

metamorphosis



Annual Report July 2004 - June 2005

the SAMNOBLE OKLAHOMAMUSEUM of NATURAL HISTORY THE UNIVERSITY OF OKLAHOMA

BOARD OF VISITORS

Barbara Paul, Chair Mervin Barnes Chester Bynum Debbie Copp Melanie Hall Charles Hollingsworth Sandy Kinney Sue Lunsford Jan Meadows Jessica Nance Les Risser Carolyn Taylor Chuck Thompson

SNOMNH The University of Oklahoma 2401 Chautauqua Avenue Norman, OK 73072-7029

> www.snomnh.ou.edu 405-325-4712

MISSION STATEMENT

The Sam Noble Oklahoma Museum of Natural History at the University of Oklahoma inspires minds to understand the natural and cultural world through collection-based discovery, interpretation and education.

We do this by:

Collecting and maintaining specimens, cultural objects and associated data, including linguistic and ethnographic, for current and future research and exhibits

Conducting and disseminating research to increase knowledge

Teaching university students to develop critical thinking skills

Educating the public through programs and exhibitions to increase scientific literacy

Conducting K-12 school programs to enrich classroom experiences

Adopted: December 2003

table of contents



Letter from the Director	2
Exhibits	3
Education	6
Visitor Services	10
Research and Collections	14
Development	19
Financial Information	21
Publications and Grants Received	22
Volunteers	24
Donors and Sponsors	26
Credits	28

Danaus plexippus (Monarch butterfly)



letter from the Firector



Noted philanthropist John W. Gardner once stated that "like people and plants, organizations have a life cycle. They have a green and supple youth, a time of flourishing and strengths, and a gnarled old age." Like many organizations, the Sam Noble Oklahoma Museum of Natural History survived its youth, endured growing pains and now has come into its own as a flourishing organization, building on its strengths. To ensure that we continue to flourish and to direct our growth, the staff went through a process of strategic planning and produced an eight-year plan to move us forward.

Ellen Censky, Museum Director

The plan outlines five areas (Public Programs, Research and Collections, Visitor/Community Focus, Institutional Capacity and Financial Stability) with 17 objectives ranging from creating exhibits and programming that provide an engaging experience for visitors,

to ensuring the integrity of the collections and strengthening the research culture of the museum, to building upon our positive and productive relationship with the community, to providing an atmosphere of respect and collaboration among staff, to ensuring that we are able to withstand any financial perturbations that come down the road.

During the past year we have accomplished several of our objectives. Those include but are not limited to the following initiatives. We committed to bringing large-scale traveling exhibits on natural and cultural topics to the museum to attract a wide audience. The first of these was **Hunters of the Sky**, a fascinating exhibit on birds of prey that proved to be popular among young and old. Our education department was busy providing teachers with hands-on science training and tools to develop curriculum for their classrooms. They also have been assessing current programs and developing new programs. We introduced several new events for members and visitors, including *Meet Me at the Mammoth, What on Earth! Object ID Day,* and *Member's Night: Behind the Scenes.* Our collections continue to grow through donations from individuals and as a result of field work and research conducted by our scientists. They have been active in many parts of the United States and abroad. Their discoveries are too numerous to discuss here, but you can read about some in the pages that follow.

As you read through this annual report, I hope that you will be favorably impressed with all that we have accomplished and the changes that are taking place. John Muir stated, "as soon as you start to change one part of nature, you realize it's connected to everything else." As we change, so do you and vice versa. Your involvement in the museum helps to provide direction to our change and new visions for our future.

exhibits



A good beginning makes a good ending. -English Proverb

The museum's exhibits are the public face of the museum and are central to the museum's core mission of interpretation of the natural world and education of the public regarding natural history. The exhibits team carries out their vital part of this mission through maintenance of existing permanent galleries, expert installation of special exhibitions, and development and creation of both temporary and permanent exhibits from museum collections.

member of the Heliconiidae

FY 2005 SPECIAL EXHIBITS:

Structures of Nature: Photographs by Andreas Feininger (July 31, 2004 – Jan. 17, 2005)

> **Cheyenne Visions** (Aug. 28 – Nov. 28, 2004)

With Patience and Goodwill: The Art of the Arapaho (Aug. 28 - Nov. 28, 2004)

No Ordinary Land: Encounters in a Changing Environment (Dec. 9, 2004 – April 3, 2005)

Eye of the Artist: A Selection of Paintings by George M. Sutton (Dec. 9, 2004 – Jan. 30, 2005)

Hunters of the Sky (Feb. 19 – May 30, 2005)

Wine, Water and Olive Oil: Vessels from the Mark Allen Everett Collection (opened April 19, 2005)

Art and the Animal (opened June 21, 2005)

SPECIAL EXHIBITS

In addition to maintaining the museum's four permanent exhibit galleries in good working order, the exhibits team mounted eight special exhibits. The largest of these, Hunters of the Sky, was the museum's first venture into bringing large-scale traveling exhibits to the museum's audience. Hunters of the Sky (Feb. 19 through May 30, 2005) was an interactive exhibit that gave visitors insight into the lives of all kinds of birds of prey. The exhibit also looked at the role birds of prey have played in human culture through a sampling of their use as symbols in art, literature and religions from around the world, with particular emphasis on the



The special exhibition **Hunters of the Sky** featured dozens of birds of prey, including a display focusing on peregrine falcons in modern cities.

Native American relationship to eagles and other raptors. At 6,000 square feet, this was the largest special exhibition the museum ever has mounted, filling two temporary exhibits galleries. **Hunters of the Sky** was a big success, increasing museum attendance by 16 percent during the same period the previous year.

Three special exhibits that had opened in the previous year closed and were disassembled by exhibit staff. Those included **New Territory: Women Behind the Camera in Oklahoma Before 1907** (closed Aug. 19, 2004); **Visions for the Next Millennium: Photographs by Clyde Butcher** (closed Aug. 16, 2004); and **Amazonian Diversity: Through the Eyes of Reptiles and Amphibians** (closed Dec. 1, 2004).

> Hunters of the Sky would not have been possible without the support of The Noble Corp., The Samuel Roberts Noble Foundation, Noble Energy, Inc., and BancFirst. We also were fortunate to have Lamar Outdoor Advertising, KWTV Channel 9 and The Oklahoman as media sponsors.

