

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, 2005

(covering the months of January and February, 2005)

Collection News

Mineral Sciences

In January, the Mineral Sciences Department received the combined micromount collections of Julius Weber and Louis Perloff. The collection, totaling well over 50,000 specimens, is easily the largest mineral collection ever acquired by the Museum and certainly ranks as one of the most significant.

A micromount consists of a specimen mounted in a box measuring approximately 1 x 1 x ¾ inch. Sophisticated mineral micromounters, such as Julius Weber and Louis Perloff, carefully select specimens for their high-quality microscopic crystals, as well as for their rarity. The crystals, when viewed under magnification, are often more aesthetic than those on larger specimens, but even more significantly, their typically greater perfection makes them better for scientific research.

For more than 25 years, the Mineral Sciences Department has placed a high priority on building its micromount collection into a valuable research, teaching and reference resource. With the addition of this collection, the museum's micromount collection has grown to nearly 100,000 specimens, making it probably the largest of its kind in the world.



Micromount in the Weber-Perloff Collection



Connellite crystals from Bisbee, Arizona on micromount. Longest crystal is about 1 mm in length.

More information about Julius Weber and Louis Perloff and the significance of this collection can be found in the feature story in the February 2005 issue of *Mineral News*, which can be found at: www.nhm.org/research/minsci/Mineral_News.pdf.

Rancho La Brea

Professor David Crowley and associates from U. C. Riverside visited the Rancho La Brea collections in January to discuss a joint project on the microbes that live in the asphalt seeping into Hancock Park. Professor Fred Croxen and students from Arizona Western College visited the RLB collections in February to identify Pleistocene fossil vertebrates recovered from El Golfo, Mexico.

Fishes

Fishes is currently topping-off our stainless-steel specimen tanks using our own recycled ethanol in mass quantities graciously supplied by the MBPC. We have about 100 tanks and anticipate this project to take another 2-3 months. These tanks are mostly around 15-30 gallon capacity, and we use them to store larger specimens, such as whole sharks and large jacks.

Invertebrate Paleontology

In January and February, Mary Stecheson and her team entered 3,693 new lots into the Invertebrate Paleontology catalog. That's 29,157 specimens, which puts our cataloged collection at a total of 569,940 specimens.

Polychaetes

Once again, Dr. Sergio Salazar-Vallejo (ECOSUR, Chetumal, Mexico) has returned to the museum and to his revision of the polychaete family Flabelligeridae. Sergio has found our collection holdings to be so large & important for his work that this was his third visit. So far he has spent nearly 7 months here, and he plans to return again in summer.

Malacology

The Malacology section acquired the Recent (the word is capitalized here because it refers to a geologic time period) worldwide mollusk collection of the late Yvonne Albi in early January. Yvonne had been a section associate and volunteer for the past 15+ years. Her collection was particularly strong in the gastropod families Ranellidae (Tritons) and Bursidae (Frog shells), which will greatly enhance the Malacology holdings.

Field Work

Polychaetes and Marine Biodiversity Processing Center

Leslie Harris (Polychaetes) and Darolyn Striley (MBPC) have returned from field work in Fiji. Together with the other participants of the Yaqara Bay Biodiversity Inventory Project, they processed and returned approximately 1,000 lots of specimens for our invertebrate and fish collections. Many new species and higher-level taxa are expected to be discovered among the collections, since so few studies have been conducted on the smaller inhabitants of Indo-Pacific coral reefs. This bright red polychaete, for example (at



right), represents an undescribed new genus that will be described by Leslie and Dr. Temir Britayev (A.N. Severtzov Institute of Ecology and Evolution, Russia). In addition, Leslie and Darolyn interacted with nearly 200 schoolchildren who came by for a day of lectures & hands-on fun. Leslie's & Darolyn's hard work and expertise so impressed Fijian Fisheries workers that they were invited to return for future collaborative projects.

Crustacea

Jody Martin has been making occasional forays into the San Gabriel and San Bernardino Mountains to look for possible habitat for a shrimp species, *Syncaris pasadenae*, that is thought to have become extinct in the 1930s. Several streams where it once lived have high elevation pools that were not surveyed in the 1930s or anytime afterwards, and it is possible that populations might have survived in these more remote areas.

Meetings, Workshops, and Presentations



Polychaetes and Marine Biodiversity Processing Center

During their time on Fiji, Leslie Harris (Polychaetes) and Darolyn Striley (MBPC) led a week-long workshop on "Coral Reef Cryptofauna" for the Ministry of Fisheries. This was held at the University of South Pacific, Suva. Eight fisheries employees and 2 interns from Manchester, England, learned the basics of invertebrate identification and collection techniques. Highlights of the workshop included sampling trips out to nearby reefs and mangrove areas. Pictured at left are Leslie and Darolyn with some of the students.

