

Research & Collections Newsletter



January 2010

re•search (rī-sûrch', rē'sûrch) n. **1.** Scholarly or scientific investigation or inquiry. See synonyms at **inquiry**. **2.** Close, careful study. **3.** When performed on collections, the raison d'être of all great natural history museums.

Collection News



Mineral Sciences

Shortly before Beverly Savinar's death last month, she donated four more fine mineral specimens from the collection that she and her husband Hyman built. All four are gem crystals, and they include (from left to right) an aquamarine crystal from Marambainha, Minas Gerais, Brazil, a specimen of emerald crystals in schist from Capoeirana, Minas Gerais, Brazil, a crystal of indicolite tourmaline from Nuristan, Afghanistan, and a crystal of blue-green beryl from Volyn-Volodarsk, Ukraine. These specimens are already on display in the Collections Exhibit in the Hall of Gems and Minerals.

Ichthyology

One of our specimens has been designated as a holotype (LACM 11516-1, fig.17) of a new species in a monograph on handfishes. It was collected near Tasmania in 1968 by the USNS Eltanin and is called *Pezichthys eltanini*, the Eltanin handfish. The monograph "A revision of the Australian handfishes (Lophiiformes: Brachionichthyidae), with descriptions of three new genera and nine new species" was authored by Peter R. Last and Daniel C. Glenhill (*Zootaxa* 2252: 1-77). A link to the paper is: <http://www.mapress.com/zootaxa/2009/f/zt02252p077.pdf>



History

Hart Museum Tack Collection

The Hart Museum includes a diverse collection of artifacts ranging from images of Bill Hart's famed friends, such as Amelia Earhart and Wyatt Earp, to paintings by Charles Russell and Frederic Remington, to intricate Native

American baskets and beadwork. One portion of the Hart Collection is composed of "tack," accessories and equipment used on or with a horse, which is displayed in the Museum's Ranch House. With funding made possible by the Los Angeles County Board of Supervisors, the Museum will be able to conserve the Hart's collection of tack. In December 2009, the first section of tack slated for conservation began. "We look forward to continuing our position as stewards of the Hart Collection," states Ayesha Saletore, Hart Museum Administrator.



Photo by Ryan Miller/Capture Imaging.

Former Botany Collections

Keeping the Institutional Memory Alive

Botanical collections at the Natural History Museum go back to the founding of the Museum in 1910, with the contributions of trustee Anstruther Davidson, a physician in the Los Angeles area. These collections were the basis of his work "Flora of the Santa Monica Mountains." The botany collection was designated "Herbarium LAM" by the International Association of Plant Taxonomy. A significant increase in holdings occurred with the acquisition of vascular plants and cryptogams, mostly algae, from the Allan Hancock Foundation at the University of Southern California in the mid 1970s. In 1980, the focus of the Herbarium became the cryptogamic collections. The vascular plants were relocated to Herbarium RSA at Rancho Santa Ana with an exchange of cryptogamic

RSA holdings. Growth was then achieved by the acquisition of most of the cryptogamic holdings in southern California institutions.

The Botany Section of R & C was unfortunately dissolved in 2003. The algae, bryophyte and fungal collections were relocated to Herbarium UC at the University of California, Berkeley, in 2006, facilitated by a grant from the National Science Foundation. The ferns were relocated at the same time to Herbarium RSA. The following is an accurate estimate of the number of specimens in the LAM collections that have been accessioned by the recipient institutions:

UC algae 47,000; UC bryophytes 54,000; US lichenized fungi 14,425; UC fungal specimens still unaccessioned, estimated at 50,000; RSA vascular plants 110,000; RSA ferns 9,300. The number of type collections (critically important specimens on which scientific names are based), both accessioned and yet to be identified, is estimated to be 15 percent.

These figures were supplied by Don R. Reynolds, LACM Emeritus Curator of Botany and Research Curator, UC Berkeley Herbarium, and Bob Gustafson, LACM Emeritus Collections Manager of Botany.

Conservation

Conservation recently began assessing and treating objects from Lando Hall that have been selected for the upcoming *Under the Sun* exhibit. Several of the objects are from the Coronel collection and were previously displayed in the Adobe, including a ceramic cup, a cradle that rocked five generations of the Coronel family (see image below), two carved gourd bowls and a painted wooden bowl.

Coronel cradle, before treatment



Anthropology

In November, Margaret Hardin attended the Intertribal Arts Marketplace at the Autry in Griffith Park and purchased several contemporary Native American items. Some of these items were purchased to add to our research collection, while others are to be considered for display in the upcoming *Under the Sun* exhibit. Among the items we acquired is this wonderful Cahuilla basket by Sue Hill (right). The basket's central design and distinctive background treatment place it squarely in the tradition of older Cahuilla baskets in our collection. Contemporary materials like this allow us to present Indigenous Californians in the present but with clear links to the past traditions.