TRAVELING EXHIBITS

Exhibit staff disassembled the Allosaurus skeleton at the entrance to the Ancient Life Gallery to clear the temporary exhibits area for **Hunters of the Sky**. The skeleton was transported to the Ronald J. Norick Downtown Library in Oklahoma City and reassembled in the new library's beautiful atrium. The complete cast remained on display at the library from December through May, serving as a popular ambassador for the museum to the thousands of library visitors.



Young Grayson Coldwell gets an up-close look at the museum's Allosaurus skeleton as it is being assembled in the atrium of the Ronald J. Norick Downtown Library in Oklahoma City.

The traveling exhibit program, featuring portable exhibits that are available for rental, continues to be active. In the 2005 fiscal year, four exhibits: **Puzzles, Paleontologists, and Prehistoric**



Native American Games is one of the museum's popular traveling exhibitions available to schools, libraries and other venues around the state.

Life; Native American Games; The World of the Red-tail Hawk; and Earth's Living Wealth, were provided to 10 venues across the state, including schools and other museums.

PERMANENT EXHIBITS

Big things are in the works for the future of the museum's permanent exhibits. This year, exhibit staff and members of other museum departments worked with Chase Studio, Inc. to develop concept drawings and floor plans for two new permanent galleries, the introductory gallery and an introduction to the Ancient Life Gallery. These exhibits will go into construction as funds become available.



Chase Studio, Inc.'s rendering of a new introductory gallery, which is in final planning stages for the museum's first floor.

education



The displacement of a little sand can change occasionally the course of a deep river. –M. Gonzalez Prada

The museum's education department is engaged in designing and executing programs for a range of audiences to increase overall scientific literacy in the state and to encourage appreciation and discovery of the natural world. The bulk of these programs are for school groups, with more than 23,000 children visiting the museum as part of their school field trip program.

During the 2004-2005 school year, the education department conducted 367 educational programs for 8,495 elementary through high school students in the museum. Programming also was provided for more than 120 elementary and middle-school teachers.

KIDS' PROGRAMS

The museum's summer programs for children continue to be popular, expanding in FY 2005 to 17 classes for children ages 5 through 14 during a nine-week span in June, July and August. Some popular favorites such as Wild About Water and Jurassic Explorer returned, and new classes were added, including Native American Games and Survival Arts for ages 9 to 11 and a herpetology class for older children.



Students in the summer Wild about Water class wade into a pond in search of fish, crawdads and other specimens.

Each year, Girl Scout badge programs are offered by the museum through the Sooner Girl Scout Council. These half-day programs allow each Scout to complete all the requirements necessary to receive a badge in the topic at hand. In FY 2005, 159 Scouts participated in these programs, which included the Yarn and Fabric, Rocks Rock, Your Outdoor Surroundings, and Science Discovery badges as well as a Plant Life interest project program.

ADULT AND FAMILY PROGRAMS

Adult programming in FY 2005 was offered through a film series, field

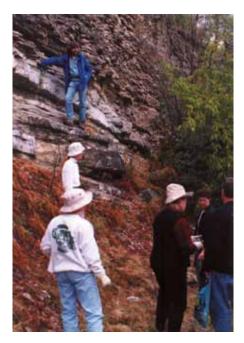


Cadette Girl Scouts built their own mini-museum dioramas as a part of the *Museum Discovery* badge workshop offered by the education department.

trips and hands-on workshops. This programming included the return of American Museum of Natural History's Margaret Mead Traveling Film and Video Festival, made possible in part by a Norman Arts Council grant, funded by the Norman Hotel/Motel Tax.

Adult workshops in FY 2005 included two fall sessions of the popular Preserving Your Family Treasures class led by the museum's new conservator, Victoria Book; Invertebrate Fossil Field Trip, led by Invertebrate Paleontology Curator Steve Westrop; and a class in Dutch Oven Cooking taught on the museum grounds. Landscape designer Steve Hill conducted a workshop in creating a wildlife habitat; artist Debby Kaspari conducted a workshop in field sketching, complete with a field trip to a restricted area inside the Wichita Wildlife Refuge; and botanist Wayne Elisens conducted a wildflower biology workshop.

Family programs, for adults and children ages 8 and up, included an eagle-watching field trip to Lake Eufaula State Park and a *Family Fossil Dig* field trip conducted by Steve Westrop.



Curator of Invertebrate Paleontology Steve Westrop guides participants in their search for invertebrate fossils.

TEACHER WORKSHOPS Science Institutes

In June 2005, the education department partnered with the Norman Public Schools to provide an intensive two-week professional development program for 36 elementary school teachers. The program was made possible by a \$200,000 grant provided through the Oklahoma State Board of Education to promote mathematics and science partnerships across the state. The museum served as the hub of the program, pairing teachers with museum curators and other scientists at the University of Oklahoma to experience hands-on work in ongoing research projects. Teachers then came together in museum classrooms for science pedagogy classes conducted by the OU Science Education Center to assist them in developing inquirybased science curricula for their

classrooms. The program was based on a model developed by the museum for a 2004 Institute for Museum and Library Services grant to provide similar programs for Oklahoma middle school teachers. In both programs, the teachers who participated in the summer will return several months later to take part in a follow-up workshop.

H.E.L.P. Workshops

The museum continues to offer life-sciences continuing education workshops for teachers as an outgrowth of workshops members of the department attended at the Bronx Zoo in 2004. The workshops, called "Using H.E.L.P. To Teach Science in the Classrooms," are based on the Habitat Ecology Learning Program developed by the Wildlife Conservation Society and the Bronx Zoo, which integrates science and ecology with math, reading and social studies. Forty fourth- through sixth-grade teachers participated in the program in fall 2004.



Teachers participating in a H.E.L.P. workshop on grasslands conduct a field survey of grass species on the museum's south grounds.

ONGOING AND INFORMAL PROGRAMS

Discovery Sundays, the education department's drop-in program for children, has been extremely successful, expanding to include a Saturday program in the summer of 2005. Each Saturday and Sunday at 3 p.m., an informal presentation is offered by museum staff in the Discovery Room. Programs deal with natural history themes and range from live animal presentations of insects or reptiles to fossil discovery, Native American history or examination of specimens from museum collections. Audiences range from ages 3 to adults, and the programs always are well received and well attended.



Student Education assistant Jennifer Kirkpatrick helps a young Discovery Room visitor with a craft project as part of the museum's Discovery Sunday series.



