



# MUSEUM INSIGHTS

NEWSLETTER OF THE UNIVERSITY OF COLORADO MUSEUM OF NATURAL HISTORY  
FALL 07



## FROM THE INTERIM DIRECTOR



*Try to learn something about everything and everything about something.* - Thomas H. Huxley

Dinosaurs, plants, Maya culture, bones, bird feathers, pots, rocks, and rugs. These are some of the topics that were covered this summer in our Museum's ongoing series of youth workshops. Also, on exhibit, are "What's In a Name? Understanding the World of Plants," "Temple of the Warriors: Rebuilding a Maya Monument," and "Fossils: Clues to the Past," as well as our permanent exhibits full of anthropological and biological specimens and artifacts. Talk about

diversity!

In addition to being a premier research and formal educational institution on the CU Boulder campus, one of the primary missions of our Museum of Natural History is to reach out to you, our members, your families, and the public community of Colorado. We do this by offering exciting and excellent programs and exhibits designed to stimulate your curiosity about the natural world.

Over the past year, we have offered a record number of public events and workshops, for children and adults. We truly appreciate your attendance and support as we continue to offer fun and informative programs in the coming year.

See you at the Museum!  
Tom Ranker

# THE MUSEUM'S COLLECTION OF FOSSIL EGGSHELLS: ONE OF THE BEST IN THE WORLD

***By Karen Chin, Curator of Paleontology***

Many people don't know it, but the University of Colorado Museum of Natural History is home to one of the world's finest collections of fossil eggshells. This collection was amassed by Karl Hirsch, who became fascinated with fossil eggshells late in his life and quickly emerged as one of the foremost authorities on the subject. His collection was acquired by the Museum after his death in 1996, and study of the specimens continues through his protégée Emily Bray, and other researchers.

Although fossil eggshells are less well known than body fossils, they have the potential to provide insights on ancient reproductive habits, dinosaur evolution, and paleoenvironments. The Hirsch collection is exceptional in its geographic, temporal, and taxonomic scope. The holdings include nearly 2,600 catalogued fossil specimens, but the actual number is much higher because many specimens have not yet been catalogued. These specimens are from six continents (over 35 countries), and range in age from a few thousand to some 140 million years old. The collection also comprises 'pseudo egg' objects and samples of recent eggshells that provide invaluable comparative data. One of the most remarkable characteristics of the collection is the significant amount of auxiliary data including approximately 37,000 photographs, 3,000 thin sections, and 21,400 data pages.



The breadth and multifaceted nature of this special collection set it apart as a unique and important resource of fossil eggshell material, but the collection is in serious need of curatorial work. The Museum is pleased to announce that the National Science Foundation has awarded a grant to Karen Chin to give the collection the attention it deserves. Karen will work with Collection Manager Toni Culver and Museum Associates Emily Bray and Bob Fisher to improve the condition and usability of the Hirsch collection. In addition, graduate student Laura Wilson will work with the University of California Museum of Paleontology to develop a website to disseminate information about the collection and fossil eggshells in general.



# RESEARCH IN THE BOWERS LAB

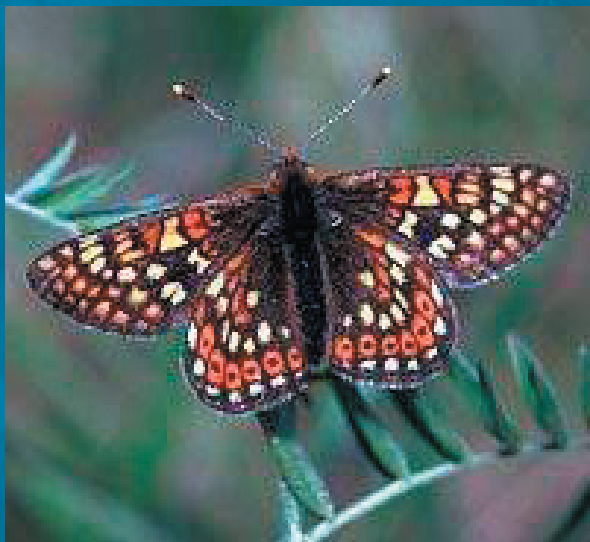
## ***By Deane Bowers, Curator of Entomology***

Research in the Bowers lab is focused on the chemical ecology of plant-insect interactions. Plants produce an incredible variety of chemical compounds that humans have used as drugs and medicines for millennia. And insects that eat plants have to cope with these compounds. My research focuses on insects that have the ability to store chemical compounds from the plants on which they feed to make themselves unpalatable to their own natural enemies (predators, parasites, and diseases).



