

# Research & Collections Newsletter



Summer 2015

**re•search** (ri-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

### History

#### *The "New Orleans" Biplane*

From June 1st to June 5th the History Department's iconic biplane, the Douglas World Cruiser New Orleans, was partially disassembled and crated in a hanger at the Santa Monica Airport. The aircraft, one of two Douglas World Cruisers to make the first flight around the globe in 1924, will be warehoused until funding is found for restoration work. After 91 years the canvas-and-dope covering of the plane was in an extremely deteriorated condition. Because the dope will continue to shrink and tear the canvas it will need to be replaced. The work was skillfully

completed by restoration experts Century Aviation and by L.A. Packing and Crating, with the assistance and oversight of NHM's Tania Collas, Beth Werling, and Brent Riggs, and with the overall coordination with the vendors carried out by the Chief Registrar, Susan Oshima. The image shows the plane in the process of being crated.



#### *Off to the Indy 500!*

NHM's famed 1915 Stutz is on loan to the Hall of Fame Museum at the Indianapolis Motor Speedway. On display until January, 2016, it commemorates the Indy 500 one hundred years ago when the Stutz, along with other cars from the "White Legion" team, won eight AAA National Championship events that year. The picture shows the car being offloaded with the Indy 500 Pagoda in the background.

## Ichthyology

The Fish Collection has had a long standing problem of storing large cataloged specimens in “temporary” fiber and plastic drums. The problem was exacerbated by the move out of the North Grand warehouse. Fortunately Research and Collections decided to purchase twenty metal tanks to help us out (see first photograph). They have arrived and look great! Thanks R&C! Now the work begins on transferring the specimens. The first 5–6 drums we worked on had rusted tops that you could push your finger through (see second picture). But we caught them just in time. We couldn’t have had better timing!



New stainless steel tanks in the Fish Collection.

Rusted top of one the fiber drums used for storing specimens.



## Marine Biodiversity Center / Crustacea

### *When isopods go viral*

It started out as an undergraduate project — a single species redescription — of a ubiquitous marine roly poly (isopod) from our coast. Then work-study student Adam Wall mastered isopod morphology, scanning electron microscopy, digital line drawing, and field collecting. As he and Regina Wetzler amassed specimens from our collections and borrowed material from elsewhere, it became clear the project was expanding to at least three new previously undescribed species (Alaska, Puget Sound, and Palos Verdes) and identification of one species (San Diego) that had been dangling in taxonomic limbo. The new species from Alaska, collected in 1873, sat hiding in a museum collection room for 142 years before being recognized as new to science. It was named *Exosphaeroma paydenae* in honor of Joan Payden, a passionate supporter of science at the NHM, and funder of Adam’s work-study stipend. Numerous years in the making, the paper developed into a thorough review of the genus in the Eastern Pacific from Amchitka to northern Baja California. The paper received remarkable press attention (see *Newsletter Addendum* for a partial listing).



Locality: Alaska, Aleutians, north coast of Amchitka; and Aleutian Islands Kiska Harbor.

# Field Work

## Entomology

On 15 April, Entomology took a day collecting trip to collect at the Rancho Santa Ana Botanical Gardens. Unfortunately, Flower Flies (a target taxon of the trip) were not abundant, but butterflies and bees were plentiful.

*Brian Brown and Lisa Gonzalez collecting at Rancho Santa Ana Botanical Gardens.*



Emily Hartop went to Singapore for three weeks this spring to collect phorids associated with millipedes, accompanying UCR Ph.D. student John Hash and assisting him on his work on this fascinating groups of flies.

*Emily Hartop enjoying a drink of coconut on the boat ride back from a long day collecting flies on Pulau Ubin (off the North-Eastern coast of Singapore).*

Brian Brown and Lisa Gonzalez represented the NHM Entomology department at a bioblitz in Tehachapi on 9 May.

## Invertebrate Paleontology

### *Panamanian visitors to Southern California*

Austin Hendy had previously done considerable research on the Miocene fossil fauna of Panama during post-doctoral studies at the Smithsonian Tropical Research Institute and Florida Museum of Natural History. It was with great anticipation that he visited a number of outcrops of the Imperial Formation in the Coachella Valley. Former curator Edward Wilson was a great host in sharing knowledge of these localities and providing hospitality in Rancho Mirage, not far from the outcrops of interest. Here numerous fossil molluscs have been reported that have apparent affinities with the Panamanian fauna. Austin is joining Invertebrate Paleontology Research Associate Charles Powell in describing some of the familiar molluscs from these assemblages.



*Edward Wilson (former IP curator) at Willis Palms atop an outcrop of the Miocene Imperial Formation.*

## Seashells by the Salton Sea-Shore



Edward Wilson (left) and Mark Roeder (right) hunting for fossils on the desert slopes of Durmid Hill. The Salton Sea is in the background.

