

# 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.

September, 2006

(covering the months of May, June, July, and August, 2006)

## Collection News

### *Ichthyology*

On August 16th a fifteen foot long oarfish, genus *Regalecus*, swam into Big Fisherman's Cove at Santa Catalina Island. It is widely believed that occasional sightings of oarfishes, which spend most of their time in far deeper waters, are responsible for some of the reports of "sea serpents" by ancient mariners. The Catalina "sea serpent" survived for a day, delighting local snorkelers and biologists.



Ichthyology has now acquired the specimen, which was initially frozen. At a future date, thawing, dissection and preservation is planned. Tissue samples will be taken for DNA analysis since the phylogeny of oarfishes is still in question. The Museum Staff will be informed when the thawing will take place in case anyone is interested in seeing this rare and extraordinary fish. The close up photograph of the oarfish's head at left is courtesy of Troop 6 Phx. © C.Angell 2006

At right: the new oarfish specimen with a few onlookers on the dock at Catalina Island. Photograph courtesy of Dr. Judith Lemus, USC Wrigley Institute for Environmental Studies.

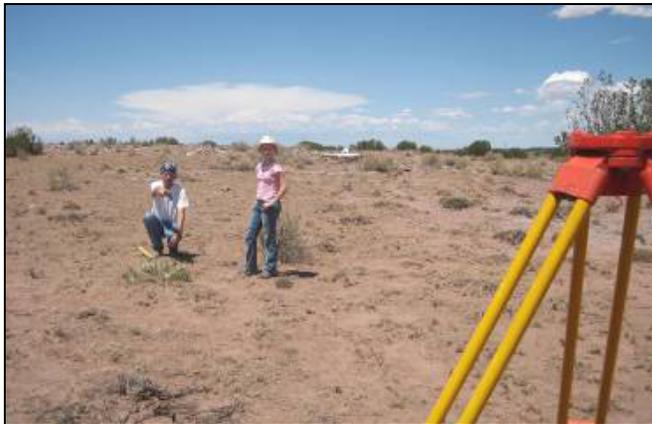


## ***Mammalogy***

The Janiger Database, as it has come to be known, now includes nearly 28,000 records of publications addressing marine mammal biology, ecology and policy. Dave Janiger, Curatorial Assistant in Mammalogy, maintains this database as a service to the international marine mammal research community. It was recently used by editors of the 2006 State of the Cetacean Environment Report, published by the Scientific Committee of the International Whaling Commission, to evaluate the percentage of publications devoted to habitat threats and conservation issues relative to papers addressing basic biology, ecology and evolution.

## **Field Work**

### ***Anthropology***



*Dr. Van Keuren and Drew Hand prepare to map Broken K Pueblo (in the background).*

Scott Van Keuren (Assistant Curator, Anthropology), Jennifer Drew Hand (REU intern), and Natalie Flores (REU intern) traveled to eastern Arizona in July to visit and map thirteenth and fourteenth century Ancestral Pueblo (or “Anasazi”) villages in the Silver Creek area. The project was a collaborative effort with the Dr. Stephen Nash (Field Museum of Chicago) to relocate and remap sites in the Hay Hollow Valley, an area where the Field Museum excavated several well-known sites during 1960s and

1970s expeditions. Dr. Van Keuren and his students remapped Broken K Pueblo, a historically important thirteenth century village that served as one of the case-studies of the “New Archaeology” movement. The site was recently acquired by the *Archaeological Conservancy*. The crew also visited several other large sites, local museums, and met with landowners to discuss topics on the preservation and stewardship of archaeological resources.

## Crustacea

Partly funded by two NSF grants, one to study isopod crustaceans and one to study decapods and their place in the “Tree of Life,” scientists from the museum's Crustacea laboratory and Marine Biodiversity Processing Center recently completed a three-week trip to Palau (~7.3°N, 136°E), western Caroline Islands, in Micronesia. On the expedition were Regina Wetzer, Dean Pentcheff, and Darolyn Striley. The trip yielded a variety of sphaeromatid isopods with a total of more than 60 “lots” (individual collections) of crustaceans.



Despite the rainy weather, diving was excellent, and a spring low tide permitted excellent access to reef flats. Not all of the days saw inclement weather, as evidenced by the photograph above.

## Ornithology



*A juvenile Caspian Tern (Hydroprogne caspia), sporting a dash of green dye and alphanumeric band number C41, acclimates after being released at the Salton Sea.*

Field work for the Salton Sea West Nile Virus and shorebird diet study continued on eleven dates from May through August, with Ornithology Collections Manager Kimball Garrett and Research Associate Kathy Molina collecting blood samples from 175 shorebirds and larids (gulls and terns), including 70 specimens preserved for diet analysis, tissues and study skin vouchers. We were assisted in the field collection and processing of samples by Ornithology volunteer Susan Kaveggia and museum taxidermist Tim Bovard.

