** *to join a free program in which you receive daily updates and photos from Gary Feinman during the survey in Shandong late this fall. You also can check www.fieldmuseum.org/expeditions for a composite of his communiqués.*

Digging Deeper at Liangchengzhen

Underhill and her Shandong University colleagues began full-scale excavations at Liangchengzhen in 1999. Although previous archaeological focus on burial remains has shed light on social organization, there has been insufficient information about other components of life such as housing, agriculture and craft production. Ongoing analyses are affirming that Liangchengzhen is one of the largest, most dynamic settlements ever found from the Longshan period.

Several kinds of houses were found at varying degrees of preservation. Most were rectangular foundations, but some were actual living floors where people cooked and slept. We also discovered round houses made of adobe. Some structures were quite small, suggesting that a family may have used more than one, and open areas were used for other household activities. Unlike other ancient cultures that used stone, the ancient Chinese used perishable materials such as thatch, sticks and earth, which would have needed to be replaced frequently. Indeed, a great density of house remains were extensively rebuilt over 200 years of occupation. We also discovered that the ancient townspeople selected naturally elevated areas for housing and hauled in soil from other locations.

A Shandong colleague uncovers a beautiful gui, or tripod vessel.

We found several burials, most of which were small and contained few or no pottery vessels. During the late Dawenkou period (c. 3000–2600 BC), people had distinct burial areas, yet by the Longshan period, burials were more clearly associated with houses, suggesting greater emphasis on individual ownership of resources over the generations. Observed distinctions in house and burial size indicate some differences in economic status among households. In addition, we discovered two ditches or moats surrounding the settlement's core area. Originally filled with water, they were later used as trash areas, as we found several hundred nearly whole pottery vessels inside them. People later built houses and dug storage pits, cutting into the ditches' uppermost layers. All of these remains point to a settlement with a fair amount of planning.

A network of supporting scientists is helping us analyze other excavated materials. Botanists in Beijing and Toronto have revealed that the townspeople grew both rice and millet. A specialist in ceramic technology at the Smithsonian Institution is helping us identify the varieties of relatively high-fired, elegantly shaped earthen pottery vessels and interpret how the organization of labor changed. We hypothesize that potters tried to produce vessels more efficiently for Liangchengzhen's growing population by standardizing shapes and reducing decorative techniques. A Yale University graduate student whom Underhill advises is studying how the stone tools were made and used. Finally, we have found several rich pits containing nearly whole vessels—more than 200 in one pit, for example—that do not appear to be ordinary trash pits. A University of Pennsylvania chemist has identified traces of rice wine in some vessels, suggesting that important ceremonies were held there. Our ongoing analyses and future excavations will help us determine how Liangchengzhen could have functioned as a ceremonial, economic and political center. ITF

YOUR GUIDE TO THE

Calendar of Events for Fall 2002 September–November

Inside: Exhibits Festivals Family Programs Adult Programs

Tony Kushner, Pulitzer Prize Winning Playwright

Voices from the Field Lecture

GLORIA WEGNER

Hear one of the leading artistic voices of our day discuss the relationship between his work and cultural understanding in these troubled times. Kushner's latest play, *Homebody/Kabul*, has received critical acclaim for its exploration of the lives of women in Afghanistan. Also known for the award-winning *Angels in America*, Kushner focuses his work on moral responsibility and intends his plays to be part of a greater political movement. Join Kushner and notable Chicago journalist Mara Tapp to discuss the pressing issues that confront us, especially in this age of complexity and hostility.

Wednesday, Nov. 13, 7pm
$20, students/educators $18, members $15

New Exhibition– Bamboo Masterworks: Japanese Baskets from the Lloyd Cotsen Collection

Nov. 16, 2002–Feb. 23, 2003

Contemplate the cherished traditions woven together in Japanese basketry.

Bamboo Masterworks features treasures from the world's premiere collection of Japanese baskets. Because this collection is privately owned—cultivated over four decades by American businessman Lloyd Cotsen—its stunning baskets are seldom seen by the public. This exhibition offers a rare look at 100 masterpieces, including works by Japan's three most celebrated basket makers, who have been named "Living National Treasures" by the Japanese government.

Selected for their artistry, originality and craftsmanship, these breathtaking baskets transform the single element of bamboo into an infinite variety of forms and textures. By turns they are elegant, playful, dramatic, rough and serene. With names like *Sound of the Whirlpool, Phoenix at Nightfall, My UFO* and *The Shimmering of Heated Air*, the baskets are as poetic as they are sculptural.

The exhibition also explores the significance of basketry in Japanese culture and the elevation of craft into art. Discover the extraordinary qualities of bamboo, the years that apprentices spend learning their craft and the importance of baskets in Japanese flower arranging and tea ceremonies.

This exhibition is organized by The Asia Society and curated by Mary Hunt Kahlenberg.

The Sara Lee Foundation is the Presenting Sponsor.

Additional support provided by the Elizabeth F. Cheney Foundation.

Photos: Pat Pollard

The Field Museum

General Museum Information: 312.922.9410
Family and Adult Program Tickets and Information: 312.665.7400

...ate the luxuries of life with Pearls and Chocolate.

Pearls

The Exhibition

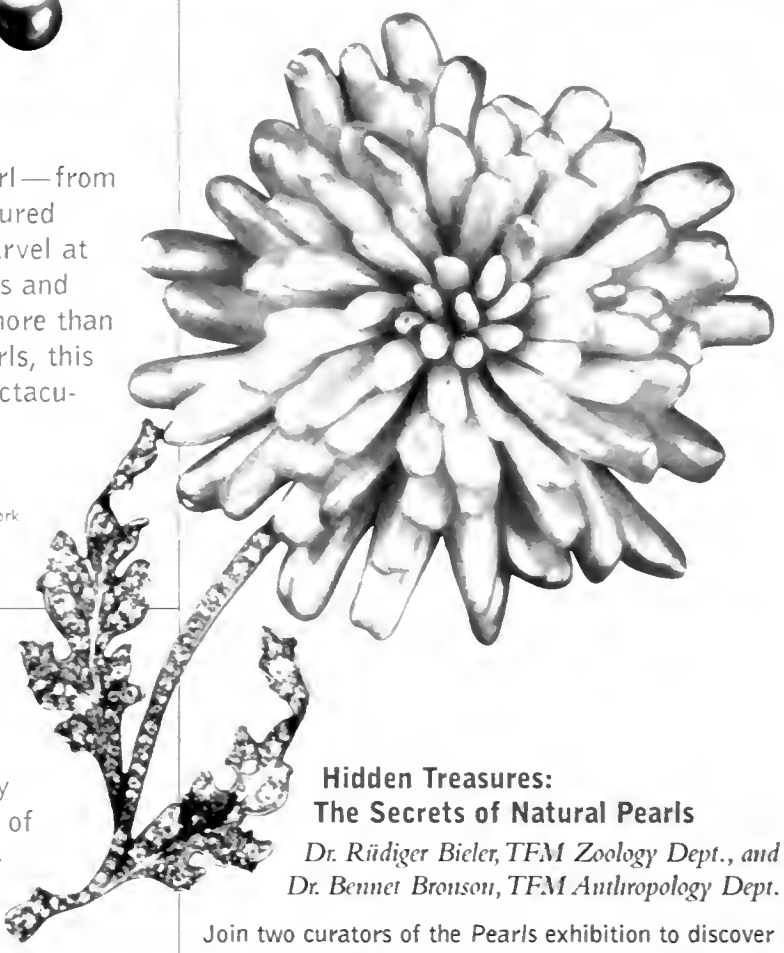
Through Jan. 5, 2003

Dive into the mysterious realm of the pearl—from its watery origins to its history as a treasured symbol of purity, wealth and glamour. Marvel at the dazzling variety of these lustrous gems and trace their cultivation by humans. With more than 600 objects and nearly half a million pearls, this gorgeous exhibition features the most spectacular collection of pearls ever assembled.