In June, collections manager Austin Hendy participated in a field trip to the Durmid Hills, along the Salton Sea's eastern shoreline. The objective was to relocate the origin of specimens that Austin and Malacology Research Associate Patrick LaFollette had found in the Invertebrate Paleontology collections. What had caught their eyes were several collections of definitive marine species from a unit that has been well established as having accumulated in a freshwater (lake) environment. Could the Salton Sea at one time actually have been a sea?

Mark Roeder, who had collected in the Durmid Hills previously, and retired Invertebrate Paleontology curator Edward Wilson joined Austin in the field. Despite an early morning start the heat was soon intense. Additional specimens were collected from the field, and from a number of localities too. This suggests that any marine incursion into the area was not a one-off event, but perhaps more frequent and possibly associated with Pleistocene glacial/interglacial transitions. More fieldwork will be required to understand the timing of these events and the full diversity of this unusual fauna.

## Vertebrate Paleontology

In late April, Xiaoming Wang spent a week in the southern Chinese province of Yunnan, participating in paleontologic excavations at the Shuitangba fossil site near the city of Zhaotong. This site has attracted the attention of paleoanthropologists when it produced a nice skull of *Lufengpithecus*, a late Miocene (~6 million years ago) fossil hominoid related to great apes. Xiaoming was there to study a fossil



otter and other carnivores excavated from the site. The

sediments are largely brown coals (lignites) and associated with wet environments, appropriate habitat for the otters.

*A complete beaver jaw, probably belonging to the Eurasian genus Steneofiber, was part of the discovery at Shuitangba.*



Shuitangba fossil site is being cleared of the overburden (rusty yellow sands and gravels), exposing the lignite layers (dark grey), where rich vertebrate fossils are collected.

# Meetings, Workshops, and Presentations

## Invertebrate Paleontology

Recent transplant to Los Angeles Austin Hendy, our Invertebrate Paleontology (IP) Collections Manager, has been busy making acquaintances and performing outreach activities with the Southern California Paleontological Society (SCPS). Before arriving in California, Austin was leading a national effort to bridge the gap between research paleontologists and the large amateur paleontology community in this country. It is fair to say that breaking down barriers between professional and hobbyist paleontologists is an important motivation of his.

Austin gave a presentation to the SCPS in April entitled Paleontology and the Panama Canal, which took a close look at the geology, history, and paleontology of the Isthmus of Panama. Of particular interest to Austin are the numerous ways in which historical events and accidents in this area have resulted in paleontological discoveries and, in fact, the development of theories of global scientific importance. The SCPS were also able to see some of the different kinds of fossils collected from Panama.

The following weekend the SCPS visited the IP Carson collections facility in place of their usual monthly field excursion. Austin Hendy, John Alderson, and Louella Saul were on hand to talk about the history of the collection, important amateur paleontology contributions, the future of the collection, and to provide a tour.



*SCPS members learning about the history and the future of the IP collections.*

## Marine Biodiversity Center

The Beach Ecology Coalition is a Southern California organization whose mission is “to enhance ecosystem conservation and beach management to balance natural resource protection and recreational use.” Southern California beaches, because of their heavy recreational use, are often maintained and “groomed” by a diverse set of maintenance professionals. The Beach Ecology Coalition brings them together to share best practices and learn about the ecological implications of the management they perform. Adam Wall, Jenessa Wall, and Dean Pentcheff from the MBC attended this year’s 12th Annual Field Day meeting on June 4 on the beach in San Clemente. The agenda included a detailed “lessons learned” seminar on developing San Clemente’s Beach Ecology and Maintenance Policy, a demonstration of beach grooming vehicles, and a presentation on safe driving on the sand (beaches are particularly dangerous driving locations, given visitors’ tendency to be lying down and not alert to motorized vehicles).

*The Natural History of Los Angeles — Our Coastal Environment: Past, Present, and Future*, co-organized by USC and NHM on 27 April, was a one-day symposium on the USC campus hosting about 100 scientists, civic leaders, policy experts, and ecological historians. The symposium explored how human use of land and sea influences our coastal environment. The event generated many new conversations, fostered new exchanges, and is driving new interactions. Dr. Jane Pisano opened the day and welcomed the audience on behalf of both institutions. Eminent speakers and panelists discussed the environmental transformations of our landscape and seascape and the connections between these places. The day was focused on three areas:

*Historical ecology and human use of land and sea — where have we been?*

*Contemporary context — where are we now and how did we get here?*

*Forging a positive future — what key decisions must we make to conserve the environmental benefits of the past while enhancing new opportunities for the future?*

To learn more about the symposium see:

<http://dornsife.usc.edu/news/stories/2047/the-environmental-story-of-l-a>

<http://research.nhm.org/mbc>



Panelists discussing Los Angeles coastal habitats during the April 27 symposium included, from left: Juliette Hart, Christine Whitcraft, Richard Ambrose, Steve Weisberg and Geraldine Knatz.

