

In the Field

THE BULLETIN OF THE FIELD MUSEUM

JULY-AUGUST 1997

DINOSAUR FAMILIES

THROUGH SEPTEMBER 1

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In the Field

THE BULLETIN OF THE FIELD MUSEUM

JULY/AUGUST 1997

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British primatologist Jane Goodall receives The Field Museum's Award of Merit.

5-8

A complete schedule of July/August events, including a list of activities for Field Nights — the Museum's new summer Thursday night program.

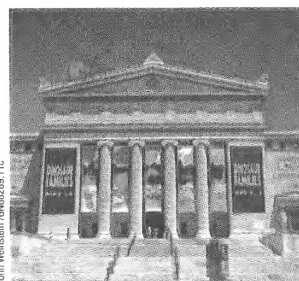
9

Zoology Chair Barry Chernoff presents the results of the Museum's inaugural AquaRAP conservation expedition to Bolivia.

"Dinosaur Families"

Pages 6 & 10

Find out what family values meant some 80 million years ago. Discover what scientists know about dinosaur behavior and biology — and how they know it. Then watch your children's eyes light up when robotic dinosaurs come to life before your eyes.



John Wainman/ICB02081.11C

Eastern Arc Mammal Studies Aid Efforts To Protect African Forests

By Bill Stanley

Collection Manager, Mammals

East Africa is celebrated for its wildlife and spectacular scenery that serve as backdrops for postcards, nature documentaries and vehicle advertisements. While mountains like Kilimanjaro and Kenya are familiar icons, the Eastern Arc mountains — a crescent chain of older isolated peaks running along the eastern region of Tanzania parallel to the coast of the Indian Ocean — are in many ways more intriguing. Forged from the violent interaction of continental and oceanic plates some 50 million to 100 million years ago, the Eastern Arc mountains are now worn and subtle under the shadow of Kilimanjaro, yet possess untold secrets of a region much older than Africa's most famous massif.

Biologists from The Field Museum and the University of Dar es Salaam in Tanzania have been working for the past six years in these mountains in an attempt to document and understand the evolutionary history of the different species of small mammals — including shrews, rodents and bats — that inhabit the region. Why are we so intent on studying mice and bats? For the same reason that has fascinated biologists that focus on other groups of Eastern Arc organisms: the incredible number of plants and animals that occur nowhere else on Earth other than in the forests high within these mountains. Though the area has been a focus of scientific study for years, it still remains a source of some incredible discoveries. For example, Danish scientists working in the Udzungwa Mountains (the most southern range of the Eastern Arc) recently found a new genus of francolin (a bird the size of a small chicken) that is more closely related to the California Quail than any African francolin.

Although the discovery of a new genus of bird is of tremendous interest to scientists, it is the proportion of endemic species found in the Eastern Arc mountains that is a source of greater fascination. For example, roughly 25 percent of the species of trees found in the montane forests of some Eastern Arc mountains are endemic, and for some groups of spiders the proportion is closer to 80 percent. While these figures are preliminary estimates and are in need of intensive field surveys and systematic studies to be confirmed or

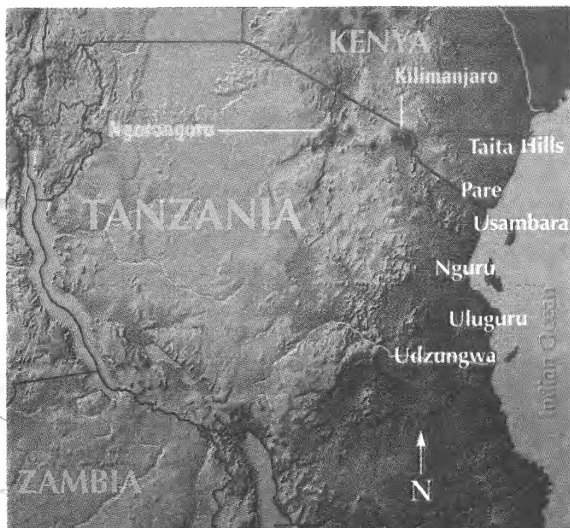
refined, they illustrate just how extraordinary this region is. These numbers also show how little we know about the natural history of the area's biota.

Our lack of knowledge is especially sobering given the extent of forest area already destroyed and the level of encroachment threatening what is left. Fortunately, the government of Tanzania has shown great foresight in designating a large section of the forest in the Udzungwa Mountains as a national park. Because visitors can only grasp the beauty of the park by hiking up a steep escarpment, it does not attract as many visitors (or as much money) as does the typical African game park like the Serengeti. Such a move by Tanzanians to define the area as a national park underscores their commitment to protect the fauna and flora of these immensely complex and important ecosystems.

Though our project has many facets, the underlying goal is the effective conservation of these exceptional forests — an aspiration shared by all who understand the beauty, uniqueness and fragility of the flora and fauna of these mountains. Professional and amateur scientists and natural historians are all committed to the conservation of habitats that are found atop these ranges, if only focused on one aspect of the mountains' biota.

The immediate goal of our team's research is to identify which small mammals occur in the different Eastern Arc mountains; only when we know which shrews and rodents live on each of the ranges can we decide which of the landscapes nurture the greatest diversity of small mammals. The mountains that we identify as the richest in mammals may not necessarily match those picked by other biologists focusing on other fauna. However, studies like ours give conservationists critically needed scientific information in the battle to safeguard this string of unique habitats. Without knowledge of the range and natural history of Eastern Arc organisms, efforts to conserve these groups are just stabs in the dark. Although we may passionately wish for all the forest to be saved, we recognize that this is perhaps unrealistic.

In pinpointing priority sites for conservation, we are looking for the highest concentrations of endemic (or specialized species), so that at least representative samples of the distinct biological communities that inhabit the region may survive into the next generation. The information must be collected quickly because habitat conversion is



accelerating in these mountains. For example, in the East Usambaras we have sampled forest fragments one year, only to find a maize field in their place the next.

We are not only interested in the presence or absence of the small mammals in these mountains, but also how each of the different Eastern Arc small mammal populations are related to other populations. Ultimately, we want to know how these mammals came to live in these and other east African mountain forests. Answers to these questions are critical for an accurate assessment of the ranges in dire need of attention. To save the maximum amount of diversity, we will consider any populations that exhibit major deviations in genetic or morphological traits from the "norm" as primary candidates for conservation.

People who live in these mountains are essential to this process. Upon arrival in a forest, we call on the village leaders who control the area. We spend the morning explaining our research and seeking permission to work in the forests. Not only is this polite, but it ensures local participation and support. We also offer to present our work to the rest of the village and to show them specimens we have collected. This way we can share viewpoints on the value of the forests, collect information about its ecology and learn local names for small mammals. Upon securing the blessing of the village council, we employ several villagers to help carry equipment into the forests. After packing the last of our gear, we head along a trail that crosses through cultivated fields of maize for an hour or more until we reach the border of the forest. Typically the lower sections exhibit the highest levels of human dis-

(Above): The Eastern Arc mountains, labeled in white, are named for their arc-like distribution along the coast of East Africa. Trapping moisture coming in from the Indian Ocean, the mountains' catchment forests are an important water source for the people of Tanzania.

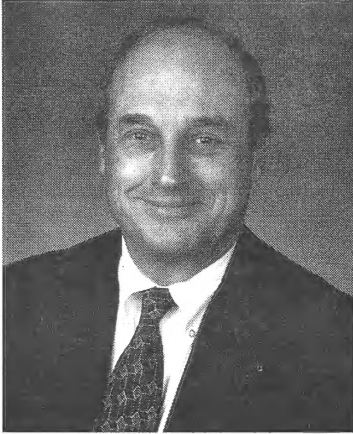
(Lower Left): A Zanzibar elephant shrew, *Rhynchocyon petersi* — an endemic mammal found in northeastern Tanzania.



Bill Stanley

Continued on page 4

The Field Is More Than A "Natural History Museum"



John Weinstein /GN88119.6

(Right): Amsterdam, April 1945. Eus Alberdingk Thijm (right) and his friend Epko Weert conceal a cache of guns under a toilet at 451, Keizersgracht.

For many people the words "natural history museum" conjure up an image of a dark, dusty repository filled with strange, ancient objects. But at The Field Museum, this image is far from true. Just look at all the exhibits, events and programs offered each month, and you will see a remarkable picture unfolding — a picture that is colorful, dynamic and ever changing.

For the last few months the Museum hosted "The Illegal Camera," an exhibit of haunting images depicting the harsh realities of life in the Netherlands during World War II. We asked former members of the Dutch Resistance and a historian from Northwestern University to lend a voice to these affecting, but static images. One of the speakers, Epko Weert, is actually captured in an exhibit photograph (right) hiding a rifle in a secret compartment under a toilet.

Programs like these are often the result of the Museum working closely with other cultural institutions around the city and across the nation. The Epko Weert lecture, for example, would not have been possible without the support of Chicago's Spertus Institute of Jewish Studies — an organization dedicated to the intellectual, cultural and spiritual legacy of the Jewish people.

At the Museum, collaborations are sometimes the genesis of innovative research initiatives. In May, for instance, Barry Chernoff, associate curator of fishes and chairman of the zoology department, spoke to members of the Founders' Council about the results of the first Aquatic Rapid Assessment Program (AquaRAP) expedition to the last of the unexplored rivers of Bolivia (see p.9). AquaRAP, a multinational effort to advance urgently

needed conservation efforts of freshwater ecosystems of the tropics, is the result of a partnership between the Museum and Conservation International — an organization dedicated to protect the Earth's global biodiversity.

