

Research & Collections News

The Occasional Newsletter of the Research and Collections Staff
Natural History Museum of Los Angeles County

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.

March, 2007

(covering the months of January and February, 2007)

John E. Heyning, Ph.D.

January 6, 1957 – February 17, 2007

Deputy Director, Research and Collections, 1999-2007

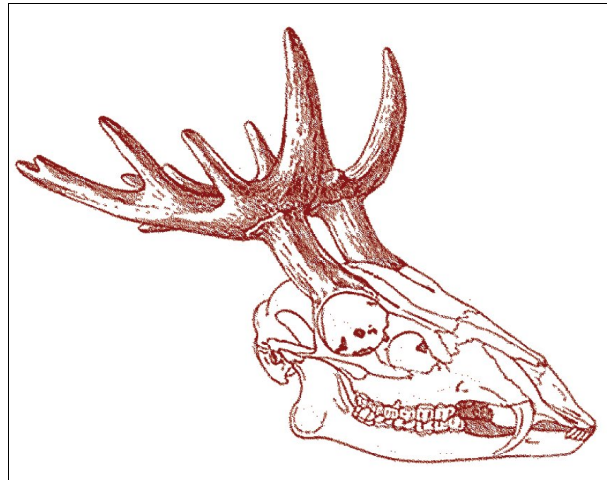


The staff of the Research & Collections branch is deeply grateful to the many people who helped with John's memorial service.

Collection News

Vertebrate Paleontology

Fossil mammals collected by Xiaoming Wang, Gary Takeuchi, and Jack Tseng from the Tibetan Plateau during the summer of 2006 are beginning to take shape after months of preparation and restoration. One of these is an undescribed species of a peculiar primitive deer of the genus *Stephanocemas* (family Cervidae) with a palmate, crown-like antler (photo). This nearly complete antler emerges in the skillful hands of Ted Connors (photo), who is a master at piecing together small fragments of bones. *Stephanocemas* is a browser and usually found in the middle Miocene (about 16–12 million years ago) of Europe and Asia. Its discovery in the Qaidam Basin helps in our evaluation of its age and paleoenvironment.



This antler of a new species of *Stephanocemas* (left) was collected by Gary Takeuchi and prepared and restored by Ted Connors (photo below). A skull reconstruction of a different species of this primitive deer is shown above.

Ted Connors (right), our long-time volunteer at Vertebrate Paleontology (and in the Page Museum before), is shown here working on another deer antler from Tibetan Plateau. Ted has a unique combination of steady hands, inexhaustible patience, and a knack for restoring pieces of bone fragments that resembles the working of jigsaws puzzles. We greatly appreciate Ted's dedication and sense of humor.



Field Work

Entomology / Ornithology

Although the field work that resulted in this amazing find took place in 2004, the wheels of science sometimes turn slowly, and the official publication of the discovery has just occurred. Assistant Curator Emeritus of Entomology Julian P. Donahue, working with ornithologist Ben King (American Museum of Natural History), rediscovered a bird that had been found only once previously. In this



issue of the Newsletter, we are pleased to present the only known photograph of a living Rusty-throated Wren-Babbler. This is an incredibly elusive, secretive, and highly active little bird. Prior to its rediscovery in 2004, this species was known only from the single holotype female collected in a mist net in January, 1947, from the Mishmi Hills in north-east India. King and Donahue were the first ornithologists ever to see this bird alive in the wild. It's quite likely that the local Mishmi tribespeople had seen it but probably did not know it for what it was or, more likely, simply ignored it because it was too small to be of much interest as a potential food item. Although Julian is of course best known as an entomologist, those of us who know him are never surprised by his successful excursions into other fields of natural history. See the publication title under Recent Publications.

Entomology

In mid-January to early February, a group from the Entomology Section traveled to Chile. Curator Brian Brown, Preparator Vladimir Berezovskiy, and Costa Rican INBio Diptera collection manager Elvia Zumbado collected phorid flies for Brown's "Basal Lineages of the Phoridae" project. This effort, funded by the National Science Foundation, was to obtain fresh specimens of the endemic Chilean genera and species. A primary goal was to obtain specimens of *Archiphora patagonica*, an extremely primitive phorid belonging to a



relict group with only one other world species (from Australia). This group was more widespread in the past, based on amber fossils from Europe and North America, and is crucial to our understanding of phorid phylogeny.

The group landed in Puerto Montt and collected in two major areas: Puyehue National Park, in the mountains along the Argentinian border (see photo above), and the Island of Chiloe, a few hundred miles farther south. Collecting was tremendously productive, and they collected all the endemic taxa in



Puyehue alone, leaving them to scour the samples collected subsequently for *Archiphora patagonica* (at right: Brian Brown sorting in the field). Unfortunately, it eluded them, and they had to return without this fly.