Pearls is a specially ticketed exhibition.

Pearls was organized by The American Museum of Natural History, New York, in collaboration with The Field Museum, Chicago.

National Sponsor: Tasaki Shinju Co., Ltd.



The Culture of Pearls

Lecture Series

Explore the many facets of pearls: how they are created, how they are valued as objects of beauty and their significance in diverse cultures. Enjoy *The Culture of Pearls* as a lecture series, or attend the lectures as part of *Bedazzled: Jewelry as Culture* (LAS 494), a credit course with assignments and discussion sessions offered by The Humanities Laboratory at the University of Illinois at Chicago.

Lectures at TFM on Tuesdays, Oct. 8–Dec. 3, 6pm.

Lecture Series
Individual lectures: $12, students/educators $10, members $8.
Full series subscription (save 20 percent): $86, students/educators $72, members $58.
Tickets to any three lectures (save 15 percent): $30, students/educators $25, members $20.
For information or tickets call 312.665.7400.

Credit Course
Enrollment information is available from UIC at www.oce.uic.edu or 312.996.8025. Course begins Oct. 3.

This program is presented by The Field Museum in collaboration with The Humanities Laboratory at the University of Illinois at Chicago.

Hidden Treasures: The Secrets of Natural Pearls

Dr. Rüdiger Bieler, TFM Zoology Dept., and Dr. Bennet Bronson, TFM Anthropology Dept.

Join two curators of the Pearls exhibition to discover how natural pearls are formed and gathered, and how they have been used in different cultures.

Tuesday, Oct. 8, 6pm

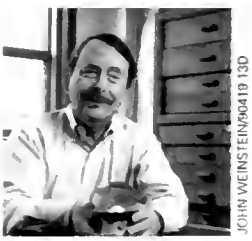
Creating the Perfect Gem: The History of Cultured Pearls

Dr. Rüdiger Bieler, TFM Zoology Dept., and Dr. Bennet Bronson, TFM Anthropology Dept.

Explore people's desire to create a perfect pearl and learn how cultured pearls are grown and harvested.

Tuesday, Oct. 15, 6pm

JOHN WEINSTEIN/90427 11D



JOHN WEINSTEIN/90419 13D

Georg Simmel's Theory of Adornment

Dr. Donald Levine, University of Chicago

Could the whims of fashion be rooted in deep psychoanalytic theory? Examine how jewelry reflects personal desires and our wishes to connect with others.

Tuesday, Oct. 22, 6pm

American Pearls: The Secret of Their Success

Renee Latendresse, American Pearl Company

Hear how the Latendresse family founded the first freshwater pearl culturing farm in the United States. Watch as real shells are opened to reveal their treasures.

Tuesday, Oct. 29, 6pm

Pearls of Wisdom

Dr. Richard Klein, Author

Decipher the meaning of pearls in modern society with the prominent social critic who wrote *Cigarettes are Sublime* and *Jewelry Talks: A Novel Thesis.*

Tuesday, Nov. 5, 6pm

The Exploitation and Conservation of Freshwater Pearls

Dr. Richard J. Neves, Virginia Polytechnic Institute and State University

Learn how a century of pearling has affected mussels in the Mississippi River Basin—once the pearl button capital of the world.

Tuesday, Nov. 12, 6pm

Pearls of the Screen

Milos Stehlik, Film Critic

See how pearls have starred on the silver screen as objects of desire, catalysts for tragedy and keys to solving mysteries.

Tuesday, Nov. 19, 6pm

The Imagery of the Pearl in Medieval and Renaissance Literature

Dr. Audrey Becker, University of Windsor

Discover how pearls came to symbolize femininity and purity in English literature.

Tuesday, Nov. 26, 6pm

Gems and Pearls: From the Bible to Diamond Row

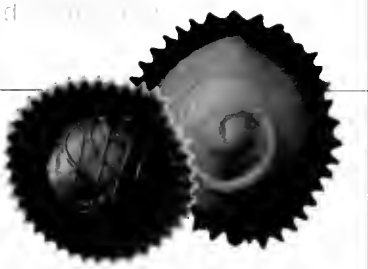
Dr. Sander Gilman, University of Illinois at Chicago

Uncover the biblical roots for many Western metaphors about jewels and examine the contributions of Jewish merchants to the global jewelry trade.

Tuesday, Dec. 3, 6pm

Chocolate

The Exhibition



Chocolate Spectacular!

Family Workshop

Liz Cruger and Tracy Kwock, TFM Education Dept.

Grind cacao beans and make hot chocolate Aztec-style—with chili pepper and cornmeal!

Families with children ages 7–12
Saturday, Sept. 28, 1–3pm
$10, members $8

Life Is Like a Box of Chocolates: Food Goes to the Movies

Lecture

Dr. Ken Hao

Look at the delicious symbolism of food and chocolate in classic and highly memorable food films.

Saturday, Oct. 19, 2pm
$12, students/educators $10, members $8

Chocolate and its national tour were developed by The Field Museum, Chicago.
This project was supported, in part, by the National Science Foundation.
Education programs supported by The Chicago Community Trust.

GEORGE PAPADAKIS/90435

David Dolak, Columbia College

Come with us to the world-famous Mazon Creek site to collect fossils that are older than dinosaurs! You'll discover what Illinois was like 300 million years ago. Plan on a one-quarter mile walk to fossil locations.

Families with children ages 7–12
Saturday, Sept. 28, 8am–3pm
$38, members $27

Lectures

Natural Disasters and Ancient Oaxaca

Dr. Nelly Robles Garcia, National Institute of Anthropology and History in Oaxaca, Mexico

Explore the impact that thousands of years of earthquakes have had on Monte Alban, one of Mexico's earliest cities.

Saturday, Oct. 5, 3pm
$12, students/educators $10, members $8

African Ceremonies: A Celebration of Life

Carol Beckwith and Angela Fisher, photographers and authors

Discover the powerful African ceremonies that mark birth, coming of age, marriage, death and other rites of passage. Their 30-year quest to document vanishing tribal customs has taken these two Western women deep into tribal Africa.

Wednesday, Oct. 16, 6:30pm
$12, students/educators $10, members $8

The Remarkable Ryukyu Islands

Dr. Richard Pearson, United British Columbia University

Transport yourself to the remarkable Ryukyu Islands of southern Japan to explore the history of this archipelago, from its earliest peoples to the complex position of Okinawa in modern times.

Saturday, Nov. 9, 1:30pm
$12, students/educators $10, members $8

The Natural History of Chicago

Joel Greenberg, Naturalist and Author

Reflect on Mother Nature's influence, even in the most urbanized landscapes. Greenberg's book tells the story of prairies plowed, wetlands drained, species driven extinct, and the diversity of life that survives—even amidst the skyscrapers.