Kimball Garrett and Kathy Molina also helped personnel of the International Bird Rescue and Rehabilitation Center in San Pedro mark, release and monitor 24 young Elegant and Caspian Terns after the destruction of a nesting colony of several hundred pairs on two barges in Long Beach harbor in late June. The young terns were raised to flying stage at the IBRRC and under Molina's banding permit, the nine Elegant Terns and fifteen Caspian Terns were given unique Fish and Wildlife Service bands, additional colored or alphanumeric leg bands, and a patch of bright green non-toxic dye on the breast. Terns normally receive parental care well after fledging, so the monitoring of

these functionally orphaned birds will help gauge the efficacy of rehabilitation efforts. Since the release of the Elegant Terns at Cabrillo Beach and the Caspians at the Salton Sea National Wildlife Refuge in mid-August, resightings have occurred as recently as September 1<sup>st</sup> and as far away as San Luis Obispo County.

## **Entomology**

Brian Brown traveled to Thailand to help set up the TIGER (Taxonomic Inventory Group for Entomological Resources) project, funded by the National Science Foundation. While there, he helped instruct Thai national park staff in the use of entomological equipment (such as showing Yuwadee Areeluck how to collect Malaise trap samples in the accompanying photo at right), how to preserve collections, and how to recognize target taxa for the inventory of Thai insects. This three-year project will be collecting in 30 national parks, and it will give us an extremely large sample of the Thai insect fauna.



## **Meetings, Workshops, and Presentations**

### **Malacology**

Malacology staff members Ángel Valdés and Jim McLean attended the 39<sup>th</sup> annual meeting of the Western Society of Malacologists at the University of Washington, Seattle, WA, July 29<sup>th</sup> through August 3<sup>rd</sup>, which was combined with the 72<sup>nd</sup> annual meeting of the American Malacological Society. Jim presented *Genera of the Crepidula-group: Revised definitions based on characters of the shell muscle and septum*. Two of Ángel's students presented papers: Alvin Alejandrino presented *Preliminary phylogeny of Aeolididina (Gastropoda: Nudibranchia) based on morphological characters and the mitochondrial 16s rRNA and COI genes*, and Carla Stout presented *Phylogenetic reconstruction of the genus Dendronotus (Gastropoda: Nudibranchia) with insight into world-wide distribution patterns*.

### **Crustacea**

In late May, Jody Martin presented a talk as one of the invited plenary speakers at the meeting of The Crustacean Society in Juneau, Alaska. Jody's talk was on historical trends in crustacean systematics and its relationship to current global marine biodiversity.

## ***Polychaetes***

In early July (3-12), Dr. Kirk Fitzhugh attended, as an invited guest, the first Latin American Symposium on Polychaetes, held at the Centro de Biologia Marina, Sao Sebastiao, Brazil. In conjunction with the symposium, he taught a two-week graduate course on the philosophical foundations of phylogenetic systematics, also at Centro de Biologia Marina, Sao Sebastiao, Brazil.

Later in July (17-19), Kirk was an invited speaker at the Fórum de Sistemática e Evolução do MZUSP, hosted by the University of Sao Paulo and the Zoological Museum of Sao Paulo. While there, he presented three talks, as follows: (1) *The inferential basis of phylogenetic systematics*, (2) *Testing phylogenetic hypotheses*, and (3) *The inferential structures of semphoronts, species taxa, and higher taxa*.

## **External Funding**

### ***Anthropology***

Dr. Scott Van Keuren (Assistant Curator, Anthropology) was recently awarded an \$87,239 ‘Senior Archaeology’ grant (BCS 0511847) from the National Science Foundation to continue his long-term research on ancient Pueblo peoples of the American Southwest. The three-year project entitled *Ceramic Style and Social Inequality at Ancestral Pueblo Villages in East-central Arizona* will investigate the settlement histories of three of the largest fourteenth century Ancestral Pueblo (or “Anasazi”) villages in eastern Arizona. New excavations and analyses of painted pottery will answer key questions about the economic and political organization of ancient Pueblo societies and why they abruptly abandoned this part of the Southwest at the end of the fourteenth century. In addition to establishing new undergraduate and graduate student research positions, the grant funds community outreach and public programming activities designed to promote local stewardship and raise public awareness about endangered archaeological resources.