Other partnerships at the Museum take the form of temporary or traveling exhibits. Developed by the Museum of the Rockies, our new summer exhibit, "Dinosaur Families," takes visitors on a journey into a *Maiaasaura* nesting colony. However, we decided our patrons deserved more. We wanted to expand the focus of the exhibit to include the fossil discoveries of our own paleontologists in Madagascar, including the recent unearthing of a skull of *Majungasaurus*, a ferocious meat-eating dinosaur that inhabited the island nearly 75 million years ago.

Another way we have broadened the scope of "Dinosaur Families" is to develop a series of activities and programs that expand on the information contained within the exhibit. For instance, paleontologist Jack Horner will talk about how he found the *Maiaasaura* nesting site in the Rockies. We also created an outdoor Dino Dig in which young aspiring paleontologists, and the not so young, can unearth fossils, identify them and then take them home as souvenirs.

We try to strike a balance between educational programs for children and adults. For example, when primatologist Jane Goodall visited the Museum to accept the Award of Merit (see p.3), we reserved time in her busy schedule to talk to a group of children from inner-city schools about her revolutionary research on wild chimpanzees in Tanzania. But the students came away with so much more as Goodall described how she refused to allow anyone or anything to derail her childhood dream of working with wild animals in Africa. She was such a hit with the children that at the end of her presentation

we had difficulty disengaging Goodall from the sea of children that surrounded her. Anybody walking by would have thought we had a member of the Chicago Bulls visiting the Museum.

As you can see, The Field Museum far exceeds the image that is often invoked by the label "natural history museum." We are a place of wonder, of discovery, and more important, we are a place of change. It is also a building in which you can spend a lifetime exploring, and will never completely see and experience everything contained within its walls. With the development of the Museum Campus and the new relationships we have forged with our neighboring institutions, the possibilities for the future are infinite.

John W. McCarter

John W. McCarter, Jr.
Field Museum President



© E. Doornhays

Around Campus

Adler's Mars Exhibit

On July 4, NASA's "Mars Pathfinder" will land and dispatch a rover onto the surface of Mars, the "red planet." You can follow Pathfinder's progress and learn about its discoveries when you visit the new Mars exhibit, opening this summer at the Adler Planetarium & Astronomy Museum. The new exhibit will feature a touchable Mars relief globe, an automated rover that will move over simulated Martian terrain by remote control and information about the real rover, named "Sojourner." There will be timely updates and demonstrations, including the first images to become available from Mars. In addition, a new sky show, "Is There Life on Mars?" demonstrates how new discoveries provide exciting clues to the real Mars. For more information, call 312.922.STAR.

Jazzin' At The Shedd

Thursdays in summer, when the sun starts to sink, the Museum Campus starts to swing with "Jazzin' at the Shedd." Every Thursday from 5 p.m. to 10 p.m., July 10 through September 25, you can visit the fishes, whales and other aquatic creatures at Shedd Aquarium, explore the "Frogs!" special exhibit, have dinner in Soundings restaurant, and enjoy live jazz and an unparalleled view of the city's skyline from the north terrace of the Oceanarium. Aquarium admission is free on Thursdays; Oceanarium and "Frogs!" admission is just \$6 for adults, \$5 for seniors and children ages 3 to 11. For more information, call 312.939.2438. To make restaurant reservations, call 312.986.2286.

We would like to know what you think about *In the Field* ...

Please send comments or questions to Robert Vosper, Publications Department, The Field Museum, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605-9410, or via e-mail at <<vosper@fmppr.fmmh.org>>.

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The Field Museum
Exploring
The Earth And Its
People

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Kimberly Mazanek / ©N8275 25c

Jane Goodall Receives Award Of Merit

By Robert Vosper

British primatologist Jane Goodall joined the ranks of other great names in science when the Founders' Council presented her on May 15 with The Field Museum's Award of Merit, given to an individual who has made significant contributions in bringing issues of environmental and cultural understanding to the forefront of public attention. But perhaps unlike the work of her Award of Merit counterparts such as Richard Leakey, Sir David Attenborough and Peter Raven, Goodall's intricate studies of wild chimpanzees in Tanzania's Gombe National Park seem to have touched the hearts of everyone — from the very young to the very old.

Nothing proves this better than the reaction of a group of Chicago high-school students who were invited to hear her speak prior to the Founders' Council award presentation. When she finished telling the students about her research and how they can make an impact in the world, the students rushed the podium to ask her questions, get her autograph, or merely to touch her hand. One student, stumbling for words in the face of fame, simply thanked her for being such an inspiration.



A few hours after this meeting with the students, members of the Museum's Founders' Council got a taste of what makes Goodall, whom children call Dr. Jane, such a legendary figure.

Goodall, dressed in a simple blue dress and with her long wispy, gray hair pulled back into a loose pony tail, began the evening talking about how as a child she dreamed of living in Africa and working with wild animals.

"When I was about 10 years old," she said, "I fell in love with Tarzan and was terribly jealous of Tarzan's Jane. I thought she was a wimp and felt I would have made a better mate for Tarzan . . . which I would have."

After briefly discussing her research among the wild chimpanzees, she then talked about why — after 25 years of living among the Gombe chimps and almost single-handedly revolutionizing the field of primatology — she packed up her bags and left.

"It was horrifying to suddenly realize that all across Africa chimpanzees were disappearing and that all across the rest of the world chimpanzees in captivity were being treated very poorly," she said in her very gentle, dignified voice. "I had been so long in my paradise that it is was a shock. And it was in 1986 that I decided that I should no longer stay in

that paradise, but to start to use the knowledge and wisdom that I had gained from chimpanzees to travel about and make people more aware."

But she did not just abandon her research. Instead she created the Gombe Stream Research Centre where scientists, under Goodall's direction, continue to conduct field research on chimpanzees, providing further insights into the behavior of nonhuman primates. Although Goodall visits the station as much as possible, much of her time is spent traveling the world speaking about the endangered status of chimpanzees in the wild and the sometimes deplorable conditions to which they are subjected to in captivity.

Improving conditions for captive chimpanzees is one reason that Goodall is still as dedicated to her work as when, at the age of 23, she first came face to face with a wild chimpanzee. She explains the cause for her dedication as a look she started to see in the eyes of captive chimpanzees — a look that says, "why won't you help me?"

" . . . this is the look I have seen in the eyes of little chimps tied up for sale in the tourist markets in Africa, and from under the frills of circus chimps treated very harshly to perform, and from the steel bars of the 5-foot by 5-foot laboratory prisons where they spend

30 or 40 years having committed no crime," she said to an almost tearful audience at the presentation. "I have seen it in the eyes of little children whose parents were killed in the ethnic conflicts in Burundi. Once you have seen that look, and allowed yourself to feel it in your heart, you have to try to help."

In addition to flying around the globe as the chimpanzees' staunchest advocate, Goodall founded many support programs, including the Jane Goodall Institute, which is committed to wildlife research and conserva-

tion; Chimpanzoo, which is dedicated to the study of chimpanzees in zoos and other captive settings; and sanctuaries designed for orphaned and sick chimpanzees in Congo,



"I believe that there will be some chimpanzees swinging in the forest in Africa for our great grandchildren to see. But it is up to you and me, and I have hope."

Kenya, Tanzania and Uganda. But perhaps the pride and joy of all her projects is "Roots and Shoots," a program that offers children activities that benefit the environment, animals and the human community.

"Roots creep under the ground to make a firm foundation," she explained, "shoots seem small, but to reach the light they can break open a brick wall. If we see the brick wall as all the problems that we have inflicted on this planet . . . hundreds of thousands of young people around the world can break through."

Before accepting the Award of Merit trophy designed by Tiffany & Co., Goodall ended the night with a simple message:

"I believe that there will be some chimpanzees swinging in the forest in Africa for our great grandchildren to see. But it is up to you and me, and I have hope."

(Above): Jane Goodall at the Founders' Council award presentation.

According to the Jane Goodall Institute, at the turn of the century, chimpanzees were present in hundreds of thousands in 25 countries across west and central Africa. Today, their total number has dwindled to less than 250,000, with significant populations found in only four countries. Major reasons for this rapid decline are habitat destruction and the bushmeat trade. In addition, females are killed to capture their infants for the pet trade, entertainment or biomedical research.

(Left): After talking to a group of Chicago high-school students, Goodall signed some autographs.

Look Who Came To The Party

Chicago Bear Chris Zorich joined in the celebration with Mickey Mouse, the Mad Hatter and Goofy at the Walt Disney World Magical Memories Tour. Zorich was honored with a special gift and hat on behalf of Walt Disney World's 25th Anniversary. The celebration took place over the first weekend in June on the Museum Campus.



The 46th Annual Members' Nights

John Weinstein /GN88255.30C



"It is the 3rd floor behind the scenes that I live for year after year. Everyone is so informal and nice — they (curators) realize that they have to compress a lifetime of work in three sentences . . . you get the feeling that they would love to talk to you for hours." — Charles Bugajsky, member

Kimberly Mazanek /GN88261.19AC



For two nights in April and May, the Museum opened its doors and gave members and their guests an opportunity to meet the curators, scientists, educators and exhibit developers who inspire our imaginations and bring the world and its people to Chicago. The following is what members and their guests had to say about the two nights:

"Everything at Members' Night is my favorite, but I do love seeing the research that is going on here. I have been coming here since the 1940s and I still find it fascinating."
— Robert Begassat, member



"This (the Museum) is one of the greatest resources in the city. The Field Museum's Members' Night is the best in the city by orders of magnitude . . . it beats anything anyone else does."
— David Lynn, member

"Our grandchildren would go crazy over this night." — Joan Carsten, guest

"Our daughter was going to study anthropology because of the Field Museum's Members' Night . . . but she switched into nursing because she could make more money."
— Joan Buetow, member



Mammal Studies . . . Continued from page 1

turbance — signs are abundant of logging sites and selective cutting of smaller trees used to build houses.