Saturday, Nov. 16, 2pm
$12, students/educators $10, members $8

Below is a calendar of the temporary exhibitions you will have an opportunity to visit in 2002 and 2003. Some dates may change. Remember to call 312.922.9410 or visit our website for specific information.

Archaeological News from the Holy Land: The Beit Shean Hoard
Through October 6

Chocolate
Through December 31

Pearls
Through January 5, 2003

Ruth Norton, TFM Anthropology Dept.

From tropical feathers to animal bones, find out how people around the world use nature's gifts. See objects from the Museum's anthropology collections and then make your own special object with feathers, beads, clay and other natural materials.

Families with children ages 8–14
Friday, Sept. 27, 6–8pm
$15, members $12

Dr. Wendy Taylor and Jim Holstein, TFM Geology Dept.

Examine fossils close-up and see what it's like to be a paleontologist. Find out how to collect fossils and read these time capsules from the past.

Saturday, Oct. 12
10–11:30am for families with children ages 7–10
1–2:30pm for children ages 11–14
(parents not required)
$12, members $10

Joanna Wakeland, TFM Education Dept

Join us for an eight-week exploration. We'll travel the Museum's exhibitions, hear stories, sing songs, touch objects, make art projects and have a snack.

Families with children ages 3–5
Tuesdays, Oct. 1–Nov. 19
10–11:30am or 1:30–3pm
(Choose one time.)
$95 per child, $80 per member child
For each child, one adult attends at no charge

This program is sponsored by The Siragusa Foundation Early Childhood Initiative.

Workshops

Behind the Scenes: Rare Books

Ben Williams, TFM Library

From 15th-century volumes to the work of Audubon and Darwin, glimpse rare and fascinating books from the Museum's library and enjoy the glorious imagery of scientific illustration.

Saturday, Oct. 5 or 12, 10am–noon
(Choose one session.)
$15, members $12

RON TESTA/84478C

CATHRYN

Preventive Conservation (How to Take Care of the Stuff You Love)

Betsy Allaire, TFM Exhibitions Dept., and Katherine Ridgeway, TFM Anthropology Dept.

Extend the lifetime of your precious keepsakes and works of art! Find out how Museum conservators slow down the ravages of time and learn to apply these same techniques to preserve your own treasures.

Saturday, Nov. 16, 10am–noon
$18, members $15

From Prairie to Field: Photographs by Terry Evans
Through February 9, 2003

A Celebration of Souls: Day of the Dead in Southern Mexico
Through February 9, 2003

Bamboo Masterworks: Japanese Baskets from the Lloyd Cotsen Collection
November 16, 2002–February 23, 2003

[illegible] Conger and Tracy Kwock, TFM Education Dept.

[illegible] an exciting mystery at the Museum—just like the kids in the award-winning book *From the Mixed-Up Files of Mrs. Basil E. Frankweiler*, by E. L. Konigsburg. You'll decipher clues, find cool hiding places and piece together an intriguing puzzle.

Families with children ages 8–12
Monday, Oct. 21, 6–8pm
$10, members $8

Mara Cosillo-Starr, TFM Education Dept.

Celebrate the uniquely Mexican holiday that honors departed loved ones. Create your own decorations for the day from flowers, banners, sugar skulls and figurines.

Saturday, Oct. 26
10–11:30am for families with children ages 4–7
1–2:30pm for families with children ages 8–11
$10, members $8

Courses

Archaeology of Chicago and The Field Museum

Dr. Scott Demel, TFM Anthropology Dept.

Investigate Chicago's fascinating past from prehistoric to modern times. Learn how to identify artifacts and record a prehistoric site. Try out your new skills at the Museum's construction site, which has already turned up intriguing finds from the early 1900s.

Wednesdays, Nov. 6–20, 6–8pm
Saturday, Nov. 9, 9am–noon
$78, members $66

Architectural Drawing

Peggy Macnamara, School of The Art Institute of Chicago

Learn basic drawing techniques that let you translate 3-D space onto a 2-D page. The stately columns and sculptural details of the Museum's neoclassical building will be our inspiration. Beginners welcome.

Saturday, Sept. 28 and Sunday, Sept. 29, 9am–2pm
$35, members $30

CATHRYN SCOTT/90455C

[illegible]brate American Indian Heritage Month with us!

[illegible] explore American Indian Heritage Month with a visit to The Field Museum. Our exhibition halls feature more than 14,000 [illegible] and tell fascinating stories about cultures from coast to coast. We also offer guided programs, free with Museum [illegible]

[illegible] Northwest Coast Indians and Eskimos
[illegible] and 1:30pm

Pawnee Earth Lodge Family Program
Monday–Friday, 1pm
Saturday–Sunday, 10am–4pm

CATHRYN SCOTT/A94351

David Dolak, Columbia College

See fascinating musical instruments from the Museum's collections and explore the physics of woodwind, percussion and string instruments. Then build your own panpipe and hanging xylophone. Bring a sack lunch.

Ages 11–14
(parents not required)
Saturday, Nov. 9,
10am–2pm
$17, members $15

JOHN WEINSTEIN/89142C

Dr. Maureen Kearney,
TFM Reptiles and Amphibians Dept.

Join a zoologist amidst the Museum's reptile collections to explore the s-s-scintillating and s-s-slithery world of s-s-snakes and legless lizards. Bring your curiosity, questions and (if needed) nerves!

Families with children ages 7–12
Friday, Nov. 15, 6–8pm
$15, members $12

Fieldtrips

The Ancient Near East: Myth and Magic I

Thomas Mudloff, Egyptologist

Trace the development of human thought through 3,000 years of myths, epics, magic and cosmological contemplation in Egypt and Mesopotamia.

Wednesdays, Sept. 25–Oct. 30, 6–8pm
$85, members $72

Fossil Basics

David Dolak, Columbia College

Decipher the Earth's geologic history to reconstruct lost worlds! Prepare a fossil fish and explore the significance of two local fossil sites. Dolak's enthusiasm is contagious—especially when he brings out the guitar to sing his own fossil songs.

Wednesdays, Oct. 9–30, 6–8pm
$70, members $60

The Return of the Sandhill Cranes

Alan Anderson, Naturalist

Journey to the wetlands of northern Indiana to visit a nature preserve that is famous for attracting 10,000 migrating cranes each fall. Bring binoculars, lunch and a field guide. Transportation is by coach bus.

Saturday, Oct. 26, 10am–8pm
$60, TFM or Chicago Audubon members $50

City Tour: Chicago Murals

Juan Chavez, Mural Artist

Get an insider's view into the community history and cultural meaning of the colorful murals throughout our city. Lunch will be provided at a local restaurant.

Saturday, Sept. 28, 9am–4pm
Bus will depart from west entrance.
$55, members $47

The Field Museum salutes the people of Chicago for their long-standing, generous support of the Museum through the Chicago Park District. This project is partially supported by a CityArts Program 4 Grant from the City of Chicago Department of Cultural Affairs and the Illinois Arts Council, a state agency. This project was made possible with the assistance of the Illinois Department of Natural Resources and Illinois State Museum.