## **Public Outreach**

### ***Adventures in Nature:***

***Invertebrate Paleontology, Malacology, Crustacea, Echinoderms, and most of R & C...***

Harry Filkorn, Collections Manager for Invertebrate Paleontology, brought out some spectacular invertebrate fossils and assisted the Museum's Education Division in the instruction of two Adventures in Nature classes in August. The two AIN classes were “Bug Bonanza,” a class on insects taught by Heather Saunders, and “Fantastic Fossils,” a class on paleontology taught by Carlos Tenorio. The students in both of the classes were thrilled because they were allowed to hold real fossils and talk to a real paleontologist.

The Malacology section once again participated in several Adventures in Nature sessions in August. Lindsey Groves assisted Robert Spellman with *Dinomite* and exhibited fossil and Recent cephalopods including extinct ammonites and nautiloids for two 1<sup>st</sup> grade groups. Lindsey and Cathy Groves (Echinoderms) exhibited Recent mollusks, echinoderms, and crustaceans for *Ocean Commotion* with Melanie Rhalter and her 1<sup>st</sup> graders, while curator of Crustacea Jody Martin once again led tours of the crab lab.

## **Malacology**

Lindsey Groves co-led *Fossil hunting in Silverado Canyon* with LouElla Saul (Invertebrate Paleontology Research Associate) and the Education Division on May 13<sup>th</sup>. Thirty-four participants collected Late Cretaceous (Turonian) mollusk fossils from the Baker Canyon and Holz Shale members of the Ladd Formation in Silverado Canyon, Santa Ana Mountains, Orange County. Expert field assistance was provided by Grace Cabrera (Education), Mary Stecheson (IP), George Davis (Crustacea), and Robin Savoian (Education).



*Lindsey identifying fossil finds with several participants.*

Right (L to R): Robin Savoian (Education), George Davis (Crustacea), LouElla Saul (Invertebrate Paleontology), Lindsey Groves (Malacology), Mary Stecheson (Invertebrate Paleontology), and (in front) Grace Cabrera (Education). All photos by George Davis.



*Participants and LACM staff on outcrops of Ladd Formation along Silverado Creek*



## Distinguished Visitors

### ***Mammalogy***

Dr. Merel Dalebout, Postdoctoral Fellow at the University of New South Wales, visited the Museum's Marine Mammal Laboratory in June to collect data for her research on the genetic diversity and population structure of Cuvier's beaked whale (*Ziphius cavirostris*).

### ***Malacology***

Post-doctoral scholar and mollusk specialist Marcello Rivadeneira (UC San Diego) visited the Malacology collection for research purposes twice in May and once in June. Research Associate Al Lopez has returned to Los Angeles for three months to conduct malacological research on terrestrial and freshwater mollusks of Nicaragua and to perform priestly duties at nearby St. Thomas the Apostle Church. Suzanne Williams (Natural History Museum, London) visited Malacology in late July to examine the Malacology holdings of the gastropod genus *Turbo*.

### ***Beijing Museum of Natural History***

In August, R & C played host to Dr. Cheng-Sen Li, director of the Beijing Museum of Natural History and a renowned paleobotanist, and Dr. Xiang Tao Li, an ornithologist from the same institution, who were visiting the Natural History Museum in ascertain the possibilities of promoting collaborative work between our institutions.

## Student Mentoring

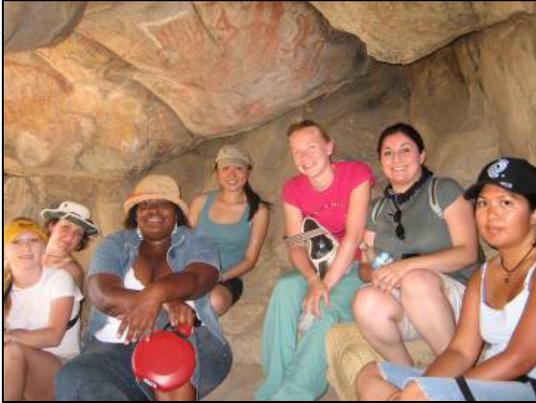
### ***Research Experiences for Undergraduates (REU) Program***

Early August marked the end of our annual *Research Experiences for Undergraduates* (REU) summer internships. Supported by a major grant from the National Science Foundation (DBI 0453260), the 10-week program paired undergraduate students with curators and other staff in Research and Collections. Our 2006 student interns worked on diverse research projects. **Natalie Flores** (California State University, Fullerton) and **Jennifer Drew Hand** (UCLA) worked with Dr. Scott Van Keuren in Archaeology. **Laura Ponce** (University of Hawaii) and **Elizabeth Liu** (Loyola Marymount University) worked with Drs. Jody Martin and Regina Wetzler in Crustacea. **Anne Kuebler** (Muhlenberg College) and **Roxanne Darnton** (St. John's College) worked with Dr. Gordon Hendler in Echinoderms. **Shanita Terrill** (Alabama State University) worked with Dr. Ángel Valdés in Malacology. In addition, a private donation allowed us to invite an