Following a five-hour hike along steep muddy trails, we reach a part of the forest that contains big trees, closed canopy and open understorey (the plants of forest undergrowth). As we search for a good place to set up camp for the next two weeks, the hornbills and turacos keep us apprised of their presence. Camp is a simple arrangement of a big tarp that covers the kitchen and work areas — all of which is surrounded by smaller sleeping tents. For the next several days, the fire under the kitchen tarp is the center of our existence.

To catch the shrews and mice that roam the forests, we use buckets buried in the ground and traps that are identical to those used at home to catch kitchen pests. Every day we check the traps and prepare what we find. This includes stuffing the skins with cotton, storing the skeletons in alcohol and freezing organs in liquid nitrogen — all of which is vital for this and future studies. We sample three or more sites across the mountain to record local variation. Before we can distinguish between the montane forests of the region, we first have to inventory the

mammals that inhabit a single forest. For example, some species may be found in one microhabitat on one mountain and a completely different habitat on another. We also must confirm the accuracy of our research before we can confidently decree that one mountain is less diverse than another.

So far, we have sampled five Eastern Arc mountains and found 10 to 20 species of small mammals inhabiting the montane forests, though how many and which species live in a particular area can vary greatly. Our recent research in the Udzungwa Mountains revealed significantly more small mammals, both individuals and species, living in the montane bamboo forests at approximately 2,000 meters (6,600 feet) than in the drier forests at lower elevations. One shrew we collected is a species not yet described and endemic to the southern Eastern Arc — providing further justification for protecting these forests. An interesting and informative result of this and other studies is that most rodent species inhabit the entire archipelago, although most are confined to higher elevations. Conversely, many shrew species are restricted to one specific mountain group within the Eastern Arc. The reasons for this pattern are as of yet unknown.

Whether shrews have a poorer ability to disperse than rodents, or were earlier arrivals to these mountains is irrelevant in one important sense: These shrews are found only in certain Eastern Arc forests and unless conserved will take a myriad of explanations to our questions and solutions to our problems to their grave.

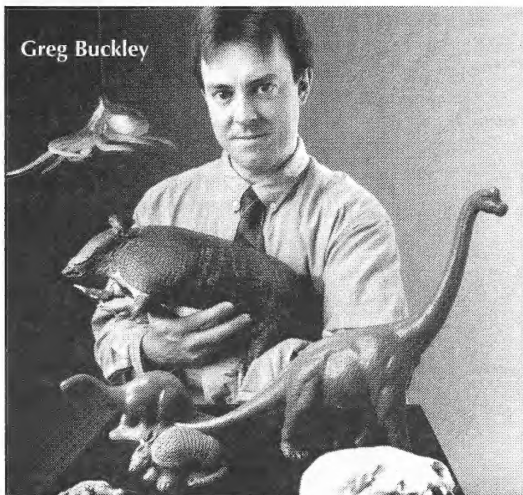
It is exciting to be involved in this investigation. This partnership between The Field Museum and the University of Dar es Salaam can make a major contribution to the conservation of the Eastern Arc's montane forests. The Museum is the ideal place to launch such an endeavor because of the expertise of its staff and associates, its outstanding lab facilities and its commitment to accurate biological assessments. The students and faculty at the University of Dar es Salaam are committed to the study and preservation of Tanzania's heritage and the education of the country's future biologists. All the people involved are acutely aware that the montane forests are under severe threat and that time is limited. We also know that public opinion is critical to any conservation effort and we need to start fostering an appreciation for the African wildlife that rarely appears on postcards.

7/6, 8/3 & 8/31

Sundays

Field's Farmers' Market

10 a.m. – 4 p.m. Discover a rich sampling of fresh fruits, vegetables and flowers from growers in Illinois, Indiana and Michigan as the Museum hosts the Field's Farmers' Market this summer. Visitors can enjoy Chicago's beautiful lakefront as they select their favorite summer produce in this new outdoor marketplace on the Museum's east lawn. The market is free and open to the public.



Greg Buckley

John Weinstein / JN87840.11

7/8 Tuesday

Collections Committee

5:15 p.m. – 7 p.m. The Collections Committee is hosting a reception and presentation in conjunction with the exhibit in the Searle Lounge of recent gifts from Asia and Africa. Bennet Bronson, curator of Asian archaeology and ethnology, will discuss the objects from Korea, Japan and China — all of which were donated by private collectors. Deborah Stokes Hammer, a donor and cataloger of African beadwork at the Museum, will talk about "Yoruba Artistry — Style Attribution in the Field Museum's African Collection." Reservations are required. Call 312.922.9410, ext. 639 for more information.

7/8 Tuesday

Seeing The White Buffalo

6 p.m. – 8 p.m. White buffalo are sacred to many Indian peoples, particularly on the Great Plains. For some, the births are a fulfillment of prophesy, while to other tribes the births offer risk as well as cultural renewal. Join Robert Pickering, author of *Seeing the White Buffalo*, for an exploration of the significance of white buffalo from historic, scientific and cultural perspectives — including stories from early explorers and insight from interviews with elders from several different tribes. \$15 (\$12 members). Call 312.322.8854 for more information or to register.

7/12 Saturday

Imaginary Dinosaurs

2 p.m. Join W.J.T. (Tom) Mitchell, for an in-depth look into the history of the dinosaur as a cultural icon. An art historian and scholar of cultural images and works across the media and various artistic forms, Mitchell's current work in dinosaur images explores the changes in the dinosaur's representation in relation to politics, economic cycles, social movements and other historical events, as well as in rela-

tion to the internal culture of paleontology. Slides and film clips will highlight a variety of dinosaur representations, including Victorian dinosaur models, Calvin & Hobbes cartoons, children's toys and monster movies. \$12 (\$10 members). Call 312.322.8854 for more information or to register.

7/19 Saturday

The Age Of Reptiles On The Great Red Island

2 p.m. The island of Madagascar, off the east coast of Africa, is well-known as an exotic refuge for unique species of plants and animals and as an embodiment of the wonder of natural history. Unfortunately, the evolutionary history of Malagasy animals has been poorly known, due to a scant fossil record on the island. That changed in 1993. Join The Field Museum's Greg Buckley as he recounts recent fossil collecting expeditions to Madagascar, where discoveries include remarkably preserved dinosaurs; the first Late Cretaceous mammals and birds ever to be found in Africa; at least six species

of crocodile; the earliest known frogs from Madagascar; and several varieties of fish, turtles, lizards and snakes. All these fossils are providing a wealth of scientific information concerning the history of Madagascar and the evolution of animals on southern continents. They have also helped place Madagascar on the list of paleontological hot spots. Some of the most spectacular finds are on display this summer in the "Dinosaur Families" exhibit at The Field Museum, while many are still being prepared in the Geology Fossil Lab in Stanley Field Hall. \$12 (\$10 members). Call 312.322.8854 for information or to register.

7/23 Wed. & 8/17 Sun.

A Bucket of Dinos to Go!

6 p.m. – 9 p.m. Until recently, scientists thought that dinosaurs were completely extinct and had no living relatives. The latest information indicates that birds, through the process of evolution, are really dinosaurs in disguise. Join us for a picnic supper of fried chicken, and compare chicken bones to ornithischian, or "bird-like" dinosaurs to learn why paleontologists think these animals are related. You will then get to step back in time and visit our special summer exhibit, "Dinosaur Families" with your family after hours. Dinosaur activities include a dinosaur dig, a play about dinosaurs and a journey through the Museum's "DNA to Dinosaurs: Life Over Time" exhibit. Fried chicken and lemonade will be provided; families should bring a blanket and any additional food to complete their supper. We will eat outdoors (weather permitting). \$18 per participant (\$15 per member participant). Call 312.322.8854 for more information or to register.

7/27 Sunday

What is a Dinosaur?

9 a.m. – Noon. Although dinosaurs no longer walk the face of the Earth, these animals have captured the interest and imagination of today's popular culture like no other. But despite the obvious fascination, do scientists really know what dinosaurs were? This introductory course

for adults will help to answer this question by surveying a variety of different types of dinosaurs and addressing some of the common misconceptions, popular extinction theories and important new theories and discoveries. \$28 (\$25 members). Call 312.322.8854 for more information or to register.

7/30 & 8/20 Wednesdays

Behind-The-Scenes with the Department of Geology:

Focus on Fossils for Adults

6 p.m. – 8 p.m. Visit the geology department with Greg Buckley, collection manager of fossil invertebrates and plants, and journey back in time to the Mesozoic and Cenozoic Eras (225 million years ago) to discover a variety of reptiles and early mammals that once inhabited the Earth. Find out how fossils are collected in the field and prepared for display. Learn about the work of fossil preparators and collections managers and investigate what fossils tell us about life on Earth millions of years ago. \$18 (\$15 members). Call 312.322.8854 for more information or to register.