Or did they? Upon their return, when going through trap samples, Brown found a single male specimen of this fly (photo at left). Its DNA will now be used in the Basal Lineages project to try to help resolve the most basal divergence in the group.



Meetings, Workshops, and Presentations

Entomology

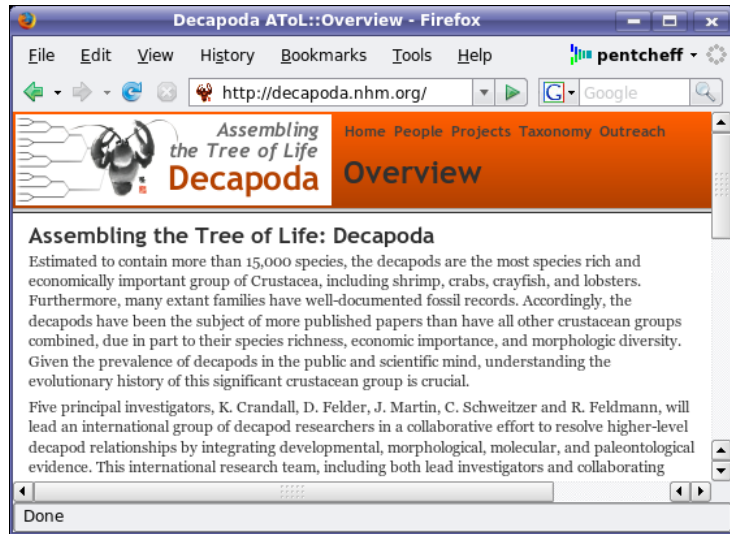
Janet Kempf, Entomology's Spider Survey expert, gave a talk on Los Angeles spiders at the National Park Headquarters in Thousand Oaks, California, on 20 January. The talk was extremely well-attended, standing room only, with over 100 people in attendance. She spoke about spider biology, spider behavior, and the museum's Los Angeles Spider Survey.

Vertebrate Paleontology

In early February, Xiaoming Wang (Vertebrate Paleontology) participated in a National Science Foundation workshop on the tectonics of the Tibetan Plateau at the University of California at Santa Barbara. Led by Dr. Peter Molnar of the University of Colorado, a group of structural geologists, geomorphologists, geochemists, climatologists, and paleontologists attempted to attack the complex problem of Tibetan uplift and associated environmental change. Xiaoming gave a presentation about the status of vertebrate paleontology in Tibet.

Crustacea

Jody Martin, Curator of Crustacea, attended the annual meeting of the “Assembling the Tree of Life” group on Decapoda (a group of crustaceans that includes crabs, shrimps, lobsters, and their many relatives) at the Smithsonian Institution’s National Museum of Natural History. Jody, who is one of the 5 principle investigators for this 2.3 million dollar National Science Foundation-funded research project, presented an update on the Natural History Museum’s contributions to date, which have included the creation of the project’s main web page (at <http://decapoda.nhm.org>). The web page includes lists of valuable and hard-to-find references in a searchable database format and pdf copies of some of the classic (and now out-of-print) literature in the field of crustacean systematics.



Malacology

Malacology staff members Lindsey Groves, Jim McLean, and Ángel Valdés attended the 11th annual gathering of SCUM (Southern California Unified Malacologists) at the San Diego Natural History Museum on January 20th. SCUM is an informal group that meets on an annual basis to facilitate contact and keep members informed of research activities and opportunities. Malacology Research Associates Lance Gilbertson, Pat LaFollette, and Phil Liff-Grieff also attended the SCUM proceedings. Invertebrate Paleontology Research Associates LouElla Saul, Richard Squires, and Mary Stecheson also attended. SCUM will return to LACM in January of 2008.

Vertebrate Paleontology (again)

Members of the Department of Vertebrate Paleontology participated in the Annual Meeting of the Western Association of Vertebrate Paleontologists, which this year was held at the San Diego Natural History Museum on 17 February.

Howell Thomas made a presentation, with co-authors Samuel McLeod, Lawrence G. Barnes, and Elizabeth A. McWaters-Bjorkman entitled “A very small Late Miocene dolphin (Cetacea, Odontoceti) from



the Monterey Formation in Santa Barbara County, coastal central California.” This was a report of a recently collected fossil skeleton of a tiny dolphin from Vandenberg Air Force Base in central California. This may be the smallest adult dolphin ever recorded, either fossil or modern. The discovery demonstrates the un-tapped potential for discovering new kinds of marine mammal fossils along the coast of California. The U. S. Air Force, with staff member Ms. McWaters-Bjorkman, was instrumental in arranging the recovery of this important new fossil.