Peter Tirrell, the associate director, demonstrates modern falconry techniques with his red-tailed hawk.

Museum Family Days are a very popular way of providing informal education opportunities to the visiting public, and this year's big exhibit, Hunters of the Sky, provided ample opportunities. Two Family Days held in February and March in conjunction with the exhibit were attended by more than 1,500 people. These included presentations of live hawks by Associate Director Peter Tirrell, a live American bald eagle presentation by the Sutton Avian Research Center, presentations by Native American storytellers and dancers and craft activities for children.

visitor services



Nothing is permanent but change. -Heraclitus

One major tenet of the SNOMNH's mission is to offer a wide array of activities, events and programs for the public designed to inspire minds to understand the natural and cultural world. FY 2005 strengthened the museum's interaction with the community through the continuation of many popular museum events and the introduction of a new favorite.

Speyeria cybele

MEET ME AT THE MAMMOTH

"Jurassic Jazz" was the theme of the evening at the museum's Meet Me at the Mammoth series. Held on the third Thursday of each month, Meet Me at the Mammoth made the museum's galleries available during special evening hours, featured gourmet coffees and desserts and allowed natural history hipsters to enjoy live jazz and dancing in the museum's 5,000-square-foot Great Hall. The series ran from July through Oct. 2005.



Jeanne and Gary Tesch of Norman cut a rug at Meet Me at the Mammoth.

HOLIDAY HAPPENING

On Dec. 8, 2004, the museum offered its fifth annual Holiday Happening, a festive evening of holiday music and activities. This annual event has become a community tradition and is among the most well-attended events that the SNOMNH offers each year. In addition to holiday-themed activities, Holiday Happening provides free museum access to a wide and diverse audience and helps to attract new and



Even the bronze mammoth in the museum Pleistocene Plaza gets into the holiday spirit for the annual Holiday Happening event.

non-traditional museum visitors. At this event, Oklahomans of all ages explore the museum's exhibits and galleries without regular admission fees, enjoy live musical acts, have photos taken with Santa, enter to win a variety of door prizes, and enjoy special "onenight-only" discounts in Excavations, the museum store. Children and young adults also can participate in holidayand science-themed activities that allow them to explore natural history in an interactive, fun environment. More than 1,000 individuals attended this celebration for the community in 2004.

DINO EGG HUNT

A bright spring afternoon and hidden prizes brought more than 975 children and families to the museum for the 2005 *Dino Egg Hunt*. Held on March 23, 2005, this interactive event transformed the front lawn of the museum into a special place for children to hunt for prize-filled eggs, take part in activities and meet the Easter Bunny and SNOMNH's own "Slash" the Dinosaur. Co-sponsored by the JC Penney Leadership Program in the Price College of Business, this year marked the third successful year of egg-hunting fun.

OKLAHOMA NATIVE AMERICAN YOUTH LANGUAGE FAIR

As one of the most important programs of the museum's department of Native American Languages, the Oklahoma Native American Youth Language Fair helps to keep native languages alive by motivating students to speak, write and take pride in many of Oklahoma's

2005 OKLAHOMA NATIVE AMERICAN YOUTH LANGUAGE FAIR SPONSORS

Fair Directors: Otoe-Missouria Tribe of Oklahoma

Fair Contributors:

Oklahoma State Department of Education – Department of World Languages Pawnee Nation of Oklahoma University Silkscreen

Fair Supporters:

Absentee Shawnee Tribe of Oklahoma Albertson's Braum's Ice Cream and Dairy Stores Campus Corner Market Cherokee Nation Industries Cheyenne and Arapaho Tribes of Oklahoma Chickasaw Nation of Oklahoma Chickasaw Nation of Oklahoma Chickasaw Nation of Oklahoma Citizen Potawatomi Nation Comanche Nation Delaware Nation OU Department of Anthropology OU Department of Native American Studies Wichita and Affiliated Tribes highly endangered languages. By encouraging students to participate in public speaking, writing and art, the fair provides a culturally appropriate way to exhibit language learning and receive supportive feedback from tribal elders. Held on April 4, 2005, the third annual fair was the most successful to date, with 621 attendees ages 3 to 18 representing 24 tribes and speaking 18 native languages. This represents an increase in participation of more than 300 percent since the fair began two years ago.



Participants in the Oklahoma Native American Youth Language Fair compete in the performance category.

WHAT ON EARTH!

More than 350 people brought objects ranging from bones to bugs to be identified at the museum's first annual What On Earth! Object I.D. Day. This new, free public event offered visitors an opportunity to bring in their natural history objects to be identified by earth, life and social sciences experts from the museum, the Oklahoma Biological Survey, the OU College of Geosciences, the OU Department of Anthropology, the Robert Bebb Herbarium and the Oklahoma Department of Wildlife Conservation. More than 100 objects were identified and de-mystified in this fun day of hands-on learning, sponsored by Republic Bank and Trust of Norman. In addition to making identifications, experts helped attendees discover the origin of objects, answered general questions and provided resources for additional information and learning. Visitors also were able to view unique and unusual specimens from the museum's collections. Some of the most notable items brought in to "stump the curators" included a whale vertebra that measured more than 18 inches across, a handful of Greek coins dating back more than 2,000 years and a feathered headdress from southern Mexico or Central America.

TEEN VOLUNTEERS

In summer 2005, the SNOMNH held the fourth year of its successful Teen Volunteer Training Program. This interactive program allows young adults from around the state to expand their knowledge of Oklahoma's natural history and trains them to effectively share this knowledge with museum visitors. Made possible by the Robert S.

and Eloise C. Bowers Foundation, the 2005 Teen Volunteer Program provided 20 teens with a unique opportunity to spend their summer vacations learning valuable job skills; gaining experience with teaching and public speaking; interacting with scientists and museum professionals; and growing in selfesteem, self-confidence, knowledge and pride. This year's teens came from five different cities and towns in Oklahoma. and were 13 to 15 years of age. The program opened on June 6, 2005 and continued for six weeks of training and instruction, which included 25 hours of direct public interaction in the museum's galleries.