8/6 – 8/20 Wednesdays

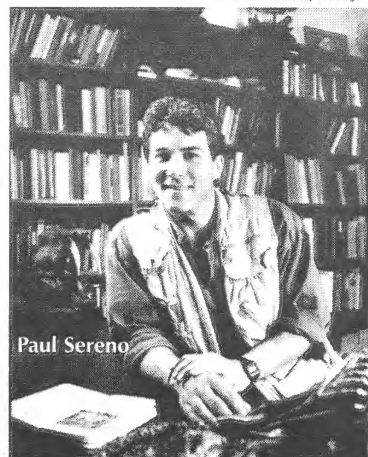
Vertebrate Paleontology

6 p.m. – 8 p.m. This adult course will introduce the history of vertebrates as documented by the fossil record, highlighting the relationships between dinosaurs and birds and the origins of tetrapods and mammals. Paleontological techniques, including field prospecting, collection and preparation of fossils, theories and recent discoveries will be examined. Discussion will alternate with tours of The Field Museum's collections and exhibits. \$53 (\$47 members). Call 312.322.8854 for more information or to register.

8/9 Saturday

Flying Dinosaurs? You Bet!

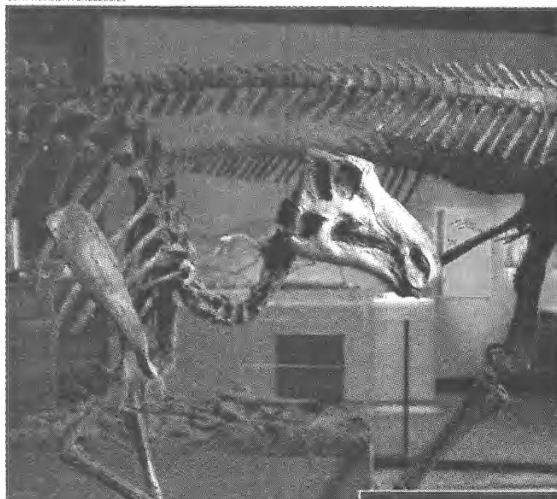
2 p.m. Are birds the flying descendants of dinosaurs? Paul Sereno, renowned Chicago paleontologist, will address the question that has simmered ever since the discovery of the ancient bird *Archaeopteryx* more than a century ago. Recent discoveries of small raptors, brooding adults, egg nests and fossilized feathers provide many lines of evidence that begin to answer the "flying dinosaur" question. For the first time, we can sketch how and when birds first took to the air and became the agile flyers we know today. When not teaching paleontology and evolution at the University of Chicago, Sereno and his students search museum collections and comb deserts to find fossil evidence that will impact society's understanding of large scale evolution during the dinosaur era. Discoverer of dinosaurs on several continents, his aim is to map dinosaur descent by tracing the many evolutionary changes in the skeletal record. Featured in numerous articles and television programs, he was listed in a recent *Newsweek* article as one of 100 people to watch into the millennium. \$12 (\$10 members). For more information or to register, call 312.322.8854.



Matthew Gilson / University of Chicago

Paul Sereno

John Weinstein / GN88286.2c

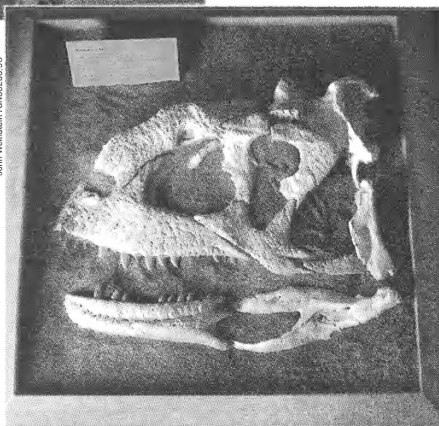


(Above): A herd of *maiasaurs*.

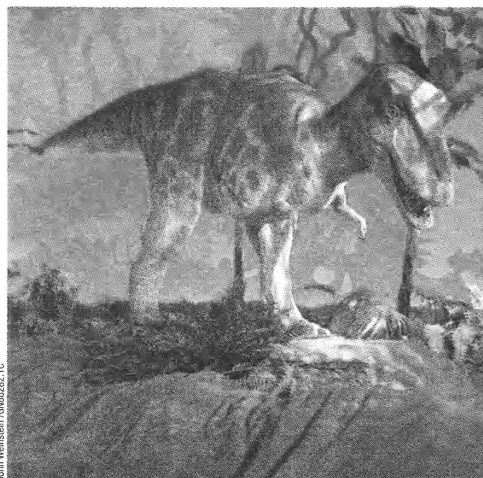
(Right): The first and only skull of *Majungasaurus* — a meat-eating dinosaur previously known by a few scraps of bone and teeth.

(Far Right): *Albertosaurus* — a small member of the same family of carnivores as T-Rex. Some scientists believe that it could run down its victims at speeds of up to 40 mph.

John Weinstein / GN88283.9c



John Weinstein / GN88282.1c



Dinosaur Families

At "Dinosaur Families" you will see, along with life-size dinosaur robots, real fossils — including dinosaur eggs, dinosaur embryos, baby dinosaurs and their parents — from one of the most remarkable research sites in paleontology: the dinosaur nesting colony in Montana known as "Egg Mountain." These are the finds, brought to light less than 20 years ago, that showed scientists how some dinosaurs cared for their young, nested in colonies and traveled in herds.

Included in the exhibit are the dinosaur fossils recently unearthed in Madagascar by Field Museum paleontologists and an international team of scientists. Among the highlights:

The complete, astonishingly well-preserved skull of *Majungasaurus* — a ferocious meat-eat-

ing dinosaur that until now was known only by a few dagger-like teeth and a couple of bones.

The exquisitely preserved skeleton of a young *Titanosaurus*, an elephant-sized, plant-eating dinosaur.

The fossil remains of several new species of crocodiles, including a tiny species related to much earlier fossils from Brazil and a large 10- to 12-foot-long specimen that is so different from any other fossil crocodile it called for a new genus.

The skull of the first cynodont found in Madagascar. These "mammal-like" reptiles, older than any dinosaur, are ancient relatives of present-day mammals.

The exhibit, which was developed in part by the Museum of the Rockies, is on display until September 1.

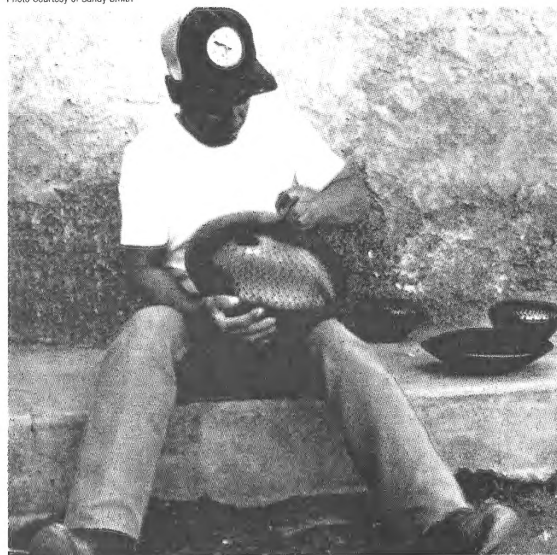


John Weinstein / GN88270.1TC

Outdoor Dino Dig

After you see the exhibit, visit the Dino Dig and become a paleontologist for the day. This exciting new outdoor, interactive center, takes visitors on a journey through a recreated dinosaur excavation site. The enormous tent houses a variety of dinosaur and fossil activities designed for all age groups. Younger visitors can sweep away sand to "discover" a replica of an *Allosaurus*, while older visitors can use other tools to expose a second dinosaur. In the picture to the left, Peter Laraba, a geology subject matter specialist in the education department, helps a young visitor identify a 4 million year old fossilized shark tooth.

Photo Courtesy of Sandy Smith



Portraits Of Clay

Pottery Of Mata Ortiz

Portraits of Clay" is an exhibit of 54 black-and-white photographs by Sandy Smith that explore the dynamic, yet traditional work of 17 potters in Mata Ortiz, Chihuahua, Mexico. The images document both the process and the people of Mata Ortiz. An example of Mata Ortiz and Casas Grandes pottery from The Field Museum's collection will also be on display.

In the 1940s and 1950s, a large ruin, Casas Grandes in Chihuahua, Mexico, was excavated near the village of Mata Ortiz and a large quantity of prehistoric pottery was unearthed. Soon the prehistoric pottery became scarce and local potter, Juan Quezada set out to revive this pottery style. He studied ancient shards of Casas Grandes pottery, and through trial and error learned the techniques of creating the very thin-walled pottery.

As his pottery evolved, Quezada introduced dynamic designs and innovations, giving the Mata Ortiz pottery its own style. His family and others in the community became his students; now more than 300 artists are creating the pottery forms in the area.

These remarkable photographs take the viewer on a visual exploration of the Mata Ortiz pottery-making process. Sandy Smith's images capture the artists at work and offer an intimate glimpse into not only their pottery, but also their lifestyle.

In the picture to the left, Reynaldo Quezada autographs his rendition of Casas Grandes prehistoric pottery.

"Portraits of Clay" will be on display in the The Field Museum's Webber Gallery from July 19 to December 7.

Field Nights Bring The World To Chicago

Explore diverse cultures of the world through vibrant musical performances and international cuisine when The Field Museum presents **Field Nights**, Thursdays, July 3 to August 28 (excluding July 10), from 5 p.m. to 9 p.m.

In coordination with the city's "Downtown Thursday Night" program, The Field Museum will remain open on Thursday nights to offer visitors a passport to the many cultures around the world. General admission to the Museum will be free after 5 p.m. Guests can sample ethnic cuisine and enjoy the rhythmic sounds of world music as Stanley Field Hall is transformed into an international festival. Throughout the evening, guests can explore the Museum's world-renowned exhibits and enjoy a spectacular view of the city at dusk.