I work with a group of butterflies and moths that specializes on plants containing bitter and toxic compounds, the iridoid glycosides. Most insects won't feed on plants that contain these compounds, but certain insects will. Furthermore, of those insect species that can tolerate iridoid glycosides, a small subset of them are able to store these toxic compounds, while most are not. Insects that have the ability to store these compounds are unpalatable to a variety of different predators, including birds, praying mantids, wasps, and ants.

Understanding the interplay of plant chemistry, herbivores and herbivore natural enemies has been key in the development of theory and practice in ecology, and evolution. From a more applied perspective, such interactions are important in the design of successful biological control programs for crop pests.



We are currently working on projects that address several questions:

- How does excess nitrogen (in the form of agricultural and industrial pollution) added to natural ecosystems affect the success of invasive plants and their biological control?
- How do plant chemicals stored by insect herbivores affect the success of their predators and parasitoids?
- How do seedlings defend themselves against being eaten?
- How do plants cope with multiple generations of herbivores?
- How do butterfly populations respond to human impacts on natural communities?

# AWARDS, HONORS, RESEARCH, AND PUBLICATIONS



James Dixon

## ***Awards & Honors***

E. James Dixon received the 2007 Professional Achievement Award by the Alaska Anthropological Association. The award will be presented at the Association's annual meeting in Anchorage, Alaska in March, 2008.

Dr. Dixon also received the Alaska Regional Forester's Partnership Award for building cooperative partnerships with the US Forest Service and tribal governments in SE Alaska, for research at On Your Knees Cave and his role as technical Advisor and Co-producer, "Kuwóot yas.éin: His Spirit Was Looking Out from the Cave". This educational video has been adopted widely by colleges, universities, and federal agencies.



Cesar Nufio

## ***New research and other grants recently awarded to Museum faculty and staff***

Cesar Nufio, Deane Bowers, and Robert Guralnick: "A Multi-Species Study of Grasshopper Phenology, Distribution and Body Size Responses to Climate Changes in the Front Range of Colorado". Funded by the National Science Foundation for 3 years (\$292,000). NSF was so impressed with this study that they contacted Dr. Nufio and offered another \$100,000 for an additional 2 years of research to expand the study to include a Geographical Information System (GIS) component!



Deane Bowers

Mariko Kageyama: International Council of Museums (ICOM) 60th Anniversary Travel Grant for Younger Members (2,000 Euros) for travel to participate in the ICOM General Conference, and the annual conference of the ICOM International Committees for Museums and Collections of Natural History (ICOM-NATHIST), Vienna, Austria, August 2007.

Deane Bowers: A grant of \$8,000 from the LEAP program for research on the chemical ecology of an invasive weed, Dalmatian Toadflax.

Deane Bowers and Natalie Robinson: Long-term Survey of Butterfly Communities on city of Boulder Open Space and Mountain Parks Land (\$6,235).

Deane Bowers and Mary Jamieson: The Effects of Nitrogen Availability on Dalmatian Toadflax and its Specialist Herbivore (\$6,280).



Robert Guralnick

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### ***New publications by Museum faculty and staff***

Kageyama, M., R. Monk, R. Bradley, G. Edson, and R. Baker. 2006. The changing significance and definition of the biological voucher. In S. Williams and C. Hawks (eds.) *Museum Studies: Perspectives and Innovations*, Society for the Preservation of Natural History Collections, Washington, D.C.

### ***Conferences attended/presentations given by Museum faculty and staff***

Mariko Kageyama attended the "Writing a Collections Management Policy" seminar, hosted by the American Association of Museum (AAM) on January 12-13, 2007 in San Francisco, CA.

James Dixon was the invited Keynote Speaker, IX International Congress of the Association for Latin American Biological Anthropology. "The Peopling of the Americas: the Coastal Route." Ouro Preto, MG, Brazil in October, 2006 and also Keynote (banquet) Speaker at the 2007 Annual Meeting of the Wyoming Archaeological Society, Sarasota, Wyoming.

James Dixon also presented a paper "Archeology and Climate Change" at the 37th Annual Arctic Workshop, in Freysnes, Iceland, May, 2007.

Tom Ranker co-organized a symposium for the annual joint meeting of the Botanical Society of America and the American Society in Chicago, IL, July 2007 entitled, "Ferns on Oceanic Islands – from dispersal to long lasting diversity".

James Hakala presentations:  
"AAM Standards and Best Practices for U. S. Museums." American Association of Museums Annual Meeting, Chicago, IL, 2007.

"How Small Museums Can Meet National Standards for Education and Interpretation." American Association of Museums Annual Meeting, Chicago, IL, 2007.