Coming in 2003–Baseball As America

February 8–July 20, 2003

how our national pastime symbolizes America's spirit when you rediscover baseball through the lenses of science, [illegible] popular culture. This exhibition represents the first time that the treasures that belonged to baseball's legendary [illegible] National Baseball Hall of Fame and Museum in Cooperstown, NY.

This exhibition was organized by the National Baseball Hall of Fame and Museum, Cooperstown, New York.

National tour of Baseball As America is sponsored by Ernst & Young.

Enjoy a cornucopia of autumn festivals.

TODD WINTE

Celebrate Latino culture at the **Celebración festival with Chicago's premier Mexican folk music group, Sones de Mexico.** The bright vocal harmonies and acrobatic dance demonstrations of these master musicians recreate the atmosphere of a traditional fandango—a fiesta where colorful, joyous music and dance go on until sunrise.

Friday, Sept. 27, 7pm
$12, students/educators $10, members $8

Celebración is made possible through the generosity of Abbott Laboratories.

JOHN WEINSTEIN/GN89500.30AC

Don't miss the **Halloween Harvest Festival, featuring Chicago's award-winning Redmoon Theater.** Bring your own copies of photos, poems and trinkets to create a shrine to loved ones. Then join in an indoor parade led by a dazzling array of costumed performers, masks and musicians.

Saturday, Oct. 26
Shrine making is noon–2:30pm; parade starts at 3pm.
Free with Museum admission.

Discover why being a "birdbrain" isn't all bad when the Museum explores how birds embody the "Brains and Beauty" theme of the **2002 Chicago Humanities Festival.** Ponder why birds capture our imagination, learn about their zoology and see how they inspired 17th-century painting and Mozart's music.

Saturday, Nov. 2, 10am–5pm

For program details and tickets contact the Chicago Humanities Festival at www.chfestival.org or 312.494.9509.

JOHN WEINSTEIN/GN89448.38C

Visitor Information

Getting Here: With construction under way at nearby Soldier Field, your usual route to The Field Museum may have changed. Visit our website at www.fieldmuseum.org for the latest information on parking, free trolleys and public transit.

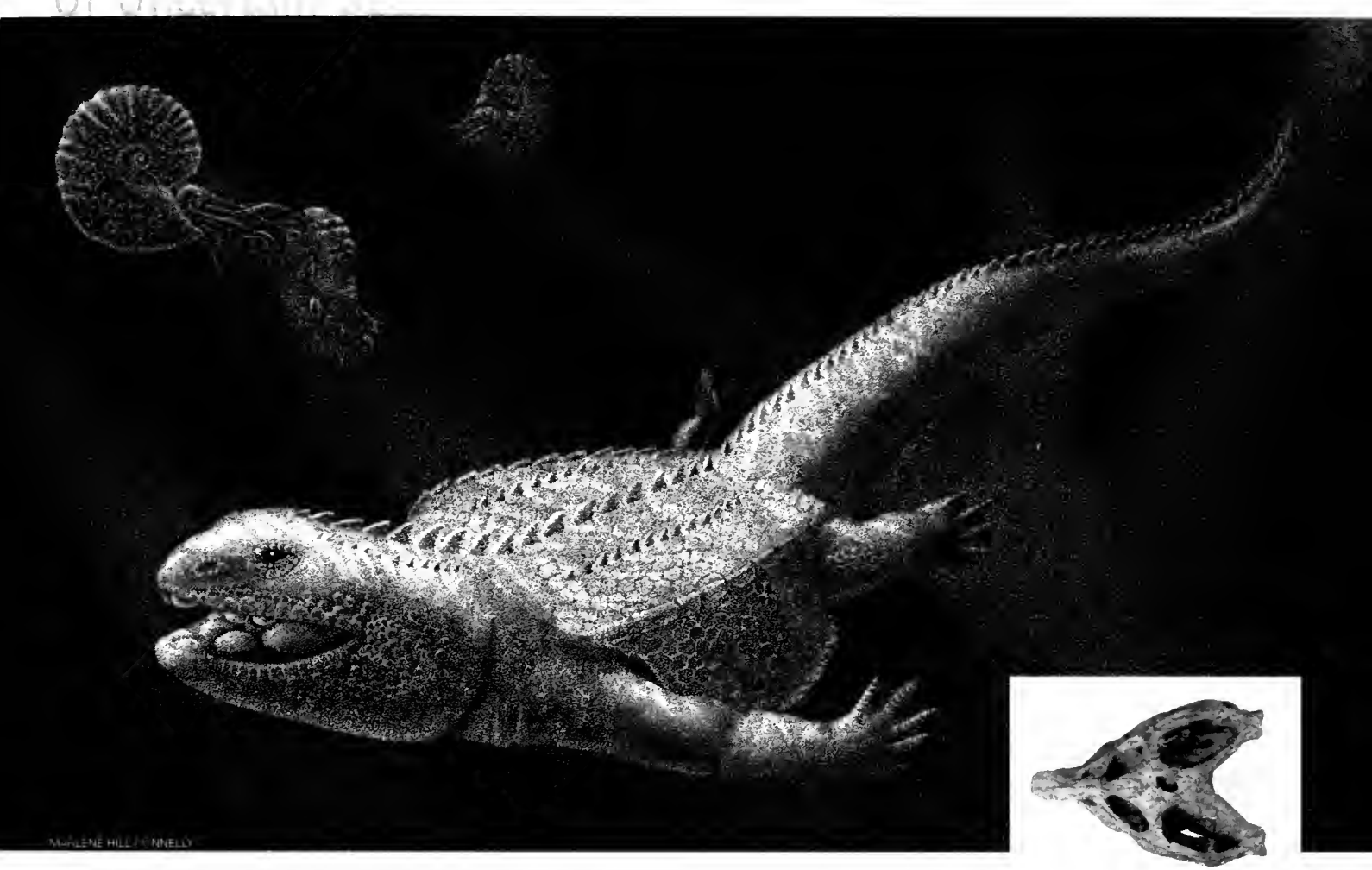
Hours: 9am–5pm daily. Last admission at 4pm.

New Free Day Schedule: In 2002 basic admission is free on Mondays and Tuesdays from January–February and Mondays and Tuesdays from Sept. 23–Dec. 24. This fall the Museum is offering an additional free day on Wednesday, Sept. 11, as part of a citywide remembrance day. Remember, members receive free admission every day.

To get tickets: *Chocolate and Pearls* are specially ticketed exhibitions. Member passes can be reserved in advance by calling Ticketmaster at 312.902.1500 (service charges apply) or coming to the membership desk near the Museum's south entrance (no service charges). Non-member tickets can also be reserved in advance through Ticketmaster or in person at the Museum's admission desks. Day-of tickets are available at the Museum while supplies last.

Accessibility: Visitors using wheelchairs or strollers may be dropped off at the west entrance. Handicapped parking and wheelchairs are available on a first-come, first-served basis. Call 312.665.7400 to check on the accessibility of programs that take place outside of the Museum.

Information: 312.922.9410 or www.fieldmuseum.org



COURTESY CHINESE ACADEMY OF

If scientists thought an extinct animal with few known fossils originated in Africa and didn't fly or swim much, it might be unusual to suddenly find the same fossil in Canada, for example. How, then, do scientists determine an animal's geographic distribution when its fossil record is so bare?