July 3: AFRICA/CARIBBEAN

Muntu Dance Theater of Chicago will perform dances from Africa. **Stereo Band** will entertain guests by playing Punta Rock, Drumming and Mask Dances, as well as Caribbean, Soca and Reggae music. *Caribbean performances are presented in collaboration with The Progressive Garifuna Alliance of Chicago in celebration of the Garifuna Bicentennial.*

July 17: RUSSIA

Maxwell Street Klezmer Band will play an ensemble that combines Russian/Yiddish jazz and folk music. **Tumba Lalaika** will perform the music, songs and dances of Russia.

July 24: SPAIN

Manteca Colorá will include in its repertoire Spanish dance, music and song mixed in with flamenco and classical guitar. **Hector Fernandez** and **Tom Kimbal** will play flamenco and classical guitar, jazz and pop, as well as flamenco pop. **The Coral Ensemble of Chicago** will include 16 singers and a gaita player

(Spanish bag piper) and will sing traditional songs from the 1600s. And **Ars Musica Chicago** will perform *La Opera Casera* (The Home-made Opera). **The Opera Factory** will sing arias from famous zapueles. *The program for this evening is presented in collaboration with El Instituto Cervantes de Chicago.*

July 31: INDIA

Natyakalalayam will entertain guests with classic and folk Indian music and dance.

August 7: LATIN AMERICA

On this night, the Museum will recreate a Latin American *Peña* — an informal gathering of musicians, singers, composers, poets, writers and other artists who share art, folklore, literature and discuss politics over a cup of coffee or a glass of wine. **Los Hermanos Olavaria** will play Puerto Rican folk music. **Tango 21 and Real Tango** will fill the halls with tango music, songs and dance. **Sones de México Ensemble** will feature Afro-Mexican music and **Inga Pirca** will offer the sounds of Andean music. Also, songs from the *Trova o Nueva Canción Latinoamericana* (New Latin American Song), which originated in Cuba in the 1960s, will be played. *The Program for this evening is presented in collaboration with the Old Town School of Folk Music.*

August 14: POLAND

Sleobodni in USA will entertain visitors with Polish Highland folk dances. **The Highlanders** will play Polish folk music. *The program for this evening is presented in collaboration with the Polish Highlanders Alliance of America.*

August 21: IRELAND

Trinity Irish Dance Co. will perform traditional Irish dances; **Broaders and Moore** will sing Irish folk songs; and **The Pipes and Drums of the Emerald Society** will present Irish pipe music.

August 28: JAPAN

Kokyo Taiko Drums will entertain visitors with Japanese drumming; **Minjo Club of Indiana** will feature Japanese folk dances; **Koto Group** will play classic Japanese koto music; and **Fujima Dancers** will perform classical Japanese dances. *This program is presented in collaboration with Fujima Shunajo School of Japanese Classical Dance.*

Food, beer, wine and soft drinks will be available for purchase through **Lettuce Off-Premise Catering**. McDonald's will also be open. For more information, call 312.922.9410, ext. 497.

Become a Member of The Field Museum

and receive these benefits, and more:

- Free general admission
- Priority admission to special exhibits
- Free coat checking and strollers
- Invitation to Members' Night
- Free subscription to *In the Field*
- 10 percent discount at all Museum stores
- 10 percent discount at Picnic in the Field

MEMBERSHIP APPLICATION

Please check one: New Membership Renewal

Name _____

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MEMBERSHIP CATEGORIES

- Individual** — one year \$40 / two years \$70
- Family** — one year \$50 / two years \$90
(Includes two adults, children and grandchildren 18 and under.)
- Student/Senior** — one year \$30
(Individual only. Copy of I.D. required.)

Send form to:

The Field Museum, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605

ARCHAEOPTERYX

The Bird That Rocked The World

October 4 – 19, 1997

One of only seven *Archaeopteryx* fossils in the world will be on display for the first time in North America at The Field Museum. *Archaeopteryx* is the world's oldest known bird and was hailed as a missing link between dinosaurs and modern birds when first discovered in 1861. It has feathers and wings like a bird and the sharp teeth, clawed forelimbs and long tail of the small dinosaurs that lived alongside it 150 million years ago. In the past 136 years, only seven skeletal specimens of *Archaeopteryx* have been found, all in the famous Solnhofen limestone quarries of Bavaria, Germany.

Accompanying the priceless fossil on its overseas journey will be Peter Wellnhofer, an expert on *Archaeopteryx* and pterosaurs (flying reptiles) and curator for the State Museum of Paleontology and Historical Geology in Bavaria. Wellnhofer will give a public talk on Saturday, October 18 at 2 p.m. The exhibit coincides with the 57th annual meeting of the Society for Vertebrate Paleontologists (also hosted by the Museum on October 8 – 11).

Photo Courtesy of the Carnegie Museum



Naturalist Certificate Program: Chicago

This fall, join the Morton Arboretum, The Field Museum and Chicago Wilderness for a journey into the wilderness of Illinois through their new **Naturalist Certificate Program: Chicago**. Based on the Morton Arboretum's successful program in Lisle, Ill, this integrated program of nature study — based at The Field Museum — will offer beginners and the more experienced a series of field-oriented classes in ecology, botany, zoology, geology and interpretation.

Participants in the program will visit a variety of local sites and will be introduced to the wonders of Chicago's natural history. Classes are open to the public and require no previous course work, however, for those wishing to pursue a certificate, 13 to 15 courses in the sequence must be

completed. The Field Museum is offering two core courses this fall, *Field Ecology: Fall* and *Local Flora III: Autumn*, as well as two enrichment courses, *Illinois Geology: Glaciers and Tropical Seas* and *Bird Observation and Study*.

The certification program is funded in part by Chicago Wilderness — a unique, first-of-its-kind initiative to coordinate the efforts of nature conservation in a major metropolitan area. Through Chicago Wilderness, more than 30 organizations, including The Field Museum, encourage public participation and understanding of our region's natural communities.

For fees or to register, call the Morton Arboretum Registrar at 630.719.2468 from 8:15 a.m. to 3:45 p.m., Monday through Friday. Please specify that you are registering for the **Naturalist Certificate Program: Chicago**.

Please note that programs are subject to change. On the day of your visit, pick up a Field Notes Sheet for an up-to-date program listing.

Every Day

Preschoolers Alert! — Story Time: Facts, Fables and Fiction. is an exciting new program located in the Place for Wonder at 1 p.m. daily, from June 30 to September 1. Included in the program is a story, song and an art activity that children can take home. (One adult for every three children, please.) Topics to be covered include: dinosaurs, flowers, ecology, fish, friendship, caterpillars, butterflies, cats and spiders. For weekly list of topics, please check the "Field Notes Sheet" located at the information booth in Stanley Field Hall.

Every Tues & Wed.

11 a.m. & 1 p.m. **Inside Ancient Egypt** tour. The mysterious empire of Ancient Egypt and its people have fascinated the world for hundreds of years. Explore the lives and after-lives of ancient Egyptians, including the food they ate, the clothes they wore, the monuments they built and the gods they worshiped. Every Tuesday in July and every Wednesday in July and August.

Every Tuesday

10:30 a.m. & 12:30 p.m. **The Diversity of North American Indian Cultures** tour. Discover the diversity of American Indian Nations and focus on their concepts of home to compare cultural similarities and differences. Learn about Native American influence on present-day America. Every Tuesday in July and August. Check listings for other weekdays.

Every Wednesday

11:30 a.m. & 1:30 p.m. **Into the Wild** tour. Visit classic dioramas of animals. Learn their history and the mounting techniques of the great Carl Akeley, and consider the message this legacy of natural history has left us. Every Wednesday in July and August.

Every Thurs. & Fri.

12:45 p.m. **The Aztec, The Maya and Their Predecessors** tour. Learn about the diverse and complex pre-Columbian cultures of Mexico and Central America. Every Thursday and Friday in July and August (except Friday, August 29). Check listings for other weekdays and for Saturday and Sunday.

July 5 — Saturday

11:30 a.m. & 2:30 p.m. **The Aztec Empire and Its Predecessors** tour (English). Discover the diversity of Mexican cultures and languages whose heritage extends over 3,000 years. Find out how the Aztec (Mexico) migrated to central Mexico, assimilated to this region's lifestyle and built a mighty empire prior to the arrival of Europeans.

1:30 p.m. **El Imperio Azteca y sus predecesores** tour (español). Descubra la diversidad de las culturas y lenguas mexicanas así como su herencia de hace 3000 años. Aprenda cómo los Aztecas (mexicas) emigraron al centro de México, se adaptaron al estilo de vida de esta región y construyeron un poderoso imperio antes de la llegada de los europeos.

Highlights of The Field Museum tour. Visit some of the exhibits that make this Museum one of the world's greatest. Find out the stories behind the exhibits. Tours offered Monday through Friday at 11 a.m. & 2 p.m. Check listings for Saturday and Sunday.

1 p.m. **Highlights of The Field Museum** tour.

July 6 — Sunday

10 a.m. – 1 p.m. **Human Origins** activity. Discover the theories, evidence and myths about our origins in the great Rift Valley of Africa.

July 11 — Friday

10 a.m. – 1 p.m. **Adzes and Awls** activity. Discover how bones, stones and shells were used by Native American toolmakers.

July 12 — Saturday

10 a.m. – 1 p.m. **Human Origins** activity.

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1 p.m. **Tibet Today and a Faith in Exile** slide lecture. A slide presentation that takes you to Lhasa and other places now open to tourists in Tibet. Learn about Tibetan refugees in India, and the dedication ceremony of a Himalayan Buddhist Chorten in Indiana by His Holiness, the Dalai Lama.