The 2005 Teen Volunteers pose in front of the museum's bison. Teens in the program came from Cheyenne, Lexington, Moore, Norman and Oklahoma City.

research and collections



It is curious to note the old sea-margins of human thought. Each subsiding century reveals some new mystery; we build where monsters used to hide themselves. –Longfellow

The museum's research and collections departments are the beating heart of the museum. Driven by 12 curators in 10 collections departments, the museum's research programs make an active and vital contribution to the furthering of scientific inquiry in the life, earth and social sciences at locations around the globe. On the following pages are just a few highlights from the year.

member of the Nymphalidae

ARCHAEOLOGY

In summer of 2004, the museum acquired a remarkable archaeological find from eastern Oklahoma: the skull of a young bison, dated at around 5,000 years old, with a stone spear point buried in the bone. The find provides the first conclusive evidence that people of Oklahoma's ancient Calf Creek culture were hunting bison. The skull and point are now on permanent display in the museum's Hall of the People of Oklahoma, and continue to be a source of media attention. In summer 2005, the skull, along with Curator Don Wyckoff, was featured in an episode of the PBS series "History Detectives."



This skull of a young bison features an embedded stone spear point made by the people of the Calf Creek culture who lived in Oklahoma 5,000 years ago.

ETHNOLOGY

While the nationwide search for a new curator of ethnology is under way, the museum continues to receive regular donations of ethnographic objects, which are being cataloged into the collection by the collection manager. These include three Mayan textiles, a watercolor by George M. Sutton, six Spanish-American Santos carvings from New Mexico, a Native American ceramic piece by Maria Martinez, a Cheyenne eagle-feather headdress and objects from Indonesia. The Native American art collection also received an important sculpture by Oklahomaborn artist and OU alumnus Robert H. Annesley (Cherokee). The bronze sculpture, titled "Tso-Batso 'To The Rocks," depicts a famous attack on a Kiowa village by raiding Osage.



"Tso-Batso 'To The Rocks." Bronze sculpture by Robert H. Annesley (Cherokee), 1978.

NATIVE AMERICAN LANGUAGES

Curator Mary Linn received a three-year, \$300,000 grant from the National Science Foundation's division of Behavioral Sciences to develop a grammar guide and dictionary of Euchee language. The Euchee are a tribe located in eastern Oklahoma. Though they are not a federally recognized tribe, they have managed to preserve their own distinct language, despite the fact that there currently are only a handful of native Euchee speakers remaining. Linn meets weekly with several of the tribe's elders in Sapulpa, where they work together to elicit and document Euchee words on a range of topics.



A flip chart from one of Native American Languages Curator Mary Linn's language sessions with Euchee tribal elders shows the Euchee words at left and their meaning at right.

HERPETOLOGY

The museum's herpetology curators, Laurie Vitt and Janalee Caldwell, spent the fall of 2004 in Brazil conducting field work. Three weeks were spent in a transitional forest in Cachimbo in the state of Pará, and the remainder of the time was spent in Jalapão in the state of Tocantins. Both of these sites are part of the extensive savanna-like habitat of Brazil's central high plains called the Cerrado, which is rapidly disappearing as habitats are destroyed to produce large farms. The area is considered the world's most biologically rich savanna habitat.



Herpetology Curator Laurie Vitt wades into an Amazonian swamp to view a nest of newborn anacondas.

ICHTHYOLOGY

Curator Edie Marsh-Matthews is working in conjunction with Oklahoma State University to produce a Digital Atlas of Oklahoma Fishes, scheduled to be available online by summer 2006. The atlas will provide information on distribution of all fish species in Oklahoma, based on specimens housed at the SNOMNH and the OSU Vertebrate Research Collections. The online database will allow users to search by several criteria, including species, location, date of collection and collector. The project is funded by grants from the Oklahoma Department of Wildlife Conservation.



Ichthyology Curator Edie Marsh-Matthews at work in her laboratory near the museum.

MAMMALOGY

Curators Janet Braun and Michael Mares, along with students and staff of the department of mammalogy, continue to examine the systematics and biogeography of Argentine mammals and to discover new genera and species with the support of grants from the National Science Foundation and the University of Oklahoma. A strong collaborative relationship has developed with Oklahoma State University, which has resulted in training and mentoring of graduate and undergraduate students, and in the completion of five projects using molecular and morphological data from the specimens collected from this research.



A hoary bat, Lasiurus cinereus, collected in Catamarca Province, Argentina.

ORNITHOLOGY

Curator Gary Schnell and his graduate student have been conducting research to answer a broad question about how breeding birds perceive their environment and the importance of scale in determining the abundance of individual species. In effect, they are investigating how big a suitable habitat patch needs to be for a species to become abundant. Using data on flycatchers, buntings and related species from breeding bird surveys in a five-state region, coupled with information on types of land cover along bird survey routes, they have studied how correlations of species abundances with landscape features change with the size of the available area.



Ornithology graduate student Sarah P. Brennan conducting field work in Oklahoma's Black Mesa area.

INVERTEBRATE PALEONTOLOGY

Curator Steve Westrop is now two years into a three-year National Science Foundation grant to study mass extinctions of trilobites that occurred 500,000 years ago. With his graduate students, Westrop collected trilobite fossils and associated rock from Minnesota, Wisconsin, Utah and southern Idaho in FY 2005. He studies details of the rock to learn more about the environmental conditions at the time of the extinctions, with a goal of determining whether these conditions were factors in the events.



A scanning electron microscope image of the head of a trilobite named *Irvingella*.

PALEOBOTANY

Curator Rick Lupia and his graduate student conducted field work in the Bighorn Basin of Wyoming where they collected sediment samples. Lupia will conduct studies on the ancient pollen and spores found in the samples and also will study the paleomagnetism of the samples – the permanent magnetic "signature" in the samples left by the orientation of the earth's magnetic field at the time they were formed. The team also collected new specimens of leaf compressions from the Late Jurassic and Early Cretaceous periods.



Ginkgo-type plant fossil from a new locality in northern Wyoming. Scale bar is 10 millimeters long.