With no living descendents, this enigmatic marine reptile, the placodont, has largely been ignored by scientists, and the few studies that have been done are meager. Its position within the reptile tree is controversial, winning it the unfortunate classification of *incertae sedis*, or "of uncertain seat." While Field Museum scientists and illustrators imagined this placodont to help us create a mental image, we do know that it had a stout, armored body, limited paddling abilities and enormous, flattened tooth plates for crushing hard-shelled invertebrates, such as clams, mussels and brachiopods. It lived along the coastlines of Triassic seas.

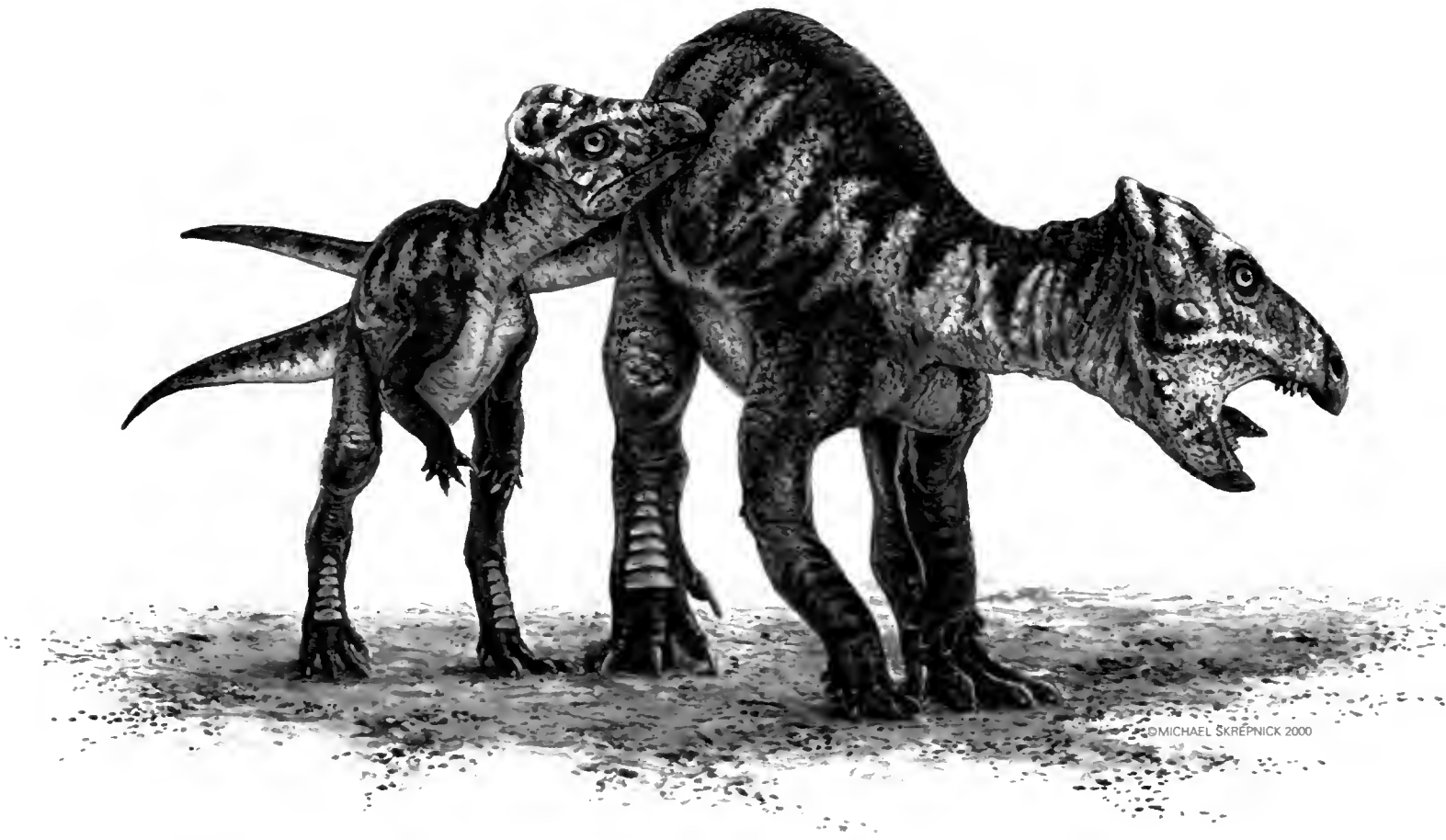
Olivier Rieppel, chair of the Museum's geology department, has reviewed placodont specimens from Europe, northern Africa and the Middle East to assess their relationships to other reptiles. He identified them as a subgroup of Sauropterygia, which later evolved to resemble creatures like the legendary Loch Ness monster. Given the overall pattern of relationships among sauropterygians, Rieppel daringly predicted that the group also lived in China. But since there was no Chinese specimen, he was criticized for using lack of evidence as positive support that something existed there.

Indeed, shortly following his publication, a placodont specimen from the Guizhou province of China turned up on the fossil black market, substantiating his hypothesis. Today, several specimens, such as the one shown here, are available for study in public repositories in China.

Older, Smaller Relative of Triceratops Found in China

Greg Borzo, Media Manager, Academic Affairs

Two fossils of a newly discovered dinosaur—an early, distant cousin of the *Triceratops*—have been found in China. But rather than weighing ten tons and being studded with massive horns and a wide frill, like its well-known cousin, the new dinosaur weighed only about seven pounds and shows signs of only rudimentary horns and a frill. About the size of a hare, *Liaoceratops yanzigouensis*, named for the province and village in which it was collected (Liaoning and Yanzigou), is the smallest, oldest and most primitive neoceratopsian ever found.



An artist's re-creation of an adult and juvenile Liaoceratops yanzigouensis, *a primitive relative of the* Triceratops *that was about the size of a hare.*

"This dinosaur is actually more interesting to science in many ways than its larger, more famous relatives because it teaches us more about evolution," said Dr. Peter Makovicky, Field Museum assistant curator of dinosaurs and co-author of the research, which was recently published in *Nature*. "Basal (primitive) dinosaurs are critical because they help us tie different groups of dinosaurs together and map out evolutionary patterns."

Long ago, ceratopsians branched into two lines: neoceratopsians, the main line that includes *Triceratops*, and psittacosaurids, parrot-beaked dinosaurs.

"*Liaoceratops* establishes that this split occurred no later than the earliest part of the Cretaceous about 130 million years ago," said Dr. Makovicky. "Also, it indicates that ceratopsians acquired some of their distinctive features earlier and more rapidly than was previously recognized."

Just as we would not say elephants and whales are representative of all mammals, scientists have long known that celebrities such as *Tyrannosaurus rex* and *Triceratops* did not represent all dinosaurs. It may not be as glamorous to exhibit a fossil as big as a Thanksgiving turkey in the center of a museum hall, but smaller dinosaurs are yielding the most information on evolution.

"*Liaoceratops* demonstrates that the large, spectacular species that grace many museum exhibits are descended from some very small ancestors," said Dr. Makovicky. "We see this common pattern in many different groups of dinosaurs."

The *Nature* paper described a juvenile specimen and a holotype—the single specimen that the authors designated as the definitive example of this new species. The adult skull is 11.1 centimeters long (4.4 inches), and an adult *Liaoceratops (lee-ow-cer-a-tops)* stood about one foot tall and measured less than three feet long.