1:30 p.m. **The Early Maya Civilization** tour.

July 13 — Sunday

11 a.m. **Highlights of The Field Museum** tour.

1 p.m. & 3 p.m. **"Heirlooms and Hoopla"** performance by the Green Light Theater Company. Using songs and active audience participation, actors make it fun and memorable to learn about paleontology, simple classification techniques and dino facts!

July 17 — Thursday

10:30 a.m. & 12:30 p.m. **The Diversity of Latin American Cultures** tour.

July 18 — Friday

10 a.m. – 1 p.m. **Rocks and Minerals Match** activity. Try matching minerals with the familiar products they produce.

July 19 — Saturday

11:30 a.m. & 2:30 p.m. **The Aztec Empire and Its Predecessors** tour (English).

Noon – 3 p.m. **Trapped in Amber** demonstration. Field Museum entomologist Philip Parrillo offers a close-up look at insects in amber.

1 p.m. – 3 p.m. **Geology in Action** activity. Coral reefs in Chicago? Rocks that float on water? Computers made of sand? Come participate in this hands-on activity.

1:30 p.m. **Nahuatl (Aztec) Poetry** readings. Find out how Aztec literature has been preserved as you listen to music of pre-Hispanic influence. Poetry readings are in English, Spanish and Nahuatl.

July 20 — Sunday

1 p.m. **Highlights of The Field Museum** tour.

1:30 p.m. **The Early Maya Civilization** tour.

July 23 — Wednesday

10 a.m. & 1 p.m. **The Early Maya Civilization** tour.

July 24 — Thursday

10:30 a.m. & 12:30 p.m. **The Diversity of North American Indians** tour.

July 25 — Friday

10 a.m. – 1 p.m. **Lava** activity. Now that they are cool, touch some of the substances produced by a volcano.

July 26 — Saturday

Noon – 3 p.m. **Trapped in Amber** demonstration.

1 p.m. **Tibet Today and Butan, Land of the Thunder Dragon** slide lecture. See Lhasa and other places now open to tourists in Tibet. Also travel to the small Himalayan country of Bhutan.

1 p.m. – 3 p.m. **Geology in Action** activity.

July 27 — Sunday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1 p.m. & 3 p.m. **"Heirlooms and Hoopla"** performance by the Green Light Theater Performance Company.

July 31 — Thursday

10:30 a.m. & 12:30 p.m. **The Diversity of North American Indians** tour.

Every Thursday

10:30 a.m. & 12:30 p.m. **The Diversity of Native American Indians** tour. Every Thursday in August. Check listings for weekdays in July.

Aug. 2 — Saturday

11:30 a.m. & 2:30 p.m. **The Aztec Empire And Its Predecessors** tour (English).

1:30 p.m. **El Imperio Azteca y sus Predecesores** tour (Spanish).

Aug. 8 — Friday

10 a.m. – 1 p.m. **Terrific Teeth** activity. Can teeth tell you what an animal eats? Find out by taking part in this fun activity!

Aug. 9 — Saturday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

Noon – 3 p.m. **Trapped in Amber** demonstration.

1 p.m. **Tibet Today** slide lecture and Tibet exhibit tour. See Lhasa and other places now open to tourists in Tibet. A guided tour through the Tibet exhibit will follow the lecture.

Aug. 10 — Sunday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1 p.m. & 3 p.m. **"Heirlooms & Hoopla"** performance by the Green Light Theater Company.

Aug. 15 — Friday

10 a.m. – 1 p.m. **Horns & Antlers** activity.

Aug. 16 — Saturday

11:30 a.m. & 2:30 p.m. **The Aztec Empire and Their Predecessors** tour (English).

1 p.m. **Highlights of The Field Museum** tour.

1:30 p.m. **Nahuatl (Aztec) Poetry** readings.

Aug. 17 — Sunday

11 a.m. **Highlights of The Field Museum** tour.

1:30 p.m. **The Early Maya Civilization** tour.

Aug. 22 — Friday

10 a.m. – 1 p.m. **Adzes and Awls** activity.

Aug. 23 — Saturday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

Noon – 3 p.m. **Trapped in Amber** demonstration.

1:30 p.m. **The Early Maya Civilization** tour.

Aug. 24 — Sunday

1 p.m. & 3 p.m. **"Heirlooms & Hoopla"** performance by the Green Light Theater Company.

Aug. 27 — Wednesday

10 a.m. & 1 p.m. **The Early Maya Civilization** tour.

Aug. 28 — Thursday

10 a.m. – 1 p.m. **Rocks and Minerals Match** activity.

Aug. 29 — Friday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

Aug. 30 — Saturday

11 a.m. & 3 p.m. **"Heirlooms & Hoopla"** performance by the Green Light Theater Company.

1 p.m. **Tibet Today and a Faith in Exile** slide lecture.

The Museum's Conservation Program Gets Its Feet Wet

Kimberly Mazanek /GN88277.15C

By Robert Vosper

In September 1996, an international group of scientists led by Barry Chernoff, associate curator of fishes and chair of the zoology department, spent three weeks swimming, wading and rafting in northern Bolivia's little-known Rio Manuripi and Rio Tahuamanu rivers conducting biological inventories. In a remarkable display of speed, expertise and ingenuity, the team captured 326 species of fishes, with 10 to 14 species new to science — including a new species of piranha. The team also discovered 40 to 50 species of fishes that were not known to inhabit the waters of Bolivia.

The expedition, which was funded in part by the W. Alton Jones Foundation, is the Museum's newest weapon in a battle to preserve the highly threatened freshwater systems of the tropics. This conservation weapon, AquaRAP, is a component of the Museum's Rapid Assessment Program (RAP), a joint venture of The Field Museum and Conservation International — an innovative nonprofit conservation organization based in Washington, D.C. Since its inception in 1989, RAP has sent teams of scientists to the most secluded areas of the world to conduct large-scale landscape surveys of remote and unknown tropical areas with high potential for conservation. International funding agencies and local decision makers use the RAP team's first-cut biological and conservation assessments (teams spend five to 10 days at one site and visit about four sites per expedition) to set priorities and guide conservation efforts.

On May 8, Chernoff presented the results of the first AquaRAP expedition to members of the Museum's Founders' Council and distinguished guests, including Peter Seligmann, chairman and chief executive officer of Conservation International, and Guilherme F. da Cunha Bastos, the consul general of Brazil.

"Before we went into this area," Chernoff said at the presentation, "our knowledge of the biological systems in these rivers was very limited. Now, with the surveys completed, we can branch out across the region and start working with institutions in Brazil and Peru to develop an integrated-use plan for the area that puts less pressure on the aquatic environment."



Barry Chernoff displays a *Picua* (*Acestrorhynchus*) — a fish he discovered last year during the inaugural AquaRAP expedition to Bolivia.

It is essential, Chernoff explained, that Brazil and Peru are included in any conservation plans because both the Rio Manuripi and Rio Tahuamanu enter Bolivia from Peru and form Brazil's Maderia drainage basin.

"We can't create a conservation plan downstream if we don't work with the people upstream. The problem with rivers is that they don't understand political borders."

According to Chernoff, the greatest threats to the rivers — used by residents for food production, transportation and recreation — include cattle ranching, farm chemicals, poisonous ashes produced from slash-and-burn agricultural practices and the construction of roads. The challenge, he explained, is to find alternatives to activities that destroy the ecosystem without decimating the local economy.

The AquaRAP team, for example, found that the rivers were teeming with species prized as ornamental fishes by the aquarium industry. It is possible, Chernoff said, that these fishes could replace the highly destructive cattle industry as the area's economic life blood.

"The one thing we will be looking at very carefully is whether the rivers can support this type of economy and whether we can sustain and manage it without damaging the existing river ecosystem," Chernoff said.

With the success of the first AquaRAP expedition, Chernoff and his team plan to spend the next five years surveying 10 other priority sites throughout Latin America, raising the priority of freshwater conservation to that of terrestrial conservation, increasing the training of students in aquatic conservation science and publishing a book on freshwater conservation in South America.

Rapid Assessment Goes Local

The next project on the Museum's RAP agenda is Illinois RAP (IRAP), a program developed with the Illinois Department of Natural Resources to assess the condition of the natural communities in the region. The conservation work is being done in collaboration with local experts at four Chicago Wilderness sites, including Midewin National Tallgrass Prairie. The goals of the program,

which started in June, are to help select critical sites for long-term monitoring of restoration activities and to evaluate priority sites for additional protection and management. IRAP will also develop field-testing rapid inventory methods for several groups of organisms, including bryophytes, plants, mushrooms, land snails, beetles, spiders, amphibians, reptiles and birds.

FROM THE FIELD ARCHIVES

July 1936

The Botanical Garden of Madrid shipped a collection of plants to the Museum for identification. The plants were collected in the late 18th century by botanists under the commission of the king of Spain. The collection included 7,000 plant specimens from Mexico, all of which had been sitting untouched in vaults in Spain.

The Field Museum placed on exhibit a rare blue sheep (*Pseudois nayaur*) that inhabits the high mountains of western China. The bluish-gray sheep, which has characteristics of both sheep and goats, was shot by Col. Theodore Roosevelt about 14,500 feet in the Himalayas. Roosevelt at time was leading the William V. Kelley-Roosevelts Expedition to eastern Asia for the Field.

The Museum added to the "horned and hoof mammal exhibit" a tamarao, which at the time was an extremely rare buffalo "found nowhere in the world except the interior of the island of Mindoro in the Philippines."