VERTEBRATE PALEONTOLOGY

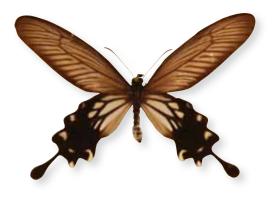
Vertebrate Paleontology Curator Rich Cifelli has been working for many years to try to develop a record of all terrestrial life in North America during the last of the Age of Dinosaurs. Dramatic changes occurred between the Late Jurassic—150 million years

ago- and the Late Cretaceous, which ended with the extinction of the dinosaurs 65 million years ago. Cifelli's field work in 2005 focused on filling in information about a 30-million-year interval within the Early Cretaceousfrom about 140 to 110 million years ago-about which very little is known. Cifelli traveled to the Black Hills of South Dakota to investigate rocks in the Lakota Formation, one of only a few rock formations of the right age in North America that have yielded vertebrate fossils. The team collected and identified as many fossils as possible to begin building a complete picture of the fauna of the times. Notable amona the discoveries are the first mammals to be known from this time period anywhere in North America, including a presumed relative of the living marsupials and placentals.



Vertebrate Paleontology Curator Rich Cifelli with his team collecting fossils in the Black Hills of South Dakota.

Tevelopment



Each new season grows from the leftovers from the past. This is the essence of change and change is the basic law. —Hal Borland

FY 2005 was a productive year for the museum's development office. From introducing new events for museum supporters to creating a new staff position, the museum's development efforts continue to connect individuals, foundations and corporations with the SNOMNH's important educational mission in the state.

MEMBER'S NIGHT

Held on Oct. 26, 2004, the first annual Member's Night: Behind the Scenes allowed museum members to glimpse the inner workings of the museum's laboratories, collection areas and other facilities. The event provided an opportunity for members to meet curators and staff, tour collections areas not normally accessible to the public, view thousands of objects never before displayed and watch demonstrations of museum research techniques. Almost 170 members attended the event, which also included interactive activities for all ages, live music and demonstrations in the museum galleries.



Gray McCutchen, a young museum member from Edmond, gets a close-up look at the fossilized skeleton of Tenontosaurus in the vertebrate paleontology lab during Member's Night: Behind the Scenes last fall.

MEMBER OPENINGS

Special exhibit openings in FY 2005 gave museum members the opportunity to gain a special "sneak preview" of exhibitions before they became available to the public. For the museum's first large-scale, traveling "blockbuster" exhibit, **Hunters of the Sky**, more than 500 individuals attended the exclusive exhibit preview on Friday, Feb. 18 and more than 900 individuals visited the museum on the exhibit's official opening on Saturday, Feb. 19. This represents the largest opening at the SNOMNH since the opening of the new facility in 2000. Members also were invited to the opening for a special exhibit titled **Wine, Water and Olive Oil: Vessels from the Mark Allen Everett Collection** on April 18, 2005.

OU STAFF / FACULTY MEMBERSHIP

In acknowledgement of the special relationship that the museum shares with the University of Oklahoma, the SNOMNH created a new membership category for OU faculty and staff. This new category provides standard membership benefits for university employees at a discounted rate. A membership drive was conducted in fall 2004, resulting in almost 100 new members.

NEW POSITION

As the museum's exhibits, programs and events continue to grow and expand, so does the need for corporate and foundation support to help underwrite the cost of these activities. To continue to offer the very best educational programming and special exhibitions possible, the museum created a new development position in fall 2004. The museum's new Corporate and Foundations Officer began in December 2004 and was charged with finding, developing and maintaining relationships with corporate and foundation funding sources. In addition, this position will oversee the development of a new Annual Sponsorship program for businesses and corporations.



financial information

FISCAL YEAR 2005 (JULY 1, 2004 - JUNE 30, 2005) Revenue Support and Expenses for General Operations

REVENUE Admissions Membership Gifts and Grants* Net Investment Earnings Program Fees Special Events Café Rental Gift Store/Retail Misc. Income State (OU) Allocation	\$195,290 \$66,946 \$100,674 \$53,410 \$73,737 \$46,285 \$11,000 \$316,444 \$13,092 \$3,485,004	Admissions Membership Gifts and Grants* Net Investment Earnings Program Fees Special Events Café Rental Gift Store/Retail Misc. Income State (OU) Allocation
Total Revenue	\$4,361,882	State (OU) Allocation
*only grants for general operations, does	not include research grants	

EXPENSES

Research/Collections Education	\$1,326,586 \$231,468
Exhibits Visitor Services	\$412,609 \$205,228
Facilities	\$203,228 \$774,007
IT/Computing	\$148,980
PR/Marketing	\$171,100
Development	\$107,677
Gift Store/Retail	\$362,718
Administration/Finance	\$497,702
Encumbered - Permanent Exhibits/ Special Projects	\$123,807
Total Expenditures	\$4,361,882

publications and grants received



PAPERS PUBLISHED

- Amati, L. M. and S. R. Westrop. 2004. A systematic revision of Thaleops (Trilobita: Illaenidae), with new species from the Middle Ordovician of Oklahoma and New York. Journal of Systematic Paleontology, 2: 207-256.
- Balakrishnan, Yapp, Theler, B. Carter and D. Wyckoff. 2004. Environmental Significance of 13C / 12C and 18O/16O Ratios of Modern Land-Snail Shells from the Southern Great Plains of North America. Quaternary Research 63:15-30.
- Braun, J. K., R. A. Van Den Bussche, P. Morton and M. A. Mares. 2005. Phylogenetic and biogeographic relationships of the mouse opossum *Thylamys* (Didelphimorphia, Didelphidae) in southern South America. Journal of Mammalogy, 86:147-159.
- Braun, J. K. and M. A. Revelez. 2005. Distributional records and comments on Oklahoma mammals. The Texas Journal of Science 57:3-24.
- Caldwell, J. P. and M. C. de Ataujo. 2004. Historical and ecological factors influence survivorship in two clades of phytotlm-breeding frogs (Anura: Bufonidae, Dendrobatidae). Special Publications. Museum of Zoology, Univ. Michigan 193:11-21.
- Caldwell, J. P. and L. J. Vitt. 2004. Historical Perspectives: Charles C. Carpenter [Biography]. Copeia 2004:704-708.