Vertebrate Paleontology

The company ELY has been selected to create the mounts that will hold the exhibited objects in the upcoming Age of Mammals Exhibit Hall. Their staff worked in November with our Age of Mammals Project employees to gather measurements and specifications for the specimens.



Daniel Gabai, Debora Lee, and Vanessa Rhue have continued making photographs of specimens that are being used in this hall. Jackie Windus has been extensively involved in workshops with curatorial staff and our new consultants for the hall planning. Kathy Gonzalez and Gary Takeuchi have been re-mounting our Pleistocene antelope and dire wolf skeletons from Mexico, which will be exhibited in a dynamic pursuit situation in the new hall. Michael Williams and Kathleen Gonzalez are putting the finishing touches on our baby sperm whale mount, and Talin Nazarian, and Debora Lee have been busy making molds and casts to be used in the hall.

Field Work

Vertebrate Paleontology

The Museum's annual family program was held at Red Rock Canyon State Park in the Mojave Desert on the weekend of October 30 - November 1, and was mentored by Vertebrate Paleontology members Xiaoming Wang, Gary Takeuchi, Vanessa Rhue, and Jack Tseng, and retired Curator of Vertebrate Paleontology David Whistler.



Meetings, Workshops, and Presentations

Ornithology

On November 3rd Ornithology Collections Manager Kimball Garrett hosted the 3rd annual workshop on “Snowy Plover Management on Los Angeles County Beaches” in the Times Mirror Room. Attendees included plover researchers and representatives from public agencies and conservation organizations. The presentations and discussions centered around recent plover survey data, habitat issues, and management solutions. The Snowy Plover (*Charadrius alexandrinus*) is a small shorebird of conservation concern; it formerly nested on Los Angeles County beaches and significant wintering populations still occur locally.



Photo by Michael L. Baird

External Funding

Vertebrate Paleontology

Dr. Xiaoming Wang has received a grant of \$237,000 (plus \$107,000 for associated grants to collaborating institutions) from the National Science Foundation for a project entitled “Collaborative Research: Late Cenozoic Vertebrate Paleontology and Paleoenvironments of the Tibetan Plateau (China)” (NSF EAR 0958704 and NSF EAR 0958602). Xiaoming is the lead PI for this multi-disciplinary (nine academic/educational institutions involved), multi-national collaborative project. This grant will cover the expenses for geologic and paleontologic expeditions in Tibet during the next three years. The focus of this project is to collect vertebrate fossils that inform us about the biological responses to climatic and environmental changes during the past 20 million years that were caused by the dramatic rise of the Tibetan Plateau.

Xiaoming Wang also has received a supplementary grant of \$7,344 from the National Science Foundation for his earlier project entitled “Workshop on Neogene Mammalian Chronology of Asia, June 2009 in Beijing, China” (NSF EAR-0924142). This grant will fund another meeting by US and Chinese vertebrate paleontologists in March 2010 that will link his earlier initiative to work out a chronologic framework for the Cenozoic of Asia with another NSF-funded project named “Critical Transitions.” The objectives are to capitalize on the recent plethora of blockbuster discoveries in vertebrate fossils (such as feathered dinosaurs and ancestral fishes giving rise to tetrapods) from various parts of China and the strength of paleontological expertise from the US.

Vertebrate Paleontology

On the evening of 5 November 2009, John Harris, Lawrence Barnes, and Xiaoming Wang participated in a Trustee-hosted reception which was intended to cultivate donors to the Age of Mammals exhibition. We demonstrated some of the fossils that will be exhibited in the hall and gave presentations about the hall’s arrangement.

Public Outreach

From the Material Culture Collection

Hollywood Musicals

In collaboration with the Advancement Department, Museum Trustee and Fellow Diane Naegele graciously opened up her home to host a Collector's Circle Salon on November 20 entitled, "A Star is Worn: The Sequel," for a special group of Museum Fellows. The History Division displayed several iconic costumes, accessories, and costume sketches including: Fred Astaire's tap shoes from *Top Hat*, Betty Grable's tutu from *Diamond Horseshoe*, Cyd Charisse's Dance Costume in *The Kissing Bandit*, and monogrammed Annie Oakley Gloves worn by Betty Hutton in *Annie Get Your Gun*, which Collections Manager Beth Werling highlighted during her presentation on Hollywood musicals.



Tutu worn by Betty Grable in *Diamond Horseshoe* (1945) and slippers worn by Leslie Brown in *The Turning Point* (1977)



Museum Archives photo of smilodon fossil now on display at *The Tar Pit*.