August 1936

Eight emperor penguins were given to the Museum by the Chicago Zoological Society. The Society obtained the penguins from the Second Antarctic Expedition (1935) of Rear-Admiral Richard E. Byrd. Six of the penguins were alive when brought to Chicago, but soon died of an incurable respiratory disease caused by a fungoid infection.

The National Museum of Prague donated a collection of 500 Mexican plants gathered in 1791 by Thaddeus Haenke — a botanist aboard the famous Spanish voyage that circumnavigated the globe under Alejandro Malaspina.

The Royal Highness The Maharajah Gaekwar Sir Savaji Rao III, the ruling monarch of the former state of Baroda, donated valuable Indian art work, including a square stool with divisions composed of three metals: silver, brass and copper. The stool was used to hold religious objects in a Hindu temple.

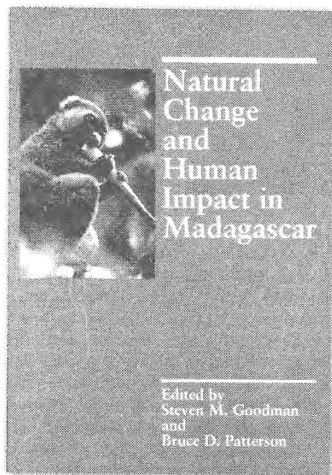
Take A Breathe; Take The Trolley

Peoples Energy Corporation is helping Chicago breathe easier this summer. The company is sponsoring two natural-gas-fueled trolleys that circulate between the Museum Campus and parking facilities — a positive step

Peoples Energy Corporation



toward reducing vehicle emissions on Chicago's lakefront. Compared with gasoline-powered vehicles, the trolleys cut tailpipe emissions by as much as 80 percent. Every day through Labor Day, the environmentally friendly and energy-efficient trolleys provide free shuttle service during museum hours from the Soldier Field, Adler and east Field Museum parking lots. So whether you are visiting the Shedd Aquarium, The Field Museum or Adler Planetarium this summer, hop aboard one of the free trolleys. Breathe easier, thanks to Peoples Energy and its clean-running, natural-gas vehicles.



Natural Change and Human Impact in Madagascar

Edited by
Steven M. Goodman
and
Bruce D. Patterson

Natural Change and Human Impact in Madagascar is available in the Museum's Main Store for \$35. (Museum members receive a 10 percent discount). The book can also be ordered by calling 312.922.9410, ext. 693.

Museum Scientists Publish Book On The Changing Face Of Madagascar

By Robert Vosper

The last two issues of *In the Field* highlighted the activities of Field Museum researchers in Madagascar — from discoveries of dinosaur fossils in the Mahajanga Basin (March/April) to studies into the phylogenetic and evolutionary history of tenrecs (May/June). And throughout the years, *In the Field* has updated readers on the work of

Steve Goodman, a Museum field biologist who has spent the last 10 years conducting biological inventories in Madagascar and training Malagasy students.

At this point you may be asking yourself: Why are Museum scientists and researchers so intrigued by a piece of land isolated off the coast of Mozambique in the Indian Ocean? Well, it depends on whom you ask.

For example, some zoologists might explain that Madagascar offers an unprecedented opportunity to study evolution on an island ecosystem. And a paleontologist might inform you that the island's fertile fossil record holds the answers to the origins of Madagascar's unique and often bizarre modern fauna. But no matter the scientists, there is one common theme that pervades most of the Museum's research on the island: a con-

cern for the future of the countless species of plants and animals that are found in Madagascar and nowhere else on Earth. The reason for this concern is best summarized in the title of a new book published by the Smithsonian Institution Press, *Natural Change and Human Impact in Madagascar*.

The book, which is edited by Steve Goodman and Bruce Patterson, MacArthur Curator of mammals, explores in depth a topic addressed in the Museum's 1995 Annual Spring Systematics Symposium, titled "Natural and Human-Induced Change in Madagascar." As organizers of that event, Goodman and Patterson realized the Museum needed to promote a better understanding of the roles that natural and human-induced processes have played on transforming Madagascar's landscape. The symposium exposed — through public lectures, technical papers, poster sessions and workshops — more than 350 scientists, students and educators to Madagascar's diverse and dynamic environments from various geological, historical and ecological perspectives.

A month after the symposium, Bruce Patterson, Steve Goodman and Jodi Sedlock, a graduate student-in-residence, edited a volume titled, *Environmental Change in Madagascar* (Field Museum Press). The volume is a collection of abstracts, both in English and Malagasy, of all the presentations from the three-day event, many of which were unsolicited.

Natural Change and Human Impact in Mad-

agascar, which is more comprehensive and cohesive than its predecessor, contains chapters written by all except one of the scientists invited to speak at the symposium, including some of the most innovative researchers from a variety of disciplines. The purpose of the book is to provide scientists, conservationists and students with an update and synthesis of current thought about how natural and human-induced variables have dramatically altered Madagascar's environment.

Goodman and Patterson organized the book into four sections: Paleoenvironment, Biota, Extinctions and Degradation, Human Effects, and The Future of Biodiversity. The chapters' authors tackle a wide range of subjects, such as the origins of lemurs and the remarkable radiation they underwent, how the gullies (lavaka) that scar Madagascar's modern landscapes were created and important programs that help bridge the void between conservation and development.

Though the authors cover a wide range of topics, most believe that only through focused and forceful action can a potential environmental holocaust be averted in Madagascar. Alison Richard and Sheila O'Connor capture this thinking in the final chapter, "Degradation, Transformation and Conservation." They write:

"Few, we suspect, have not on occasion wondered what hope there is for Madagascar's remaining natural habitats. The difficulties are huge, the problems great . . . we view the struggle as unending but the prospects as far from grim."

"Dinosaur Families" Exhibit Opening

John Weinstein /GN8267.14



For about a week prior to the opening of "Dinosaur Families" on May 24 (see "Exhibit" page), the Museum invited members of the press and special guests to a sneak preview of the exhibit. The Women's Board also hosted a fund-raiser to coincide with the opening.

(Top Right): John Flynn, MacArthur Curator of fossil mammals and chair of the geology department, talks to Channel 7 reporter Frank Mathie about the Museum's component of the new summer exhibit.

(Right): John Cody, WBBM news-radio reporter, interviews David Krause — Field Museum research associate from The State University of New York, Stony Brook — about his team's discovery in Madagascar of the first and only skull of *Majungasaurus*, a meat-eating dinosaur that inhabited the island more than 75 million years ago.

(Lower Right): Field Museum President John McCarter chats to members of the Museum's Centennial Club (members for 30 years or more). After a lunch in Stanley Field Hall, the members were treated to a guided tour of the exhibit.

(Top Left): The Museum's Women's Board held a fund-raiser where guests were treated to the sounds of the Stu Hirsh Orchestra and the culinary delights of Calihan Gotoff. They also had the opportunity to tour the new exhibit. Pictured here from left to right is John McCarter; Lynn Hummer; Withrow W. Meeker, Women's Board president; Sandy Thomas; and John Flynn. Hummer and Thomas, both Women's Board members, co-chaired the preview fund-raiser.

(Lower Left): Exhibit developers worked around the clock to get the "Dinosaur Families" exhibit ready for the opening.



John Weinstein /GN8250.16C



John Weinstein /GN8271.19C



John Weinstein /GN8271.25C



Kimberly Mazanek /GN8272.17A

Exploring The Unending Debate Over Race And Human Evolution

By John Edward Terrell
Curator, Oceanic Archaeology and Ethnology

When I was a little girl I spent hours talking to my father about the mysteries of our existence. I remember curling up beside him as he attempted afternoon snoozes, asking him again and again about the beginning of the universe." Thus begins Rachel Caspari's introduction to this important book written with her husband Milford Wolpoff.

Caspari and Wolpoff, both anthropologists at the University of Michigan, argue that what science knows about race and human evolution cannot be divorced from the changing and contradictory ideas that scientists and others have promoted since the Enlightenment about the meaning of human variation around the world. What is known about our diversity as a species is closely tied to the history of ideas about why people say diversity in race, language and culture matters.

"You cannot divorce the two," Caspari writes; "it makes sense to tell them together, and that is the essence of what we have written."

The authors are not just being politically correct or fashionably postmodernist when they say this. Understanding race and human evolution calls for explaining both the observable diversity of people and cultures around the world, as well as the unity of *Homo sapiens sapiens* as a biological species. Perhaps this task would be simple enough if human behavior was closely tied to differences in human genes. But, as Wolpoff and Caspari argue, flexibility is the hallmark of human evolution.

Because so much of our behavior is learned rather than genetic, a satisfactory theory of human origins — to use old parlance — must account both for the human body and the human soul. Anything less is simplistic and unsatisfying.

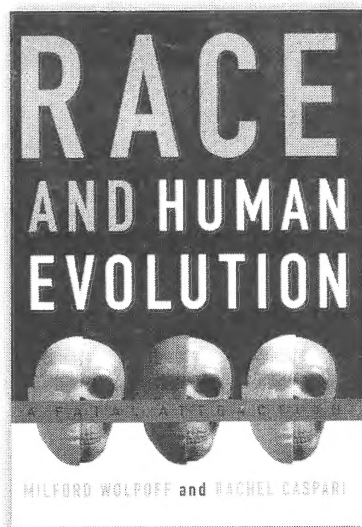
Answering even the most basic questions about our evolution is also methodologically challenging. By using the simplified assumptions, rules and procedures of modern biological cladistics (the study of evolutionary history based on phylogenetic relationships) zoologists and paleontologists can show, rigorously and well, humankind's evolutionary kinship with other species on Earth, living and extinct. But using cladistics to map human diversity in race, language and culture is like using a plumber's wrench to repair a pocket watch. There is nothing wrong with modern cladistics as an intellectual tool; it is just the wrong scientific tool for this job. Understanding diversity within our species, rather than our kinship with other species, calls for methods of fine-grain data analysis and statistical reasoning that for the most part, sadly, have not yet been invented.