"Label Writing 101 Workshop." Colorado-Wyoming Association of Museums Annual Meeting, Grand Junction, CO, 2007.



Mariko Kageyama



Tom Ranker



James Hakala

# HAPPENINGS



## MUSEUM CURATOR ADJOINT AWARDED HONORARY DOCTORATE

Museum Curator Adjoint Priscilla Bosin Ellwood was awarded an Honorary Doctorate of Humanities by the University of Colorado during the 2007 commencement ceremonies on the Boulder campus. Priscilla was recognized for her extensive knowledge of archaeology of the North American Plains and Southwest, particularly prehistoric ceramics of the Plains. She received a B.S. degree in business (accounting) at the University of Colorado in 1941, and then returned to the university in the 1970s to pursue studies of her passion—archaeology. In 1978 Priscilla finished an M.A. degree in anthropology specializing in archaeology.

Priscilla has been directly involved in research at the University of Colorado Museum of Natural History since the mid-1970s when she supervised the lab at Yellow Jacket archaeological field school under the direction of anthropology curator Joe Ben Wheat. As a life-long resident of the Denver-Boulder area, Priscilla even met museum archaeologist Earl Morris at his house during a Sunday tea in the early 1950s. Morris, who received an honorary doctorate from CU in 1942, showed Priscilla his artifact collection and the two talked Southwest archaeology.

For the past 30 years, Priscilla has done ceramic analysis as a consultant for numerous archaeological companies while pursuing her own research on Plains ceramics. She has held research associate positions at the University of Colorado Museum of Natural History, Denver Museum of Nature and Science, and the Office of the State Archaeologist.

Among Priscilla's many publications is *Native American Ceramics of Eastern Colorado* (Natural History Inventory of Colorado, No. 21, University of Colorado Museum, Boulder). She is currently putting the finishing touches on an article about a prehistoric ceramic vessel found on Pike's Peak.



# HAPPENINGS

## NEW CURATOR JOINS MUSEUM FACULTY

Dr. Christy M. McCain will join our Museum faculty in January 2008 as the new Curator of Vertebrate Zoology and Assistant Professor of Ecology and Evolutionary Biology (EBIO).

Christy graduated summa cum laude from Humboldt State University with a Bachelor of Science in Wildlife Biology with an emphasis in biostatistics, and a Bachelor of Arts in Studio Art in 1994. She then worked for Peace Corps-Honduras as a Natural Resources and Protected Areas Specialist. In the fall of 1998, she began her PhD studies with Dr. Norman Slade, a small mammal population ecologist, and Dr. Bob Timm, a Neotropical mammalogist at the University of Kansas. Christy McCain completed her dissertation entitled "Ecological gradients in diversity and abundance: a search for patterns and processes in small mammal communities" with honors in the fall of 2003.

January 2004-2007 she was a postdoctoral fellow at the National Center for Ecological Analysis & Synthesis. Christy currently is a postdoctoral fellow at the University of New Mexico working with Dr. Felisa Smith and Dr. James Brown. Welcome Christy!!!



## PROMOTIONS

Curator of Anthropology Dr. Steve Lekson has been promoted to Professor of Anthropology. The rank of Professor is awarded to faculty who have a record, which, taken as a whole, is judged to be excellent; have made significant contributions to both graduate and undergraduate education, and have a record since tenure and promotion to associate professor, that indicates substantial, significant, and continued growth, development, and accomplishment in teaching, research, scholarship or creative work, and service. Congratulations, Steve!!



Curator of Invertebrate Zoology Dr. Rob Guralnick has been promoted to Associate Professor with tenure. Tenure may be awarded only to faculty members with demonstrated meritorious performance in each of the three areas of teaching, research or creative work, and service, and demonstrated excellence in either teaching, research or creative work. Congratulations, Rob!!



# HAPPENINGS

## DEPARTURES

Curator of Botany Dr. Tom A. Ranker will be leaving his job here at CU-Boulder to take a position beginning in January 2008 as Chair of the Botany Department, University of Hawai'i at Manoa in Honolulu, Hawai'i. Aloha nui loa, Tom!!

MFS Graduate Director Dr. E. James Dixon will depart CU-Boulder at the end of September 2007 to become the Director of the Maxwell Museum of Anthropology at the University of New Mexico. Thanks to Jim for all of his hard work in the Museum and best of luck with the new position!!!

## MUSEUM MEMBERS ONLY!

### 2008 EDUCATIONAL TOUR TO THE BLACK SEA

A 2-1/2 week tour is currently being planned for May and June of 2008 to visit ancient Greek sites in the Black Sea region. The tour will be led by Professor Emerita T. Hara Tzavella-Evjen of the Department of Classics. This is the sixth in a highly successful tour series to study the ancient Greek civilization.