*REU students tidepooling at Cabrillo Beach.*

international student to the program for the first time. **Vinicius Padula**, a junior working in the Marine Biology program of the Universidade Federal do Rio de Janeiro, also worked with Dr. Ángel Valdés in Malacology. Vinicius' internship was made possible by a generous grant from the Robert M. Adams Foundation. At the close of the summer, our interns presented their research findings in a conference-style event open to the entire Museum.



*REU interns visit ancient rock art sites in Baja California (from left: Drew Hand, Roxanne Darnton, Shanita Terrill, Elizabeth Lui, Anne Kuebler, Natalie Flores, and Laura Ponce).*

As an important supplement to their research projects, REU interns also attended research seminars by Museum staff, participated in workshops, and, along with the program organizers (Drs. Scott Van Keuren and Ángel Valdés), took fieldtrips to neighboring institutions and other destinations. The most ambitious was a four-day excursion to Baja California where students experienced firsthand the diverse cultural and natural landscapes of the Pacific coastline and interior deserts. Key support for REU fieldtrips was provided by Elaine Kramer and Al Latham.

The help and involvement of nearly every staff member in Research and Collections made this 2006 summer internship a great

success. With this program, the Museum enhances its efforts to mentor undergraduate students and involve them in our important research programs.

## Recent Publications

**Brown**, B.V. 2006. Revision of the untreated taxa of *Melaloncha* s.s. bee-killing flies (Diptera: Phoridae). *Zootaxa*. 1280: 1-68.

**Brown**, B.V. and G. **Kung**. 2006 Revision of the *Melaloncha ungulata*-group of bee-killing flies (Diptera: Phoridae). *Contributions in Science* No. 507, 31 pp.

*The above two papers complete the revision of the genus Melaloncha, a project funded by the National Science Foundation.*

**Fitzhugh**, K. 2006. The philosophical basis of character coding for the inference of phylogenetic hypotheses. *Zoologica Sriptra* 35: 261-286.

**Fitzhugh**, K. 2006. DNA barcoding: an instance of technology-driven science? *BioScience* 56: 462-463.

Levin, N.E., T.E. Cerling, B.H. Passey, **J.M. Harris**, and J.R. Ehleringer. 2006. A stable isotope aridity index for terrestrial environments. *Proceedings of the National Academy of Sciences* 103 (30): 11201-11205.

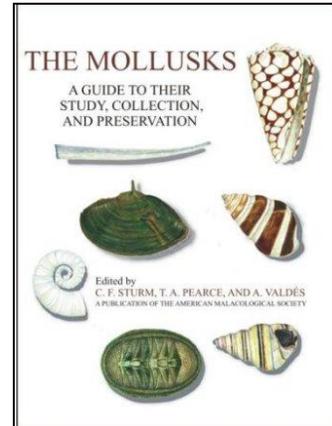
*Mammals that get much of their water from their food (such as giraffes) differ isotopically from those that are obligate drinkers (e.g. hippos, horses, and*

elephants), and this isotopic difference can be used to estimate paleoenvironmental conditions represented by different assemblages of fossil mammals.

**Martin**, J.W. 2006. Name dropping on decapods. *Science* (Letters to the Editor) 313: 440, 28 July 2006.

Sturm, C.F., Pearce, T.A., & **Valdés**, A. (eds.) 2006. *The mollusks: A guide to their study, collection, and preservation*. American Malacological Society: Pittsburgh, Pennsylvania. xii + 445 p.

*A new book on how to collect, preserve, and study specimens of this enormously diverse group of marine invertebrates! See cover at right.*

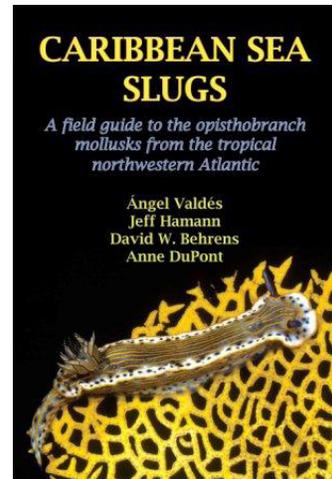


Thewissen, J.G.M., M.J.. Cohn, L.S. Stevens, S. Bajpai, J. **Heyning** and W. E. Horton, Jr. 2006. Developmental basis for hind-limb loss in dolphins and origin of the cetacean bodyplan. *Proceedings of the National Academy of Sciences* 103(22): 8414-8418.