In addition, the kind of data studied can make quite a difference in how scientists reconstruct what happened in the past. Some scientists today think molecular biology is phasing out human bones as the backbone of research on human evolution. Basing their arguments on modern blood group variation, DNA studies and similar data drawn from living peoples around the world, geneticists and others argue that the origins of *Homo sapiens sapiens* can be traced back recently (say 100,000 to 200,000 years ago) and solely to

Africa — a view the popular press calls the "Out-of-Africa" argument.

In contrast, Caspari and Wolpoff are experts in the study of human fossils. Basing their argument on bones, not genes, they conclude that our ancestors must have left Africa for the first time 1 million to 2 million years ago — a completely different magnitude of time. They believe that even when the first human colonists reached the farthest corners of the globe, our ancestors kept in touch with one another often enough that we all still share our common humanity even though we are scattered from Africa to Asia and the Pacific, and from the Arctic to (nowadays) the Antarctic. As the popular saying goes, we are one species, "one color, just different shades," in spite of our rich diversity of local customs and ways of speaking.

Race and Human Evolution stands out in a strong field of recently published books as unquestionably the best written, best general guide to thought and controversy surrounding the evolution of modern *Homo*.



Milford Wolpoff and Rachel Caspari, *Simon & Schuster*, New York, 1996 \$26.

The Museum Exposes Its Past To The British

By Robert Vosper

Since the day The Field Museum opened its doors to the public in 1893, staff photographers have been frantically running around the building in an attempt to keep up with all the Museum's daily activities. On any given day, this may include taking a few shots of a renovation project to using a dozen rolls of film to document the installation of a new exhibit. Few, if any, of these "behind-the-scenes" images are ever seen by the public.

This is exactly why Vid Ingelevics, a guest curator at London's Photographers' Gallery developed the exhibit, "Camera Obscured" — a collection of 89 photographs from the archives of major public museums in Europe and North America, including 12 from The Field Museum.

Ingelevics' motivation, however, was not just to provide a public venue to showcase the talents of museum photographers from around the world.

"My interest lay in exploring the way in which photography has left us with a remarkable but neglected history of public museums," he said. "Museums, especially art museums, have done much to define how we understand the history of photography. But rarely has the photographic documentation that museums have produced of their own activities been seriously looked at as a coherent body of work that offers a way of understanding museums as historical artifacts."

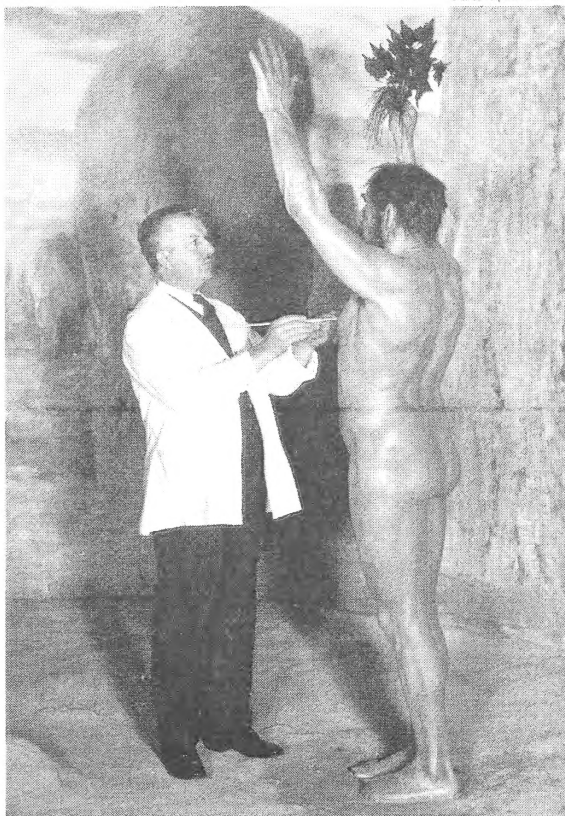
All the photographs on display at the London gallery were taken between 1856 and

1960, and depict museums as a "social space and a site of labor." There is specifically an emphasis on the act of photography, with images of photographers at work at The Field Museum, the American Museum of Natural History, the Metropolitan Museum of Art and the Britain's Victoria and Albert Museum. Other photographs on display also include those from the Art Institute of Chicago, the Royal Ontario Museum, the British Museum, the Natural History Museum, Le Louvre, The Muséum National d'Histoire Naturelle and the Deutsches Museum.

The Field Museum's contribution includes the photograph (right) of artist Frederick Blaschke adding some finishing touches to a model of a neolithic sun worshiper for a diorama (circa 1930). Other Field photographs on display include two artists painting dioramas in 1957 and workers moving collections from the Museum's former home in Jackson Park around 1920.

Nina Cummings, the Museum's photo archivist, helped Ingelevics select and locate images from the Field Museum's photography archives, and Kimberly Mazanek, a staff photographer, developed all the prints by hand onto fiber paper. Though more time consuming than machine printing them onto resin-coated paper (used for consumer-quality prints), fiber prints will not deteriorate as quickly over time and is the preferred format for exhibitors and archivists.

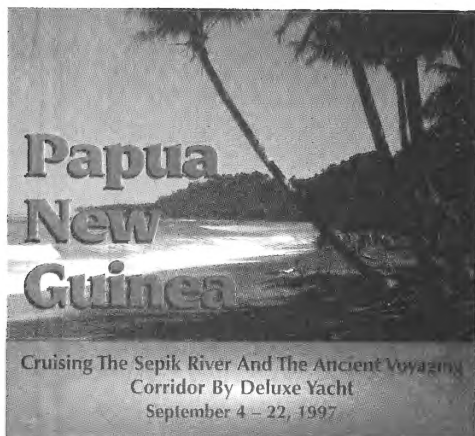
Though the London exhibit closes in July, Ingelevics hopes to eventually bring "Camera Obscured" to North America.



Charles Carpenter (A7746)



FIELD MUSEUM TOURS 312.322.8862



New Guinea Research Program

This Field Museum tour represents a rare opportunity to explore the north coast of New Guinea aboard a 42-berth luxurious catamaran. Throughout the trip we will visit islands and villages unexplored by tourists and cruise ships. Led by Field Museum Anthropology Curators John Terrell and Robert Welsch, this trip will not only take you on a journey to lush rain forests and beautiful coastlines, but will offer a rich learning experience and in-depth exploration of the world's last great unspoiled reservoirs of nature, culture and art.

Papua New Guinea presents one of the world's great trav-

el adventures. It is a land where villagers were colonial subjects only 21 years ago, and many were using stone tools a generation earlier. Yet these stone-aged peoples are now struggling to integrate themselves into the technology of the late 20th century. Large mining projects and industrialization have already made inroads into most parts of the country, and the current generation is the last to have grown up in a land dominated by traditional customs and rituals.

This is a Field Museum tour from start to finish. We will sail down the Sepik River, stopping at different villages to sample the region's cultural diversity. In each village we will discover cultural differences and unexpected variations in art styles, architecture and daily life. The upper, middle and lower Sepik River were visited in 1908 and 1910 by Museum Anthropology Curators George A. Dorsey and A.B. Lewis.

From the Sepik River it is on to the coast between the towns of Wewak and Aitape, where we will visit islands and villages where Field Museum anthropologists have been conducting their research since 1987. Here we will explore archaeological excavations and meet the villagers who have welcomed Terrell and Welsch into their homes. Throughout the cruise it will become increasingly apparent why this part of New Guinea is so important for current anthropological and archaeological research, much as it was 90 years ago when the first Museum scientists studied these cultures.

The cost of tour, excluding airfare, is \$6,875. For those interested, the Museum has negotiated a special airfare, \$1,975, that includes airport departure taxes.

EGYPT

Land Of The Pharaohs

February 2 - 16, 1998

No other area of the world possesses such a concentration of truly monumental sights and historic landmarks: the Pyramids, Abu Simbel, the Sphinx, Luxor, Karnak and the Valley of the Kings. From the resplendent barges with prows of beaten gold used by the Pharaohs, to today's colorful feluccas that ply their way on the Nile, there is an endless list of splendors to explore.

You, too, can follow their ancient paths, enjoying the fabled sights and absorbing the atmosphere of the country during an eight-day cruise on the splendid *m.s. Nile Empress*. With a maximum capacity of only 50 passengers — accommodated in spacious cabins, each with its own picture window — it is more like a private yacht than a passenger ship. But the public areas and facilities, including sun deck, pool, bar,

lounge and dining room make the yacht the equal of any large luxury liner. Your Egypt experience will be greatly enhanced by the excellent leadership of distinguished Egyptologists who will conduct all sightseeing tours and shore excursions. Through their special lectures and through visits to exclusive sites not open to the public, travelers will gain rare insights into the people and cultures of the Land of the Pharaohs. On this trip you will also experience the Nile as few Americans ever will. However, our relaxed pace allows everyone to pursue their own interests without missing one precious moment of the magnificent Nile. There is also an optional six-day extension to Jordan. Please call the Tours office for pricing.



Coming in 1998 . . .

Impressions of South America (Feb. 6 - 20, 1998) • Galapagos Aboard Santa Cruz (March) • China (September) • Tunisia Unveiled (October) • Grandparents/Grandchildren Tour Program (Summer 1998)