What purpose did the horns and frill serve?

Scientists have long debated whether the ceratopsians' horns and frill supported large jaw muscles or served as display features for attracting mates and/or intimidating rivals and predators. Perhaps both theories are correct.

Liaoceratops has a small horn facing sideways under each eye that seems to be a display structure, according to Dr. Makovicky. The frill, very large in advanced ceratopsians, is often considered a display structure. But a pitted surface texture on the rim of the frill of *Liaoceratops* indicates that powerful jaw muscles were attached here.

There is little evidence that ceratopsians' horns evolved for defensive purposes, according to Dr. Makovicky. "*Liaoceratops* appears unable to protect itself against most predators, which would have included carnivorous dinosaurs and crocodiles. Instead, it probably relied on concealment or flight to defend itself."

Evidence of ginkgo, horsetails and conifers preserved in the same rock unit in which *Liaoceratops* was found indicate that it may have eaten these plants. Its teeth were built primarily for slicing and shearing rather than grinding.

"*Liaoceratops* gives us a great window on the early evolution of horned dinosaurs and tells us that *Triceratops* and its relatives evolved from very small Asian ceratopsians," Dr. Makovicky concludes.

The Field Museum, National Geographic Society, American Museum of Natural History and the Institute of Vertebrate Paleontology and Paleoanthropology at the Chinese Academy of Sciences supported this research.

China a paleontological powerhouse

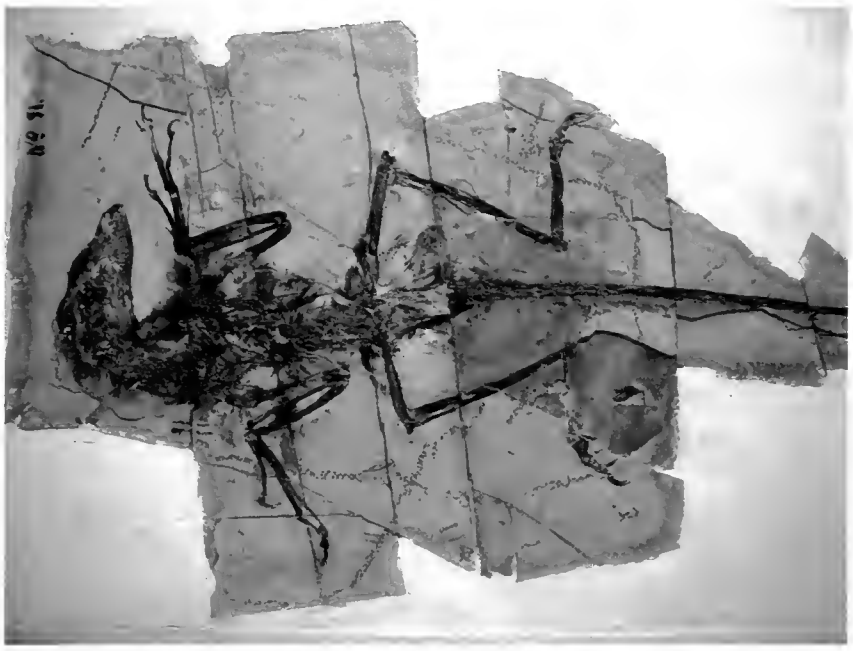
In the past five years, well-preserved dinosaur fossils are being discovered in record numbers throughout China. Liaoning in particular is yielding an abundance of feathered dinosaurs, intriguing even skeptics of the bird-dinosaur link. This is also where *Sinovenator changii* was found, which is closely related to and almost the same age as the oldest known bird, *Archaeopteryx*. (See April–May 2002 *In the Field.)*

Rapid tectonic uplifts splintered the area into mountains and basins, which filled in rapidly, capturing much of the life of the time. In some cases, volcanic explosions quickly covered the area with ash, fossilizing life in unusual degrees of preservation. The Jurassic and Cretaceous sediments, particularly in former lakes, have revealed many paleontological contributions: the first known placental mammal, *Eomaia*, or "dawn mother"; the first flowering plants; startlingly lifelike specimens of fishes and insects; and feathered dinosaurs, the first of which was discovered in 1996.

"The local farmers are digging up a lot of fossils, which is essentially illegal, but they are accomplishing at a much faster rate what scientists and research institutions could not handle," said Dr. Makovicky. "We would not know one-tenth of what we have learned since 1996 if it weren't for the specimens scientists have received through farmers."

While the counter effect of this fossil fever is a proliferation of imitations and smuggling, the authentic, dramatic finds that make their way to scientists are a boon to Chinese paleontology. International attention is fanning the nation's pride in its ancient history, and the government is aggressively funding research and fossil-hunting expeditions.

Dr. Makovicky plans to conduct more collaborative fieldwork in China to look for more fossils. "I hope to find even more primitive specimens than *Liaoceratops,*" he said. **ITF**

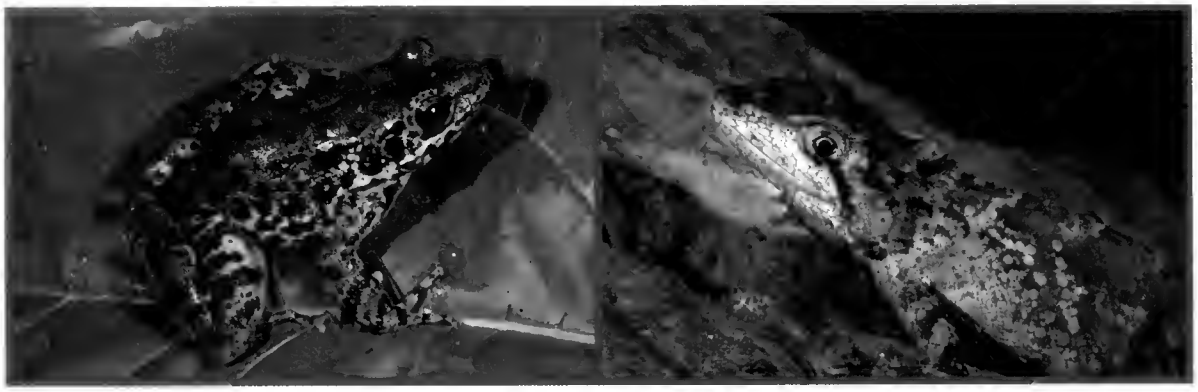


Feathered dinosaurs such as this one, affectionately called "Dave," are turning up in Liaoning, near Beijing. While scientists debate the use of feathers—as an insulation, display or maneuvering mechanism—it seems unlikely that the oldest dinosaurs used them for flight.

Getting to Know Gaoligongshan

Amy E. Cranch, Editor

It is almost as if one could drown in the beauty of the clouds here. Located in the Gaoligongshan Mountains of Yunnan near Myanmar (Burma), the Gaoligongshan Nature Reserve is unquestionably China's most species-rich environment, as well as one of the world's most biologically diverse regions. Blanketed in thick forests and home to many rare and endangered animals, plants and fungi, Gaoligongshan contains at least 10 distinct ecological zones within about 125,000 hectares (483 square miles). It has remained remarkably intact because of its remoteness and valiant efforts by local conservationists. But development pressures, while thwarted by reserve officials so far, present concerns about the region's sustainability.