*Ever wonder about those funny looking bones suspended in mid-air at the back of the fin whale skeleton in the Discovery Center? Those are vestigial hind-limb bones. Modern cetaceans lack external hind-limbs, but they do have vestiges of them buried deep in their body. Curiously, embryos of modern whales and dolphins have hind-limb buds (the precursor to hind-limbs) that are present at the very early stages but fail to fully develop. The authors of this paper combined data from a series of dolphin embryos from the mammalogy collections with paleontological evidence to show that hind-limb size in cetaceans gradually decreased over time until their locomotor function was eventually lost altogether. It wasn't until after this occurred (about 34 million years ago) that genes controlling limb development eliminated most of the hind-limb skeleton.*

**Valdés**, A, Hamann, J, Behrens, D.W., & DuPont, A. 2006. *Caribbean Sea Slugs: A field guide to the opisthobranch mollusks from the tropical northwestern Atlantic*. Sea Challengers Natural History Books, Etc.: Gig Harbor, Washington. 289 p., numerous figs.

*A new book on sea slugs of the Caribbean Sea – see cover image on the right.*



**Van Keuren**, S. 2006. Shumway Ruin and the Late Pre-Hispanic Period in East-central Arizona. *Contributions in Science* 508:1-19.

**Van Keuren**, S. 2006. Decorating Glaze Painted Pottery in East-central Arizona. In *The Social Life of Pots*, edited by J. Habicht-Mauche, D. Huntley, and S. Eckert, pp.86-104. The University of Arizona Press, Tucson.

Wicksten, M.K., J.W. **Martin**, and J.A. Baeza. 2006. John Shrader Garth, 3 October 1909 – 18 October 1993 [biography]. *Journal of Crustacean Biology* 26(2): 262-266.

## Staff Departures and New Staff

### ***Invertebrate Paleontology***

The NSF collections grant that provided the salary for Mary Stecheson, Curatorial Assistant in the Department of Invertebrate Paleontology, ended on May 31, 2006. Therefore, Mary is no longer with the Department. She was instrumental in the development of the LACMIP collections database and managed the USC work-study students who helped worked on the NSF collections project. Her contributions to the Department and its collection are greatly appreciated! The Museum chose not to continue support for the Curatorial Assistant position.

### ***Anthropology***

The Anthropology Department recently bid farewell to Dr. William (“Bill”) Warner Wood, our Curator of Latin American Ethnology and the Head of Ethnology Section. During his five year tenure at the Museum, Bill was actively involved in public programming initiatives, acting as host curator for *Great Masters of Mexican Folk Art* and *Chocolate*, a member of the curatorial team for our own *Conversations*, and an important member of exhibit content development teams for the New Museum project. Bill continued his work on indigenous Mexican material culture and identity, globalization, tourism, and the history and culture of environmentalism through writing, conference presentations, and fieldwork. He recently initiated an important cross-disciplinary project with other Museum curators to study eco-tourism and biodiversity on the Pacific Coast of Oaxaca. While at the Museum he also finished final revisions on his forthcoming book, *Made In Mexico: Crafting Zapotec Textiles and Weavers*. Bill has accepted a tenure-track teaching position at the Central Washington University in Ellensburg, Washington. He will continue to hold a Research Associate position in the Department of Anthropology here at the Museum. He will be greatly missed by his colleagues in R&C – we wish him best of luck in the future!

### **Miscellaneous**

Congratulations to Dr. Tony Kampf! A paper for which Tony is a co-author has been selected to receive this year's Brunauer Award. The Brunauer Award is awarded yearly by the Cements Division of the American Ceramic Society for the best paper on the topic of cements published by the American Ceramic Society during the previous year.

The complete citation is:

Bonaccorsi, E., Merlino, S., and Kampf, A. R. 2005. The crystal structure of tobermorite 14Å (plombierite), a C-S-H phase. *Journal of the American Ceramic Society* 88: 505-512.

Congratulations also to Don McNamee (Research Library) [May 1<sup>st</sup>] and Lindsey Groves (Malacology) [May 18<sup>th</sup>] for 18 years of dedicated service to the Natural History Museum Foundation. Further congratulations are in order for Lindsey & Cathy Groves who celebrated their 30<sup>th</sup> wedding anniversary on August 15<sup>th</sup>

∞ End ∞