Previous years' tours have included various regions of mainland Greece, the Greek isles, Cyprus, and the Ionian coast of Turkey. The destination in 2006 was Southern Italy and Sicily.

Please contact Randall T. Nishiyama at [randy\\_nishiyama@yahoo.com](mailto:randy_nishiyama@yahoo.com) or 303-497-6454 for further information.

## VOLUNTEER APPRECIATION

On May 24, the Museum's faculty and staff gathered to thank volunteers for their valuable contributions during the 2006-2007 academic year. Approximately fifty volunteers donated 1,015 hours helping out in numerous sections of the Museum. They contributed to the success of our institution by giving tours to many school groups, leading activities on family days, cataloguing and rehousing collections, setting up exhibits, staffing the front desk, and more.

Our volunteers come from the University and greater Boulder communities. Two types of awards were distributed at the event. The award for volunteers who have been with the museum the longest was given to Jon Bennett, Barb Bernard, Pat Gibson, and Heidi Schutz. The award for volunteers with the highest number of hours this year in four divisions went to Jon Bennett-Collections, Taylor Bladow-Visitor Services, Reagan Fair-Special Projects and Pat Gibson-Education.

If you would like to join this dynamic group of people, contact Sheila Goff at 303-492-6892 or [Sheila.goff@colorado.edu](mailto:Sheila.goff@colorado.edu) to learn more about volunteer opportunities.



# MEMBERS

## Curator's Circle

Marcelle Arak

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C.S. Venable Barclay  
Nancy & Bob Sievers  
Dr. P. Genie Trapp

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George Sparks  
Laura Uthoff  
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J. Frank Adkins  
Dr. Ellen Aiken  
John S. Avery  
Paula Bara  
Laura B. Barclay  
Len Barrow  
Jonathan Bennett  
Jamie Bolane  
Mary A. Bonneville  
Jessie M. Bowles  
Minerva Canavan  
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Cindy Carlisle  
Denise A. Chartrand  
Maria Cocchia  
Cyndra Dietz  
Angelica Docog  
Barbara Dolder  
Michael Dombrowski  
Lynn Dyba  
Inge Peate Engdahl  
Harold Evjen  
Dr. JoAnn W. Flock  
Richard Geesaman  
Madeline Tryon Goldhawk  
Sarah Greenleaf  
Dan Hale  
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Greg Hill  
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Dr. Konrad Steffen  
Hope Steffens-Nett  
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Morey Stinson  
Jack Stoakes  
Gianna Sullivan  
Millicent Tallard

Barbara Tamplin  
Anne E. Thomas  
Fay Tracy  
Joanne Turner  
Tom Van Zandt/Teena Wells  
R. A. Yaroush  
Katherine A. Young  
Carol N. Ziegenhagen  
Michael Zimmerman

## Educator

Anne Bliss  
Janet Holdsworth  
Donna Shay  
Karen Simmons

## Student

Kathryn J. Clegg  
Heather &  
Charles Southwick  
Suzanne Ware

## Lifetime

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David Cain  
Mary Coleman  
Dolly Crawford  
Wendy Cunningham  
Celia Curtis  
Mary Damm  
Jill Rawlins Dreves  
Sue Fonda  
Jessie Friedman  
Christie Kirsch  
Mike Larkin  
Julie Marino  
Jamie Petersen  
Jean Rodeck  
Jennifer Rose  
JJ Rutherford  
Heidi Schutz  
Allison Smith  
Melissa Stoltz  
Ingrid Walsh

## MEMBERSHIP APPLICATION

Museum membership offers many returns including a 10% discount at the Museum Gift Shop; special invitations to members-only events; discount fees on public programs which carry a charge.

## MEMBERSHIP CATEGORIES

<input type="radio"/> Individual	\$ 25
<input type="radio"/> Family	\$ 45
<input type="radio"/> Student	\$ 10
<input type="radio"/> Educator	\$ 20
<input type="radio"/> Sponsoring	\$100
<input type="radio"/> Sustaining	\$250
<input type="radio"/> Curator's Circle	\$500
<input type="radio"/> Director's Circle	\$1000

☐ New  
☐ Renewal

☐ I am interested in volunteer opportunities

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

## PAYMENT OPTIONS

CHECK - Please make your check payable to the University of Colorado Museum of Natural History  
Enclosed is my check for \$ \_\_\_\_\_

## CREDIT CARD PAYMENT

Charge my credit card for the amount of \$ \_\_\_\_\_

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## MAIL TO:

University of Colorado Museum of Natural History  
218, UCB  
Boulder, CO 80309-0218