## Vertebrate Paleontology



Workshop participants learn about different archival materials for wrapping and shipping specimens.

shipping, and receiving fossils on institutional loans through a PowerPoint lecture and hands-on demonstrations. In addition to the platform talks, poster sessions, and workshops, a field trip was organized to the Aurora Fossil Museum to examine the local marine exposures of the Miocene Pungo River Formation and Pliocene Yorktown Formation. A special tour of the Queen Anne's Revenge Conservation Laboratory in Greenville, North Carolina, was also arranged.

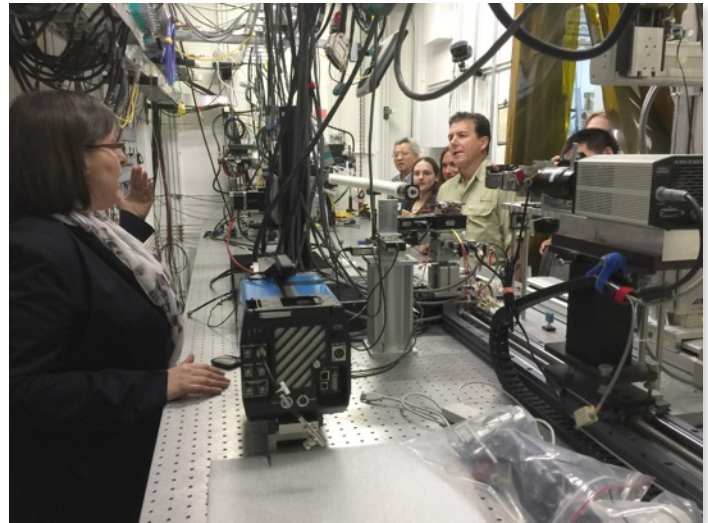
*A spectacular specimen of a fossil crab from the paleontology collections at the North Carolina Museum of Natural Sciences.*



The 8th Annual Fossil Preparation & Collections Symposium, a conference of the newly formed Association for Materials & Methods in Paleontology, was held 15–18 April 2015 in Raleigh, North Carolina. Assistant Collections Manager of Vertebrate Paleontology Vanessa R. Rhue co-lead a workshop with colleagues Marilyn Fox from the Yale Peabody Museum and Vicen Carrió from the National Museum of Scotland. The workshop, titled *Advanced Packing*, equipped participants with a knowledge of materials, methods, and techniques for handling, wrapping,

Vertebrate Paleontology curator Xiaoming Wang participated in the NSF *Critical Transitions Workshop* held at the Field Museum of Natural History in Chicago. This year's theme was *The Rise of Modern Biodiversity*, the topic of presentations by U.S. and Chinese paleontologists for two days. One of the highlights of the workshop was a visit to the Argonne National Laboratory west of Chicago, where a wide variety of scanning techniques using the lab's state-of-the-art synchrotron facility have been applied to enhance imaging of biological objects (see photo).

At the Argonne National Laboratory, Carmen Soriano-Hoyuelos (left) explains to vertebrate paleontologists (Paul Sereno, front row to the right, Zhexi Luo, front row to the left) the intricacies of the powerful synchrotron that can produce fantastically detailed 3D images.



## Public Outreach



Fellows in Focus invitation image based on a Janss Collection mummy mask pictured on right. At right are some of the artifacts that were out on display.

### Anthropology

Collections Manager Chris Coleman participated in a *Fellows in Focus* event during the evening of May 28th. This presentation featured the Janss Egyptian Collection. Dr. Peter Janss was a well-known local resident who became wealthy by investing in Los Angeles area real estate. In 1923 he donated five mummies, two wooden coffins, a canopic jar, two ceramic jars and a wooden coffin mask that he purchased while on a trip to Egypt. All of these artifacts are between 2,500 and 4,000 years old. This collection achieved some notoriety as parts of the mummies were pulled apart by Customs officials looking for narcotics when they arrived in Los Angeles from Egypt. In fact, Bruce Bryan, an employee of the Museum at the time, wrote about this collection and its treatment by Customs officials in a September 19, 1926, article for the *Los Angeles Times*.

After a short presentation in the 2nd floor Mammal Hall regarding the history of the collection and putting it into archaeological perspective, the Fellows proceeded to the third floor for a behind the scenes look at the Janss Egyptian Collection.

According to Advancement this was a very popular Fellows in Focus event, with about 95 attendees. Gallery Interpreters Stephanie Cranage and Rocio Santoyo assisted with the behind the scenes tour as well. Leslie Gordon and Jessie George kept the Fellows waiting for their tour engaged with presentations about reptiles and archaeological plant remains.