- Czaplewski, N. J. 2004. A glyptodont (Mammalia: Xenarthra) from northern Oklahoma. Oklahoma Geology Notes 64:4-10.
- Dexter, N., R. C. Dowler, J. P. Flanagan, S. Hart, M. A. Revelez and T. E. Lee, Jr. 2004. The influence of feral cats Felis catus on the distribution and abundance of introduced and endemic Galapagos rodents. Pacific Conservation Biology 10:210-215.
- Eggleton, M. A., R. Ramierez, C. W. Hargrave, K. B. Gido, J. R. Masoner, G. D. Schnell and W. J. Matthews. 2005. Predictability of littoral-zone fish assemblages through ontogeny in Lake Texoma, Oklahoma-Texas, USA. Environmental Biology of Fishes 73: 21-36.
- Forest, F.V. Savolainen, M. W. Chase, R. Lupia, A. Bruneau and P.R. Crane. 2005. Teasing apart molecular- versus fossil-based error estimates when dating phylogenetic trees: a case study in the birch family (Betulaceae). Systematic Botany 30:118-133.
- Hargrave, C. W., K. G. Sutherland, E. Marsh-Matthews and W. J. Matthews. 2005. Multiple interacting factors affect pH in museum storage solutions. Collection Forum 19:23-31.
- Hurst, S. and D. G. Wyckoff. 2005. A New 14C Date oro the Late-Paleoindian Perry Ranch (34Jk81) Bison Kill Site. Current Research in the Pleistocene 21:51-42.

Landing, E. and S. R. Westrop. 2004. Environmental patterns in the origin and diversification loci of Early Cambrian skeleltonized Metazoa: evidence from the Avalon microcontinent. *Paleontological Society Papers* v. 10:93-105.

Lupia, R. 2004. Megaspores and palynomorphs from the lower Potomac Group of Maryland, USA. International Journal of Plant Sciences 165:651-670.

- Marsh-Matthews, E., M. Brooks, R. Deaton and H. Tan. 2005. Effects of maternal and embryo characteristics on post-fertilization provisioning in fishes of the genus Gambusia. Oecologia. Published online: 30 March 2005; DOI:10.1007/s00442-005-0030-7
- Marsh-Matthews, E., M. Brooks, R. Deaton and H. Tan. 2005. Effects of maternal and embryo characteristics on post-fertilization provisioning in fishes of the genus Gambusia. *Oecologia* Online First. DOI: 10.1007/ s00442-005-0030-7

Matthews, W. J., C. C. Vaughn, K. B. Gido and E. Marsh-Matthews. 2005. Southern Plains Rivers. Pp. 283-325 in A. A. Benke and C. E. Cushing, eds., Rivers of North America. *Elsevier Academic Press*,

McElwain, J.C., K.J. Willis and R. Lupia. 2005.
Cretaceous CO2 decline and the radiation and diversification of angiosperms. Pp. 133-165 in J.R.
Ehleringer, T.E. Cerling and M.D. Dearing, eds., A
History of Atmospheric CO2 and its Effects on Plants, Animals and Ecosystems. Springer-Verlag, Berlin.

Nowak, M. D. and **R. Lupia**. 2004. Arcellites stellatus n. sp., a new megaspore from the Early Cretaceous of Maryland, USA. *Journal of Paleontology* 78(6):1207-1213.

Nowak, M.D. and **R. Lupia**. 2005. Reinvestigation of Ariadnaesporites varius Hall and Peake, 1968 emend. Hall, 1975. *Review of Palaeobotany and Palynology* 135:41-59.

Vitt, L. J. 2004. Fangs, venom and fear unraveled. Review of "The Venomous Reptiles of the Western Hemisphere," by Jonathan Campbell and William Lamar. Science 305:182.

Vitt, L. J. 2004. Review of Iguanas: Biology and Conservation, A. Alberts, et. Al. (eds). Copeia 2004;958-960.

Vitt, L. J. 2004. Comment: Shifting paradigms: Herbivory and body size in lizards. Proceedings of the National Academy of Sciences 48:16713-16714.

- Vitt, L. J., J. P. Caldwell, G. R. Colli, A. A. Garda, D. O. Mesquita, F. G. R. França, D. B. Shepard, G. C. Costa, M. M. Vasconcellos and V. de Novaes e Silva. 2005. Uma atualização do guia fotográfico dos répteis e anfíbios da região do Jalapão no Cerrado brasileiro. Special Publications in Herpetology, Sam Noble Oklahoma Museum of Natural History 2:1–24.
- Vitt, L. J., J. P. Caldwell, S. S. Sartorius, W. E. Cooper, Jr., T. A. Baird, T. D. Baird and V. Pérez-Mellado. 2005. Pushing the edge: extended activity as an alternative to risky body temperatures in an herbivorous teiid lizard (Cnemidophorus murinus: Squamata). Functional Ecology 19:152–158.
- Vitt, L. J. and E. R. Pianka. 2005. Deep history impacts present day ecology and biodiversity. Proceedings of the National Academy of Science 102:7877-7881.

- Vitt, L. J. and P. A. Zani. 2005. Ecology and reproduction of Anolis capito in rain forest of southeastern Nicaragua. *Journal of Herpetology* 39:36–42.
- Westrop, S. R., A.R. Palmer and A. Runkel. 2005. A new Sunwaptan (Late Cambrian) trilobite fauna from the Upper Mississippi Valley. *Journal of Paleontology* v. 79, pp. 72-88.
- Wyckoff, D. G. 2005. A Calf Creek Potpourri. Oklahoma Archeology 53(1):20-28.
- **Wyckoff, D. G.** 2005. An Interesting Pottery Sherd from Tulsa County. Oklahoma Archaeology 53(1):28-31.

BOOKS PUBLISHED

Kielan-Jaworowska, Z., R. L. Cifelli and Z.-X Luo. 2004. Mammals from the Age of Dinosaurs. Columbia University Press, New York, 630 pp.

NEW GRANT/CONTRACT AWARDS*

*List does not include more than \$1 million in multi-year grants/ contracts received in previous years.

Gram, W.

• Oklahoma State Department of Education, \$200,000 Jackson, J. and E. Censky

• Institute of Museum and Library Services, \$47,435 Linn, M. S.

- National Science Foundation, \$105,792
- Institute of Museum and Library Services, \$6,000

Mares, M. A., and J. K. Braun

- National Science Foundation. \$25,962
- University of Oklahoma Research Council. \$5,563

Marsh-Matthews, E.

- Oklahoma Department of Wildlife Conservation, \$44,977
- Oklahoma Water Resources Board, \$18,800
- Oklahoma Department of Environmental Quality, \$10,000
- University of Oklahoma Research Council. \$5,195

Schnell, G. D.