Another Museum staff presentation at the Western Association of Vertebrate Paleontologists Annual Meeting, given by Lawrence Barnes, was titled “Evolutionary diversity and character polarity among stem delphinoids, the Miocene Kentriodontinae (Cetacea, Odontoceti, Kentriodontidae)”. Co-authors were long time collaborators Howell Thomas and Samuel McLeod of our Museum, David J. Bohaska of the Smithsonian, Stephen. J. Godfrey of the Calvert Marine Museum, Nicholas D. Pyenson of U. C. Berkeley and Graduate Student in Residence, James L. Goedert of the University of Washington and Museum Associate, and Francisco J. Aranda-Manteca of the Universidad Autónoma de Baja California in Ensenada. The presentation laid out the diversity of small fossil dolphins that appear to belong to the ancestors of the modern pelagic dolphins, and explained the taxonomically useful characters that can be discerned from some of the well preserved fossils that we have been discovering and cleaning in our laboratories.



At left: One of the nice kentiodontine dolphin skulls in our Museum collections that was featured in the February presentation at the San Diego Museum. The specimen was obtained during excavations in the Sharktooth Hill Bonebed in

Kern County that were funded by the National Science Foundation. The photograph is by Vertebrate Paleontology Volunteer Damon Nicholson.

External Funding

Crustacea

As part of the “Assembling the Tree of Life” grant (see above), Jody Martin is also organizing an international symposium that will bring together the world’s experts on decapod crustaceans. In support of this meeting, he received word in January that additional funding will be forthcoming from the American Microscopical Society, The Crustacean Society, The Society for Integrative and Comparative Biology (SICB), and two divisions within SICB (the Division of Invertebrate Zoology and the Division of Systematic and Evolutionary Biology). The symposium will take place in San Antonio, Texas, in January of 2008.

Entomology

Entomology received a generous donation from Michael and Nancy Oschin in January. The Oschins have been supporters of curator Brian Brown's work for several years, especially his work on fossil phorid flies in amber.

Public Outreach

Weekend Programming

More and more R & C staff and time are being committed to a "Weekend Programming" series of events to augment the Museum's public program offerings. All staff and all divisions within R & C are pitching in wholeheartedly in addition to working on all of their regular commitments. Below are just some of the recent examples of this activity.

Marine Biodiversity Processing Center / Crustacea / Education

21 January – Family Fun Day – Habitats

The Marine Biodiversity Processing Center and the Education Department worked closely to develop an exciting new hands-on educational program for families. Together we developed a dozen or more poster panels and did 3 days of docent, staff, and volunteer training on vernal pool habitats and their fauna. Family Fun Day came alive with live brine shrimp, preserved specimens from our research collections, video, microscopes, and more. Exploring the fascinating life histories of the legendary sea monkeys of our youth, seeing them right up close, was extremely well received.



Invertebrate Diversity – Local Pier Piling Communities

On February 10, Regina Wetzler collected live invertebrates for this special weekend demonstration. Set up in front of the Marine Hall, visitors could see barnacles feeding, crabs hiding, polychaete worms probing their surroundings, and more. Kathy Omura, Darolyn Striley, and Dean Pentcheff manned the two large tables equipped with magnifying lenses, video and TV monitors, and helped large and small, young and old to explore a common local invertebrate community.

Invertebrate Diversity – Nudibranchs

February was **Diversity Month**, and as part of the Weekend Programs series Ángel Valdés presented a talk on *The Diversity of Nudibranchs* on Sunday February 11th which coincided with the monthly meeting of the Pacific Conchological Club.

Crustacea works with USC / Annenberg to Host “Dodods” Film

On February 10, the Crustacea Laboratory was singled out for being one of several organizations responsible for hosting the film “Flock of Dodods” on the USC campus. The film, which included interviews with several USC faculty members and was created by former USC student and marine biologist Randy Olson, was shown simultaneously at approximately 50 theaters across the country. Here in Los Angeles, the movie screening was followed by a panel discussion involving the director and other experts on the film and on the general topic of evolution and “intelligent design” in America. Special thanks go to Dean Pentcheff for his work in organizing and facilitating the showing of the film here in Los Angeles.