Crustacea

In mid-February, Jody Martin attended the annual meetings of the American Association for the Advancement of Science in Washington, DC, where he spoke with marine conservation biologists and government officials about the need to protect marine habitat, and where he was inducted as a Fellow of the AAAS along with 307 other scientists across the country.

Vertebrate Paleontology

The Western Association of Vertebrate Paleontology (WAVP) had a very successful meeting, hosted by our Department of Vertebrate Paleontology, on Saturday (February 19) in the Times-Mirror Room with 19 presentations on various aspects of Cenozoic tetrapod paleontology. Despite the inclement weather there were over seventy registered attendees, not counting the entire staffs and many of the volunteers of the Vertebrate Paleontology and Rancho La Brea Departments. The attendance was larger than anticipated but fortunately we were able to borrow additional chairs from the event upstairs in the auditorium! Most of the participants came from southern California but there was a sizeable contingent from northern California, and people came from as far away as Utah, Arizona, Oregon, Idaho, Georgia and Beijing. Sadly, the heavy

rain of the preceding week limited the scope of the Sunday field trip to Red Rock Canyon but 37 hardy souls enjoyed the tour organized and led by Xiaoming Wang, Dave Whistler and Gary Takeuchi.

Malacology

Malacology staff members Lindsey Groves, Ángel Valdés, and Jim McLean, along with Malacology associates Phil Liff-Grieff and Daniel Geiger, attended the Ninth annual meeting of the Southern California Unified Malacologists [SCUM] in San Diego on January 22nd. SCUM is a one day informal gathering of professional, amateur, and student malacologists and paleomalacologists that meets annually to facilitate contact and keep others informed of research activities and opportunities.

External Funding

Conservation

In January, the Conservation Section received funding from the Samuel H. Kress Foundation for a graduate conservation student internship to take place in the summer of 2005. This is the third such grant awarded by the Samuel H. Kress Foundation in support of conservation at NHM.

Public Outreach

Conversations Exhibit

Nearly all members of R & C were involved in one way or another with the recently opened *Conversations* exhibit featuring interactions among artists, curators, and collections. The artists (all of whom are well known locally) and the curators (all of whom are well known nationally and internationally) worked collaboratively to create artistic expressions that incorporated, or were inspired by, our museum collections. Involved R & C staff included Brian Brown and Weiping Xie (**Entomology**), Ken Campbell and Kimball Garrett (**Birds**), Luis Chiappe and Sam McLeod (**Vertebrate Paleontology**), John Harris (**Rancho La Brea**), Jody Martin, George Davis, and Regina Wetzer (**Crustacea**); Cathy Groves and Gordon Hendler (**Echinoderms**); Kirk Fitzhugh and Leslie Harris (**Polychaete Worms**); Darolyn Striley, Nefty Camacho, Kathy Omura, and Krista Zala (**Marine Biodiversity Processing Center**); Bill Wood, Margaret Hardin, and Chris Coleman (**Anthropology**); Tania Collas (**Conservator**), Vicki Gambill, Darienne Heatherman, and Susan Oshima (**Registrar**), Jim Dines (**Mammalogy**), Tony Kampf and Dorothy Etensohn (**Mineral Sciences**), Ken Johnson, Harry Filkorn, and Mary



Conservator Tania Collas works with Thad Howard (Public Programming) on Tony Berlant's installation for *Conversations*.

Stecheson (**Invertebrate Paleontology**), Ángel Valdés and Lindsey Groves (**Malacology**), and Beth Werling, Lisa Escovedo, and Jonathan Spaulding (**History**).

Rancho La Brea

In February, the Rancho La Brea Department lent casts of the skulls of sabertoothed cat, dire wolf, lion, short-faced bear, horse, camel and Harlan's ground sloth to the San Diego Museum of Man for their forthcoming exhibit "Frozen in Time: Life in the Pleistocene Ice Age" (March 2005 through January 2006).

Invertebrate Paleontology

Mary Stecheson had the opportunity to meet with the students of Ms. Scott's 2nd grade class at 10th Street Elementary School, in the Pico/Union neighborhood of Los Angeles. The kids were working on a unit on fossils in their science class, and were very knowledgeable about how fossils form. Mary brought a few Pleistocene specimens from the downtown Los Angeles area to show them.

Distinguished Visitors

Rancho La Brea

Dr. Raymond T. Ancog from the Mines and Geosciences Bureau of the Philippines visited the Rancho La Brea collections in January. Dr. Deng Tao from the Institute of Vertebrate Paleontology and Paleoanthropology in Beijing visited the RLB collections in February. See also Collection News for more visitors to, and use of, the extensive Rancho La Brea collections.