• Oklahoma Department of Wildlife Conservation, \$31,854

Schnell, G. D. and A. E. Hiott

- Weyerhauser Corp. I, \$27,242
- Weyerhauser Corp. II, \$28,452
- K & R Builders, Inc., Wheatland, Okla., \$18,600
- Able Consulting, Owasso, Okla., \$2,950
- HGL Construction, Midwest City, Okla., \$2,000
- URS Corporation, Little Rock, Ark., \$34,462
- CP3 Enterprises, Maud, Okla., \$7,500

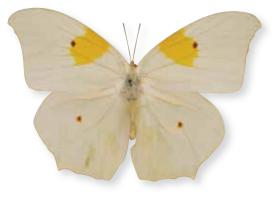
Vitt, L. J. and J. P. Caldwell

- National Science Foundation, \$316,763
 - Billings Field Office, Bureau of Land Management, \$18,000

Wyckoff, D. G. and P. Rubenstein

- USDA Natural Resources Conservation Service, \$52,000
- U.S. Army Corps of Engineers, \$5,000

volunteers



Stephanie Albury Mitzi Aldrich Siarrah Allen Michael Armor Joe Baalke Darla Baca Henry Badra Karen Baessler Charles Baker Paula Baker Tristan Barker Mervin Barnes Donald Batchelor Charles Beattie Thomas Bernstein Charlotte Bert Richa Bhatnagar Gail Blissitt Jane Bowerman Dominique Bradford Betty Braun William Braun Lindell Bridges Kelsie Brooks Brandon Brown Erin Bryant

Betty Callaghan John Campbell Sr. Sunny Carattini Madison Carey Meg Carr June Carter Rhota Jean Chapman Rachel Chavez Tomas Chavez Cole Cisternino Jamison Clair Jean Cochrane Marshall Cole Nancy Coleman Ron Coleman Carl Collier Lenore Collier Brian Conley Helen Copp Sarah Croft Jayne Crumpley Caroline Culp Diana Culp Patty Cummings DeAnna Dalke Sandra Dalke

Romney Davis Paul Dawson Bill Dengler Sandy Dengler Ruth DeSilver Nancy Diven Steven (Matt) Dowling Rachel Doyle Mike Drayton Craig Dressler Emily Duda Jessica Elmore Caitlyn Emswiler Bette English Dennis Erfourth Cathy Fagan Irene Felkner Kelly File Brian Fletcher Betty Flora Carolyn Folmsbee Glenn Folmsbee Shy Foster Rainy Fox-Ford Aimee Franklin Don Frensley

Eleanor Fuller Carmelita Garrison Pat Garrison Mike Gentry Ann Geurkink Francine Gissy Robert Goble Christine Gonzales Delfar Grant Marjorie Greer Eileen Grubbs Kalani Gunawardana Taylor Hacker Sarah Hall Marilyn Hammond Kyle Harrington Brandon Harris Hank Harvey Sandy Hasty-Pratte Rachel Hatlestad Robert Healy Tony Heard Dorothy Higginbotham Susan Hill Heather Hollen Eric Hollingsworth Karen Hooten Carol Iman Pat Inman Delanie Janke Johnnye Jenner Sally Mae Johnston Stephen Jones Suzanne Kacmarcik Conner Keupen Aidan Kickham Julie Klopfenstein Robert Klopfenstein Marian Klumpp Sandi Kositchaiwat Tearle Kring Corinne Kron Sherry Krukowski Aleze Krumholz Ken Kugler Matt Laing Michael Laing Leroy Land Marjorie Land Jennifer Lang Hank Larsen Doug Lautzenheiser Frank Lawrence Mary LeBlanc Josephine Leslie lan Levy Roger Liao Carolyn Lilly Chuck Lilly Sarah Lobban Loretta Loeffelholz John Luce

John Lukavic Sue Madison Hannah Magruder Andy Marana Peggy Lynn Marsh Bill May Tam Mayes Newell A. McCarty Jean McCasland Bobby McCue Bryce McDade Aline McDaniel Laura McDevitt Taylor McManus Jan Meadows Marilyn Meier Ellen Menor Becky Meyer Erin Miller Joy Miller William Miller Brittany Mohler Lorrie Monteiro Likita Moore Kristen Morgan Whitney Morgan Barbara Morris **Richard Morris** Stella Morris Virgil Morris Sumudu Munasinghe Wanda Murchison Jon Murray Amber Neely Tanner Nees Evan Noble Lynda Nolen Mike Northcutt Wanda O'Neil Jeffrey Owen Bill Padgett Donna Padgett Daniel Payne Chester Peek Marian Peek John Perry Celia Morris Phillips Edna Pollis Lloyd Powers Staci Powers Carolyn Pruett Cole Rachal Ann Randle Nicole Raynor Heather Read **Beverly Reese** Kyle Reinholt Julian Resasco Dee Reynolds Ted Rice Jan Rodgers Jimmy Rogers

Diane Rubin Jane Sarber Henry Saulnier **Robert Schick** Mary Sue Schnell Gabe Scott Miranda Shaughnessy Bob Shipley Grace Siegenthaler Shirley Simes Shirley Simmons Margaret Smith Vicki Snyder John Spears Carol Stell **Bradley Stites** Dan Stroud Judy Sullivan Stephanie Sullivan Sarah Sutter Dennis Swina Judy Talley-Dale Bryan (Haoran) Tang Norma Taylor Rory Telemeco Brooke Thompson Patrick Thurmond Diana Torres Peter Tower Judy Trotter Barbara Turek Ross Vandaveer Georgia Venk Ralph Venk Joel Villatoro Janice Waldrop Katherine Walsh Moira Waterbury Barbara Weber Paul Weider Eric Welch Katherine Williams-O'Donnel Mary Ann Williamson Madeleine Willis Michael Wilson Siana Wong Carl Wood Don Yost



Volunteers of the Year: Ralph Venk and Carl Collier

Jonors and sponsors



\$100,000 and above

The Williams Companies Foundation, Inc.

\$10,000 - \$20,000

BancFirst - Norman The Noble Corp. Noble Energy, Inc. The Samuel Roberts Noble Foundation, Inc.