BRAD SHAFFER

Left: Rana grahami
Right: Japulura dimondi

This past June, 14 Chinese scientists, five Field Museum scientists and a University of California, Davis herpetologist conducted a rapid biological inventory (RBI) in three Gaoligongshan sites to assess what species live there and make recommendations for management, conservation and tourism. The RBI was part of a broader initiative, sponsored by Columbia University's Center for United States-China Arts Exchange, to preserve the cultures and environments of Yunnan. The Museum was invited to participate following a decade of successful exchanges with Chinese scientists and officials.

Jerry Adelmann, who sits on the center's advisory council and works with the Museum as executive director of Chicago's Openlands Project, said, "Through several visits to the Museum, the Chinese are continuously impressed with its collections, scientists and research methods. They could have chosen other partners, but they respect Field Museum staff and really wanted to work with them."

Despite constant monsoon rains and an abundance of land leeches, the inventory went well. While much of the information gathered was still being processed at press time, we can report these findings:

- Doubled the number of known mushroom species, including several species potentially new to science
- Discovered three plant species new to science
- Recorded 27 mammal species listed as rare or endangered in China
- Encountered five species of amphibians and reptiles new for the reserve, and one species restricted to Gaoligongshan
- Found 23 bird species new for the reserve, and nearly 40 bird species restricted to Gaoligongshan.

The inventory lasted two weeks, but the potential for future collaborations is great. Skidmore, Owings & Merrill LLP is voluntarily developing a plan for an eco-lodge and visitors' center. Museum anthropologists later met with neighboring communities to determine the impact future development might have on local cultures while exploring how they can be involved in conservation. Several zoologists and botanists have discussed project ideas with their colleagues in Beijing and Kunming, Yunnan's capital. The Chinese Academy of Sciences, which funds and manages the country's natural science institutions and related enterprises, is particularly interested in partnering on cross-disciplinary studies.

The team presented its initial findings to reserve and government officials at the end of the trip. In his closing remarks, the park director said this was the most significant day in the park's 18-year history. The final report, which can help guide future management of this distinguished biological resource, will be delivered to reserve and government officials in December. ITF

An Extraordinary Peek at the Forbidden City

Tiffany Plate, Writer, Exhibits

Treasures of the Forbidden City, once hidden from everyone except the highest-ranking officials in Beijing, are soon to become part of a major exhibition at The Field Museum. Since its conversion into a public space following the fall of the empire in 1912, the Forbidden City—now home to the Palace Museum—has accumulated nearly 1 million artifacts from centuries of Chinese history. Some 500 of these objects will be on display in *Splendors of China's Forbidden City: The Glorious Reign of Emperor Qianlong*, opening in March 2004.

Chuimei Ho, adjunct curator of anthropology at The Field Museum, had been exploring the idea of bringing the wonders of China's Qing (Ch'ing) dynasty to the United States for almost 10 years. During a research trip for *Pearls* in 2000, Ho, *Pearls* co-curator Ben Bronson and Director of Exhibitions Sophia Siskel approached the Palace Museum about exhibiting some of its artifacts in the United States. Palace curators were extremely receptive, and The Field Museum quickly began working with them and the Chinese Consulate of Chicago, fostering strong relationships along the way.

"What is important about an exhibition like this is that it proves our differences aren't insurmountable. The artifacts and collaboration lend themselves to better cultural understanding," said Siskel. Though the Palace Museum has previously lent artifacts to smaller shows and museums around the United States, the magnitude of this exhibition is far greater, requiring more organization and negotiation.

Once the contract was signed early this year, Ho, Bronson and Exhibition Developer Matt Matcuk began developing a focus within the Qing dynasty. Emperor Qianlong (1736-1796), who reigned during the pinnacle of wealth and power in the Chinese court, embodied some extremely important themes. "He is depicted in vernacular literature as an adventurous, romantic and highly patriotic figure. Yet he was often under the shadow of his over-achiever grandfather and father in terms of political and cultural history," said Ho.

Indeed, his complex personality and challenging domestic political environment lend themselves to great storytelling. First, he was of the Manchu minority, ruling over a majority of Han Chinese. The Manchu and Mongolian ethnicity of Qianlong's many wives serve as an interesting example of the court's effort to safeguard the purity of royal blood. His unusually close relationship with his mother illustrates his multiple roles as the Son of Heaven and a devoted son. Finally, he was a scholar of China's classical arts, yet maintained a keen interest in experimenting with new art forms.

To give visitors a fuller sense of Chinese court life, Field Museum and Palace Museum developers are re-creating actual environments found within the Forbidden City. An imperial throne room will express the emperor's supreme power. A family banquet hall will demonstrate the size, makeup and strict organization of the emperor's family. Qianlong's Tibetan Buddhist shrine will reveal his private interest in the religion and his public support of all faiths.

Additional noteworthy artifacts are six paintings by Jesuit court artist Giuseppe Castiglione, whom Qianlong handpicked to remain at court because he favored the realistic style of Western art. Castiglione painted scenes of court life and chose Qianlong and first empress Xiao Xian as subjects for one of the exhibition's more outstanding works. Other significant pieces include a carved gold lacquer throne and a five-foot-high gold pagoda given by Qianlong to his mother. The vast majority of the exhibition's 500 artifacts have never been seen in North America, and one-third have never even been outside the Palace walls. **ITF**

For further reading, see Life in the Imperial Court of Qing Dynasty China, *edited by Chuimei Ho and Cheri Jones.*

We are grateful to the Elizabeth F. Cheney Foundation for its early support of this exhibition.

COURTESY THE PALACE MUSEUM

This detail of a hanging scroll, painted by Jesuit court artist Giuseppe Castiglione, depicts a young Emperor Qianlong in court dress.

Berthold Laufer: The Unmatched Sinologist

Rosanne Mullin, Writer

Regarding the research of East Asian cultures in the early 20th century, Berthold Laufer stood alone among American anthropologists. The legacy he left The Field Museum holds nearly 24,000 artifacts, 450 publications and a shift from studying and presenting collections according to museum values to upholding the values of the people who made them. During his lifetime, no other American sinologist (China specialist) could match Laufer's contributions to museums and anthropology.

Laufer was born and educated in Germany and spoke at least 10 languages fluently, most of which were Asian. He conducted four expeditions throughout his career, two for New York's American Museum of Natural History (1898–1899 and 1901–1904) and two for The Field Museum (1908–1910 and 1923). While his first Field Museum expedition was supposed to focus on Tibet, several failed attempts at entering the region reinforced his already strong interest in China.

Traveling through such cities as Shanghai, Xian and Beijing, to name a few, Laufer accumulated ethnographic and archaeological artifacts of astonishing variety—religious, artistic and mundane—spanning centuries and cultures of Chinese history. He also collected thousands of Chinese, Japanese, Korean, Tibetan and Mongolian books and rubbings. He published an average of 10 to 20 books and articles a year on such diverse topics as keeping crickets, ancient pottery, Christian art in China, the prehistory of aviation and the origin of Chinese writing. And while he was chief curator of the anthropology department (1915–1934), Laufer oversaw the installation of more than 20 exhibition halls and was solely responsible for two of them. This was an extraordinary feat for one individual, as he changed the way in which artifacts and information were presented from a traditional Western view of Asian culture to one that gave voice to the heritage on display.