Ichthyology and Herpetology

Both Ichthyology and Herpetology have hosted several visitors lately. Leonardo Castillo and Juan Carlos Perez of CICESE (Ensenada, Mexico) visited the fish collection to examine material of Pacific rays and sharks. Ken Shimada (DePaul University) visited to work with Jeff Seigel on our goblin shark. Harry Fierstine (Cal Poly San Luis Obispo, emeritus) visited fishes to photograph billfish vertebrae. Ichthyology holds extensive collections of billfishes, from larvae to adults, and including a variety of skeletons and bills. Josh Olsen made several visits from UCLA to look at flatfish characters for systematics. Steve Goldberg (Whittier college) visited Herpetology as part of his ongoing work on lizard reproduction. Craig Stanford (USC) visited Herpetology to examine gopher snakes and rattlesnakes for studies of feeding and ecology.

Polychaetes -- see under Collection News for the visit of Dr. Sergio Salazar-Vallejo (from ECOSUR, Chetumal, Mexico).

Malacology

International Nudibranch Month in Malacology continued as researchers Néstor Ardila and Diana Báez (INVEMAR, Bogota, Colombia), Shireen Fahey (University of Queensland and California Academy of Sciences), and Mary Jane Adams visited the collection. Easter Island mollusk specialist and Malacology Research Associate Bret Raines (Victorville, California) visited the collection on three occasions in January and February.

Staff Departures

In the last two months, R & C has bid farewell to several expert colleagues and good friends who have accepted more challenging and rewarding positions elsewhere. With sincere appreciation for their time and efforts on our behalf, we wish Godspeed and fair winds to Drs. Steven Karr (Southwest Museum), Jonathan Spaulding (Autry Center), and Ken Johnson (Natural History Museum, London).

Recent Publications

Thacker, C. E. and H. J. Grier. 2005. Unusual gonadal structure in the paedomorphic teleost *Schindleria*, with comparison to other gobioid fishes. *Journal of Fish Biology* 66(2): 378-391.

This paper describes a comparison between the gonads of Schindleria, the world's smallest vertebrate, and those of several other gobioid fishes, both miniature and (for them) normal sized. Schindleria gonads and reproduction differ from all other gobies, even tiny ones, due to Schindleria's evolutionary history of heterochrony, or developmental truncation.

Ward, J.K., **J. M. Harris**, T. E. Cerling, A. Weidenhoeft, M. J. Lott, M. Dearing, J. B. Coltrain, and J.R. Ehleringer. 2005. Carbon starvation in glacial trees recovered from the La Brea tar pits, southern California. *Proceedings of the National Academy of Sciences* 102: 690-694.

Fossil juniper trees from the La Brea tar pits underwent carbon starvation because of low atmospheric CO₂ and indicate that plant productivity was very low in southern California during the last glacial period. This would have been manifest elsewhere in North America and may have been a contributory factor to the end-Pleistocene extinction.

Kung, G. and B.V. **Brown**. 2005. New species of *Dohrniphora* related to *D. longirostrata* (Enderlein) (Diptera: Phoridae). *Annals of the Entomological Society of America*. 98: 55-62.

This paper describes five new cryptic species of South and Central American phorid flies, all extremely similar to the Brazilian species Dohrniphora longirostrata. The new scanning electron microscope was critical for producing the necessary images to allow us to show the differences among the species.

(For an additional publication, see Spider Survey News under Miscellaneous, below)

Miscellaneous

GPR Experiment at Rancho La Brea

At the beginning of February, Chris Shaw and John Harris participated in an experiment organized by Dr Larry Conyers of the University of Denver that attempted to use ground penetrating radar (GPR) to detect fossil bones in the Rancho La Brea deposits of Hancock Park. Shaw and Harris are scheduled to go to Venezuela in April with other representatives of the Foundation for Quaternary Paleontology of Venezuela to evaluate newly discovered asphaltic fossil localities near Lake Maracaibo. It was hoped that GPR would be able to detect subsurface fossils and that this would then enable the Venezuelan prospecting team to evaluate which of the asphalt deposits contained the richest trove of fossils. It transpired that the technique was able to detect subsurface asphalt deposits but could not detect fossils within those deposits. So it looks

like Shaw and Harris will have to resort to more traditional methods for evaluating the Venezuelan fossil localities!

Spider Survey News

Material collected in the spider survey organized and run by Entomology staff was used in another scientific publication:

Richman, D. B. and R. S. Vetter. 2004. A review of the spider genus *Thiodina* (Araneae, Salticidae) in the United States. *Journal of Arachnology*. 32: 418-431.

Also, our spider expert Janet Kempf confirmed the collection (by a local amateur entomologist) of an eastern North American spider, *Lariniodes sclopetaria*, for the first time here in California. The spider survey is an ongoing project of the Entomology Section, and we continue to invite staff to bring in spider specimens for identification.

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