\$1,000 - \$9,999

Mervin and Eleanor Barnes Karl H. Bergey, Jr. Janet K. Braun Martha A. Burger Chester L. Bynum, M.D. Howard and Effie J. Clemens Arnold L. Coldiron Debra L. Copp Kit and Marge Farwell Josephine W. Freede Dee Gammill Melanie A. Hall Robert and Jamie Hubbard Sandy Kinney and Mike Sugg Jan Meadows Bill and Barbara Paul Eric R. Pianka Bill and Doann Reed Laurie J. Vitt

Bama Foods Limited Partnership The Robert S. and Eloise C. Bowers Foundation Harris Foundation, Inc. Norman Arts Council Otoe-Missouria Tribe of Oklahoma Pawnee Nation of Oklahoma Republic Bank & Trust of Norman

\$500 - \$999

Ellen J. Censky Don and Judy Garrett Beth Harris Suzan M. Lunsford John and Mary Nichols Lealon L. Sargent Roberta C. White

Absentee Shawnee Tribe of Oklahoma

\$250 - \$499

W. J. Coffman Richard and Harriet W. Coussons James and Teresa Day Nance L. Diamond M. Pilar Escobar, M.D. Scott and Leslie Rainbolt Forbes Rodney and Janice L. Gray Beverly A. Harkness Richard Hauschild John and Melinda Klabzuba Michael P. Madden Gerald W. McCullough, M.D. Jere and Anne S. McKenny Kevin Moore, M.D. Jeffery and Kathy Nees Mary Jane Noble Gene Rainbolt

Nymphalis antiopa (Mourningcloak)

Robert D. Stewart, Jr. Earl Ziegler

Citizen Potawatomi Nation First State Bank - Altus ConocoPhillips Co. Wal-Mart Foundation

\$100 - \$249

Marcus W. Adams, M.D. Wayne and Marie Alley Nancy H. Barry Sharon J. Bauman Anita S. Bednar Andrew Benson John and Margaret Biggs Valerie Biltz Stephen A. Book David L. and Molly S. Boren Wayland W. Bowser Steven K. and Jan Braun William K. Braun Calvin and Brigid M. Brink Sidney D. Brown Elena E. Bruza Ianalee P. Caldwell Richard A. Carlson, M.D. Andrew and Linda Coats Glenda L. Cobb Jean Cochrane Tom and Edie Cohoon James B. Crawley Douglas and Peggy Cummings Dr. and Mrs. W. E. Dalton Bob and Sylvia S. Danner Herbert and Shirley Davis Rod and Janene Davis Carl E. Engelman Mark A. Everett, M.D. Mary I. Felkner Don and Betty Frensley Linda G. Friels Robert D. Garrett A. Glenn and Ruth Gattis Patricia A. Gilman and Paul Minnis Paul and Carolyn Glad Marcia M. Goodman Candace S. Greene Barbara L. Greenwald Marjorie Greer Joseph and Ellen Grzybowski Harold E. Hackler William T. Hagan Judith A. Hagglund Ragan G. Harris Sally B. Harry Kathleen J. Haynes George and Barbara Henderson

Theodore and Jo Herstand Dorothy C. Higginbotham Robert G. Hirschi Cal and Elaine Hobson Marielle H. Hoefnagels and Doug Gaffin Irene Holloway Joel Holloway, M.D. William R. and Judy Howell David Hudibura Dale and Donna Hughes John and Marilyn Hugon Bill and Judy Jordan Kenneth and Cheryl Jorgenson James and Earlene Kenderdine William F. Kern III, M.D. and K. Duncan Robert and Julie Klopfenstein Richard F. Krenek Henry S. Larsen, Jr. Linda L. Lawson Al and Jeannene Loeffelholz Joe and Heidi Long Tom J. Love, Jr. Emma G. Maggard Richard G. Mallinson T. H. and Monica McCasland III Elaine McIlroy and Joe Hargrove Donald and Jane Menzie Keith and Linda Miller Frank and Ellen Mitchell Cleveland and Nelwyn Moore A.J. Morse Tom and Sherry Muchmore Grea and Brenda Olds Reba R. Olson John and Shirley O'Neal Fieldon L. Parham John M. Parrish III Teal Pemberton Barbara J. Reynolds Patricia B. Riggs Paul and Les Risser Theodore and Marilyn Roberts Rov Roaers William and Janet Romanishin Ralph W. Rucker, Jr. LaVon Scanlan Neal and Kathy Schemmer Don and Mary Sherman Libba Smith Clyde and Jerry Snow Johnnie R. Spears Ronald and Pat Stiehler David and Alesia Stringer John Q. Sutterfield Robert L. Talley, DDS Ethel L. Thomas Chuck R. Thompson

Danny and Holly Tuckness Regina Turrentine Barth P. Walker K. Michael and Camille Waller H. C. Ward John L. and Christina S. Williams Ellen Wisdom and Robert Griswold Brant Worthington Myra H. Wyckoff and Ty Gomez Leon and Rachel Zelby

Arvest Bank Operations, Inc. Charles B. Goddard Foundation Cherokee Nation Industries, Inc. Wichita and Affiliated Tribes Cheyenne and Arapaho Tribes Chickasaw Nation of Oklahoma Comanche Nation of Oklahoma Delaware Nation OU Federal Credit Union OU Deptartment of Anthropology OU Department of Native American Studies Yamanouchi Pharma Technologies

COLLECTION DONORS

Allen Barby Ray Cleland Guarino Colli Glenn and Carolyn Folmsbee Jerry Garrison Michael and Margaret Hoffman Michael Mares Michael Mares Michael McCarty Don Moody Terrell Nowka Wilma Shaklee Herbert and Charlene Steves Peter Thurmond Leo and Doris Whinery

Oklahoma City Zoo, Okla. Museum of the Great Plains, Okla. Emporia State University, Kan.

GIFTS-IN-KIND

Albertson's Braum's Ice Cream and Dairy Stores Campus Corner Market KWTV Channel 9 Lamar Outdoor Advertising Oklahoma State Department of Education – Department of World Languages The Oklahoman University Silkscreen

credits



PHOTOS

Mervin Barnes Janalee Caldwell Linda Coldwell Brian M. Davis Deborah Kay Rick Lupia Cathryn Rowe Gary Schnell Robert Taylor Steve Westrop

DESIGN

Cathryn Rowe

Speyeria diana (Diana butterfly)

The University of Oklahoma is an equal opportunity institution. 2-06. This publication is issued by the Sam Noble Oklahoma Museum of Natural History and printed by University of Oklahoma Printing Services. 750 copies were prepared and distributed at no cost to the taxpayers of the State of Oklahoma.