Student Mentoring and Research

Vertebrate Paleontology

Nicholas D. Pyenson (right), a Graduate Student in Residence in the Department of Vertebrate Paleontology, is being supervised by Dr. Lawrence G. Barnes. Nick’s doctoral thesis at the University of California is about the evolution of whales and dolphins, and here he observes an amazingly small Miocene fossil baleen whale from coastal central California. In life this little whale was smaller than most killer whales. There appears to have been a wider range of body sizes among earlier whales than among those that are alive today.



Distinguished Visitors

Vertebrate Paleontology

Dr. Naoki Kohno studied at the Museum for a week in February. Dr. Kohno, Curator of Fossil Vertebrates at the National Science Museum in Tokyo, compared our Museum specimens to a new species of Japanese sea lion-like pinniped that is related to the ancestors of walrus. The visit also gave him an opportunity to collaborate with Research Associate Dr. Edward Mitchell and Vertebrate Paleontology Collections Manager Dr. Samuel A. McLeod. Dr. Kohno has collaborated and published with Dr. Lawrence Barnes for nearly two



decades, and this time allowed them to further their studies on sea lions and walruses. Our Museum is the only one in the world that conserves examples of all of the species that are relevant to such studies of marine mammals.

Also in Vertebrate Paleontology, Dr. J. Howard Hutchison (right), a VP Research Associate, studied at the Museum for a week in February. Dr. Hutchison is a specialist on the evolution and classification of fossil and living turtles. Here he is documenting the plate pattern on one of our Museum's rare fossil land tortoises, a specimen that will be included in his review of western North American tortoises.



Malacology

Daniel Muhs (USGS, Denver) visited Malacology in January to deliver several hundred Pleistocene invertebrate specimens (mostly mollusks) from San Clemente and Santa Cruz islands, California, for identifications. Dan and several USGS colleagues are preparing a guidebook to the Channel Islands National Park and Lindsey Groves will be identifying the invertebrate fossils for this volume. Cathy Marlett (SIL International) also visited Malacology in January to confirm identifications of mollusks collected from midden deposits in Sonora, Mexico, for research purposes. Advanced shell collector Dan Yoshimoto (Eureka, CA) visited Malacology again in late January to photograph mollusks from Humboldt Bay, CA. He continues work with Jeff Robinson (Humboldt Bay Harbor Recreation & Conservation District) to document all of the marine life of Humboldt Bay. Nudibranch researcher Cynthia Trowbridge visited Malacology in late February to work on editorial duties for the American Malacological Bulletin

Recent Publications

Barnes, L. G., C. E. Ray, and I. A. Koretsky. 2006. A new Pliocene sea lion, *Proterozetes ulysses* (Mammalia: Otariidae) from Oregon, U.S.A. *Mesozoic and Cenozoic Vertebrates and Paleoenvironments: Tributes to the career of Prof. Dan Grigorescu*: 57-77.

DaCosta, M. A., P. Larson, **J. P. Donahue**, and S. J. Weller. 2006. Phylogeny of milkweed tussocks (Aarctiidae: Arctiinae: Phaegopterini) and its implications for evolution of ultrasound communication. *Annals of the Entomological Society of America* 99 (5): 723-742.

King, B., and **J. P. Donahue**. 2006. The rediscovery and song of the Rusty-throated Wren Babbler *Spelaeoris badeigularis*. *Forktail* 22: 113-115.

Koretsky, I. A., and **L. G. Barnes**. 2006. Pinniped evolutionary history and paleobiogeography. *Mesozoic and Cenozoic Vertebrates and Paleoenvironments: Tributes to the career of Prof. Dan Grigorescu*: 143-153.

Martin, J. W., and T. L. Zimmerman. 2007. Color variation in the Caribbean crab *Platypodiella spectabilis* (Herbst, 1794) (Decapoda, Brachyura, Xanthidae). *Gulf and Caribbean Research* 19: 59-63.

Staff Departures

In February R & C and the Natural History Museum bid farewell to Dr. John Heyning, Deputy Director of R & C from 1999 through 2007, whose battle with ALS came to a close on February 17. John's life was celebrated here at the Museum on February 24th with a huge outpouring of friends, family, and colleagues estimated at over 400 people. In lieu of flowers, the Heyning family has requested that donations be sent to the following organizations:

John E. Heyning Research Expedition Fund
c/o Natural History Museum of Los Angeles County
ATTN: Tom Jacobson
900 Exposition Blvd.
Los Angeles, CA 90007

ALS Association
27001 Agoura Road, Suite 150
Calabasas Hills, CA 93101

American Funds Service Company
Heyning Education Fund
c/o Capital Research and Management,
ATTN: Paul G. Haaga, Jr.
333 S. Hope Street
Los Angeles, CA 90071