Archives and Rancho La Brea

From the Museum Archives: *The Tar Pit*

The Museum Archives was contacted by Jay Perrin of Campanile regarding the possibility of using photos from Rancho La Brea as part of the decor in the new bar and supper club, *The Tar Pit*. Cathy McNassor, John Harris, John Long and Cynthia Wornham met with Jay, Mark Peel and Cindy Pope and toured the facility. It was decided that the museum would assist *The Tar Pit* and provide several appropriate images that are iconic of Rancho La Brea. The images were selected to complement the Art Deco interior of *The Tar Pit*, and the oversized prints were produced by the Huntington Library photo department, using original negatives and photographs.

Anthropology

On December 28th, Margaret Hardin, Jennifer Saracino, and KT Hajeian participated in the showcase for the Curatorial Cupboard/Jr. Scientist program. The showcase was an event designed to generate interest in the program. We brought out a pre-Columbian vessel depicting hummingbirds as a preview to the theme and the types of objects that we will be showing with Kimball Garrett for the Curatorial Cupboard/Jr. Scientist scheduled on February 27th.

Vertebrate Paleontology

On 30 December 2009, Vertebrate Paleontology staff participated in the “Art + Science Curatorial Cupboard”. Howell Thomas and Gary Takeuchi showed off the newly-mounted skeleton of our juvenile Miocene sea cow (*Dusisiren*). Sam McLeod and Vanessa Rhue displayed sloth specimens from the collections; including a Shasta sloth skull (*Nothrotheriops*) from San Josecito Cave in the state of Nuevo Leon, Mexico, and Shasta sloth claws, dung, and hair that were preserved in dry desert conditions in Gypsum Cave, Nevada, a foot of another sloth, *Eremotherium*, from Daytona Beach, Florida, and a skeleton and pelt of a modern two-toed sloth.



Student Mentoring and Research



Echinoderms

In late December, Dr. Elisa Maldonado returned to the Echinoderms Laboratory to continue research with Dr. Gordon Hendler on the biology of a parasite of West Coast brittle stars. Earlier in the month, at Scripps Institution of Oceanography, she gave an outstanding defense of her doctoral dissertation, entitled *Small-scale biological-physical interactions in marine plankton: The effects of small-scale turbulence on grazing, growth, and swimming of sea urchin larvae*. Elisa is now enrolled in a 3-year, National Science Foundation-funded postdoctoral appointment at Harvard University, in the laboratory of Dr. Joanna Aizenberg, a pioneer in biomimetics with whom Dr. Hendler co-published the discovery of crystalline brittle star eyes. Elisa’s decision to pursue a career in science was sparked in the late 90’s by a “Museum

Research Apprenticeship Program” project that she carried out in the echinoderms lab. Afterwards, she was appointed a Student Associate in Invertebrate Zoology at the museum and continued to study with Dr. Hendler during her tenure in high school, as an undergraduate UCLA, and as a doctoral student at Scripps. Prior to their current research on parasitology, Drs. Hendler and Maldonado published a collaborative paper on “babysitting” tropical brittle stars. Note that although this recap is an item in Student Mentoring and Research, Elisa’s next visit will be featured in the Distinguished Visitors section of the Newsletter!

Vertebrate Paleontology

On 18 December 2009, Mike Williams, Paleontological Preparator and Curatorial Assistant on the Age of Mammals Hall, received his Doctoral Degree from Louisiana State University, with his thesis titled *Miocene Herpetofaunas from the Central Gulf Coast, USA: Their Paleocology, Biogeography, & Biostratigraphy*. In honor of his accomplishment, fellow staff and Department volunteers hosted him to a celebration dinner.



Jack Tseng (graduate student, Vertebrate Paleontology) visited two museum collections in December to collect data for his dissertation. In early December Jack took photographs of modern North American carnivore skulls in the University of Alberta Museum of Zoology (UAMZ) in Edmonton, Alberta (Canada) for his work on the geometric morphometrics of living and extinct large carnivores. UAMZ has an excellent collection of modern wolves and bears from northern North America. In mid-December Jack spent a week studying North American fossil dogs and Chinese fossil hyenas in the American Museum of Natural History (AMNH) in New York City.

He photographed specimens for morphometrics analysis, examined tooth enamel microstructure under the microscope, and made molds of teeth for casting replicas for his enamel microwear study of the diets of extinct dogs and hyenas.

Jack received a Collection Study Grant from the American Museum of Natural History to cover travel and living expenses for his December trip.



Clockwise from top left: Jack studying enamel microstructure in the AMNH; the front entrance of AMNH; Jack photographing skulls in UAMZ; the fluid collection room of UAMZ.