Dr. Berthold Laufer (front row, right) in Hankow, ca. 1904

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Despite this immense productivity, however, Laufer was a loner who struggled with his personal identity and a disdain for Western culture. Most of his expedition notes are devoid of interpersonal contact. It seems he had few friends, collaborators or successors, except for a long-term friendship with Franz Boaz, who is considered the father of American anthropology. In later years he enjoyed a certain amount of fame in museum circles here and abroad, befriended several prominent Chicago families and pursued his private interests in appraising and collecting. Except for what we find in his letters to Boaz, however, little remains known about his personal life. The elegant manners and customs of Asia that he deeply admired never left his spirit. He once said of China, "I have come to love the land and people. … I feel myself to be better and healthier as a Chinese than as a European."

Perhaps Laufer's passionate commitment to cultural relativity—the idea that other cultures' values matter as much as our own—is what drove his isolation. By the time he committed suicide in 1934, supposedly because he had cancer, he had searched in vain to find a place and time that would suit his nature. Maybe China shone a light on that reality for him, sparking his spirit into self-discovery. If not for his unflagging search, millions of anthropologists, visitors, linguists, historians and others would not have benefited. Indeed, his contributions are the foundation of much of the anthropology department's collections and research today.

Children's Holiday Celebration

It's a festive day—sparkling lights drape the Walis, a variety of entertainers keep guests in awe and hundreds of children merrily enjoy the celebration!

JOHN WEINSTEIN/GN90366.30C

On Wednesday, Dec. 4, from 4 to 6:30pm, member families are invited to the Women's Board's annual Children's Holiday Celebration. Celebrate cultural diversity and enjoy festive food, entertainment and educational craft-making activities.

Look for jugglers, stilt walkers, Mr. Imagination, a merry elf and Santa Claus. Wonderful performances by the Stu Hirsh Orchestra, Jessie White Tumblers, Ballet Chicago Studio Company and the Chicago Children's Choir await all.

Reservations are limited and tickets will not be sold at the door. For tickets call 312.665.7135.

Spend a Weekend in the City

With convenient locations, numerous tempting amenities and a range of options for every budget, several downtown Chicago hotels are offering discount packages for Field Museum members that include tickets to *Pearls* and *Chocolate*. Below is just one amenity of many offered at each hotel. Check **www.fieldmuseum.org/pearls/planhotel.html** for the complete information.

Chicago's Essex Inn
800.621.6909
Complimentary 24-hour valet parking

Fairmont Hotel
800.441.1414
Special treat created by the executive pastry chef

Four Seasons Hotel Chicago
312.280.8400
Perle de Caviar Facial or Crushed Pearls and Lavender Body Polish

Hilton Garden Inn Chicago Downtown North
312.595.0000
Buffet breakfast for two

Holiday Inn Chicago City Centre
312.787.6100
Admission to the Lake Shore Athletic Club

Hotel Burnham Chicago
312.782.1111
European handcrafted dark chocolate box filled with white chocolate pearls

Lenox Suites Hotel
312.337.1000
Continental breakfast for two

Millennium Knickerbocker Hotel
800.621.8140
20 percent off at Elizabeth Arden Red Door Salon & Spa

Park Hyatt Chicago
312.335.1234
Continental breakfast for two

Swissôtel Chicago
312.565.0565
Breakfast for two at Geneva or through room service

Tremont Hotel Chicago
312.751.1900
Chocolate martini or luscious dessert for two at Mike Ditka's Restaurant

Whitehall Hotel
312.944.6300
Chocolate truffles

Field Museum Tours at a Glance

For prices and other information, call Field Museum Tours at 800.811.7244 or email fmtours@sover.net. Itineraries are subject to change.

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Oct. 12–26, 2002

Leader: Egyptologist Stephen Harvey, field director of excavations at Abydos

Egypt has so much to see that it's worth a second in-depth visit. Sites include Abusir, Dashur, Maidum, Faiyum, Tanus, Abydos, Dendara, dawn at Abu Simbel, Amada, and lesser known sites in Cairo, Luxor and Aswan. Enjoy a cruise on Lake Nasser.

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Jan. 18–26, 2003

Leader: Dr. Barry Chernoff, TFM curator of fishes

Explore the Amazon, Ucayali and Tapiche Rivers in Peru for eight days aboard a 14-cabin riverboat. Search for river dolphins; howler, squirrel and capuchin monkeys; sloths; capybaras; and unusual birds such as the jabiru and hoatzin. Optional extension to Machu Picchu and other magnificent archaeological sites around Cuzco.

Egyptian Odyssey

Jan. 25–Feb. 8, 2003

Leader: Thomas Mudloff, TFM lecturer and instructor of Egyptology

Explore the world of the ancient pharaohs by land and riverboat. You'll visit the famed Pyramids of Giza, Egyptian Museum, Valleys of the Kings and Queens, Karnak, the temples of Khnum, Horus and Isis, and Abu Simbel's three colossi of Ramses II. Enjoy five-star accommodations throughout.

Tanzania Migration Safari

February 1–14, 2003

Leaders: Bill Stanley and Mary Anne Rogers, TFM zoologists

Travel at the best time of year to see hundreds of thousands of wildebeest and tens of thousands of zebras and antelope. Catch sight of lions, cheetahs, hyenas and other predators. Enjoy four days in the Serengeti, then three days at Ngorongoro Crater.

The Origins of Chocolate: A Culinary and Archaeological Odyssey in Mexico

Feb. 5–16, 2003

Leader: Dr. Jonathan Haas, TFM MacArthur curator of the Americas and lead curator of Chocolate, *the exhibition*

Trace the origins of chocolate among Mexico's pre-Columbian civilizations, including the ancient Olmecs, who "invented" chocolate, and the Teotihuacan, Maya and Zapotec. Savor culinary delights in the company of an expert. Visit several museums and sites, including: Xalapa's Museum of Anthropology; The Regional Museum of Oaxaca; Mexico City's world-class Museum of Anthropology; Puebla, a UNESCO World Heritage Site; and Palenque.

The Seychelles and Madagascar

Feb. 16–March 5, 2003

Sail with us to sun-drenched isles where palm trees on endless white beaches fringe sparkling coral lagoons rich with sea life. The Seychelles islands sparkle like gems in the vast Indian Ocean. Madagascar, the world's "eighth continent," harbors wondrous plants and animals that have evolved in splendid isolation.

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Rediscovering the New World

March 13–April 2, 2003

Leader: Dr. Jonathan Haas, TFM MacArthur curator of the Americas

Travel by private, first-class, 88-passenger jet to ancient New World sites. From the Inca ruins at Machu Picchu, Peru, to the Maya ruins of Tikal, Guatemala, examine the power and mystique of the incredible lost civilizations that inhabited North, Central and South America for millennia. Also visit Mesa Verde National Park, Colo.; Chaco Canyon, N.M.; Palenque, Mexico; the Amazon rainforest; and the Atacama Desert, Chile. This is a remarkable selection of archaeological and anthropological treasures, linked by the beauty and complexity of their art, architecture and religions, left behind by our ancestors.

Also Planned for 2003 and 2004:

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