Volunteers and Research Associates

Vertebrate Paleontology

On 21 December 2009, Mr. Harley Garbani, long-time Museum Field Associate and award recipient from the Society of Vertebrate Paleontology, visited the Department. Harley was primarily responsible for conducting the fieldwork in the 1960s that yielded many of our important dinosaur specimens, including the dueling *Tyrannosaurus* and *Triceratops* in the Foyer, and the duck-billed dinosaurs.



Distinguished Visitors



Ornithology

The Ornithology Department hosted a Master's student, Mr. Liu Di, from the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP) in Beijing, China, for three weeks in December. His research involved measuring bones from hundreds of skeletons in our collection that also had known body weights. Ultimately, he hopes he will be able to use his data to devise a means for estimating the weights of the many

different kinds of Mesozoic fossil birds now being discovered in China.

Anthropology

On November 30th, Pat Harrington, a major Zuni fetish expert, visited the Anthropology Department to look through our fetish collection on the database. He provided valuable information about the techniques and family histories of a selection of fetish carvers.

Vertebrate Paleontology

From 15 to 17 December 2009, Sheila Flynn and her son Brian from Sheridan College, Wyoming (right), visited the Department to further their research, in collaboration with Lawrence Barnes, and to examine a new type of Miocene long-snouted dolphin skull that was collected under interesting circumstances on the military bombing range on San Clemente Island.



Malacology

Dr. Doug Eernisse (California State University, Fullerton, Biological Sciences) visited Malacology to examine the holdings of eastern Pacific chitons and limpets for research purposes. Accompanying Doug were Iris Garúa Tello and Isaura Zamora, students from UNAM, Mexico City. Iris and Isa were having difficulty identifying numerous microgastropod specimens from the Gulf of California and Jim McLean and Lindsey Groves provided assistance.

Recent Publications

Barnes, L. G., and R. E. Reynolds. 2009. A new species of Early Miocene allodelphinid dolphin (Cetacea, Odontoceti, Platanistoidea) from Cajon Pass, southern California, USA; in L.B. Albright, III (ed.), Papers on Geology, Vertebrate Paleontology, and Biostratigraphy in Honor of Michael O. Woodburne. *Museum of Northern Arizona Bulletin*, Vol. 64. (Flagstaff, Arizona.)

Kampf, A. R. (2009) Miguelromeroite, the Mn analogue of sainfeldite, and redefinition of villyaellenite as an ordered intermediate in the sainfeldite-miguelromeroite series. *American Mineralogist* 94, 1535-1540.

O'Keefe, F. R., E. V. Fet, and **J. M. Harris** 2009. Compilation, calibration, and synthesis of faunal and floral radiocarbon dates, Rancho La Brea, California. *Contributions in Science* 518 1–16.

Tseng, Z.J., J. O'Connor, X. Wang, and D.R. Prothero. 2009. The first Old World occurrence of the North American mustelid *Sthenictis* (Mammalia, Carnivora). *Geodiversitas* 31(4): 743-751.

A new extinct species of a badger-like carnivore (Sthenictis neimengguensis, family Mustelidae) is described from the middle Miocene of Inner Mongolia. This is another example of a North American lineage venturing into Asia about 14 million years ago. This project initiated our graduate student Jingmai O'Connor to the field of vertebrate paleontology while she was an undergraduate at Occidental College.



Wang, X., R.M. Hunt, Jr., R.H. Tedford, and E.B. Lander. 2009. First record of immigrant *Phoberogale* (Mammalia, Ursidae, Carnivora) from Southern California. *Geodiversitas* 31(4): 753-773.

This paper describes a new extinct species in the bear family (Ursidae) from Orange County, California. This is the first ancestral bear to arrive in North America about 20 million years ago. A nearly complete skull and lower jaw of this primitive bear (the size of a modern coyote) is named as Phoberogale shareri, in honor of Mr Kevin W. Sharer for his leadership as Chairman of the Board of Trustees at the Natural History Museum of Los Angeles County.



Zhang, C., Y. Wang, T. Deng, **X. Wang**, D. Biasatti, Y. Xu, and **Q. Li.** 2009. C4 Expansion in the central Inner Mongolia during the latest Miocene and Early Pliocene. *Earth and Planetary Science Letters* 287:311-319.

Miscellaneous

History

History curator William Estrada was recently named Adjunct Assistant Professor of History in the College of Letters, Arts & Science at the University of Southern California.



The Research & Collections Newsletter is issued five times per year, in January, March, May, September, and November, by the Research and Collections staff of the Natural History Museum of Los Angeles County.

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All issues of the newsletter may be found at:
<http://collections.nhm.org/newsletters>