## Echinoderms

*Super stars and cool cucumbers* was presented by Cathy Groves (Echinoderms) for the *Scavengers Safari* program on Saturday, April 4th. Three groups of participants learned about the different classes of Echinodermata including sea cucumbers, sea stars, echinoids, and brittle stars. A short tour through a portion of the collection was also included. Many thanks to work-study student Veronica Gempis for her assistance.

*Cathy and Veronica in the Echinoderm collection room with Scavengers Safari participants.*



On Saturday, March 21st, Cathy Groves (Echinoderms) participated in two sessions of the *Junior Scientist Program* with Maddie Smith and Philip Catalbiano of Education. Cathy introduced the phylum Echinodermata to both groups and exhibited dry and wet preserved examples of seastars, echinoids, brittlestars, and sea cucumbers. The program also included a short tour of the compactor area of the collection... much to the delight of the junior scientists.

*Cathy and Junior Scientist participants in the Echinoderms collection area.*

## Entomology

On 25 April, Brian Brown, Elizabeth Long, and Lisa Gonzalez had a table at the *Santa Monica Mountains Science Festival*. Elizabeth gave a talk there, and Lisa and Elizabeth led a nature/bug walk.

*Lisa Gonzalez entertaining with caterpillars at the Santa Monica Mountains Science Festival.*



## History

### *Dr. Estrada Presents Becoming Los Angeles to NHM Docents*



On May 19 William Estrada gave a long-awaited tour of the *Becoming Los Angeles* exhibit for our NHM docents, followed by lunch and discussion in Downtown. The photograph shows a stop on the tour in front of a group of Edwin Deakin paintings of California missions.



## NHM Docents Visit Seaver Center

Eighteen docents toured the Seaver Center for their March 17th Docent Field Trip. John Cahoon and Brent Riggs shared highlights from the History Department's two-dimensional collections, including maps, posters, photographs, Los Angeles City Directories, a program from the 1939s film *Gone with the Wind*, and an 1892 Voter's Register. The docents expressed how surprised and impressed they were by the wealth of treasures and the extent of the collections in the Seaver Center.



## Malacology

Malacology was represented at the Dino Ball by Jann Vendetti who showed off some of the collection's impressive Mexican and South Pacific marine pearl oysters and North American freshwater pearlescent mussels in a "pop-up talk" about pearl formation within eyeshot of the raw oyster bar.

In early April, Jann Vendetti was a workshop presenter at the Pasadena Unified School District's STEM career day for girls, alongside a dozen other women from speech pathology to astrophysics. She discussed biodiversity, natural history, and collections-based research at the NHM. The teaching collection of cowries, organized by volunteers and the Collections Manager, Lindsey Groves, was used with great success by participants.

Lindsey Groves presented *Beach front property in Hancock Park? An unusually preserved suite of invertebrate fossils from the San Pedro Formation* for the Pacific Conchological Club, which meets in the Museum. The emphasis of the talk was an asphalt-permeated invertebrate fauna recovered from a future MetroRail station on the Purple Line near Hancock Park and how this marvelous suite of fossils was preserved in this unusual manner.



## Malacology and Invertebrate Paleontology Santa Monica Mountains Science Festival

Malacology (by Jann Vendetti) and Invertebrate Paleontology (by Austin Hendy) presented side by side at the *Santa Monica Mountains Science Festival*. Jann presented native and introduced species of mollusks of the Santa Monica Mountains and handed out SLIME (*Snails and slugs Living In Metropolitan Environments*) collecting kits to interested young malacologists and citizen scientists. Austin put together a walk-through tour of the history of life as recorded by fossils from the Santa Monica Mountains. Karol McQueary of the Southern California Paleontological Society also pitched in to guide our visitors on their time-travelling experience. More than 300 kids (mostly little, but some big) were able to take home a free fossil memento for the occasion.

Jann Vendetti (foreground), Austin Hendy (middle), and Karol McQueary (background) were hosts of the Malacology and Invertebrate Paleontology tables at the Santa Monica Mountains Science Festival.

As part of the Mobile Museum Ocean Experience program, Lindsey Groves (Malacology) and Austin Hendy (Invertebrate Paleontology) made presentations to several groups from nearby schools. Lindsey presented *Red Abalone 101*, which focused on the role of the red abalone (*Haliotis rufescens*) in California’s marine ecosystems, and Austin presented a selection of fossil and Recent cephalopods including the Chambered Nautilus, belemnites, and ammonites, and demonstrated how they are all related.

### Home School Day

Lindsey Groves (Malacology) and Austin Hendy (IP) participated in *Home School Day* on April 20th in the NHMLAC Grand Foyer. Several hundred home-schooled students toured the museum and were treated to exhibits of asphalt soaked marine invertebrates from a future MetroRail station site (LG) and a selection of fossil and Recent cephalopods (AH).

*Lindsey Groves and Austin Hendy (background) discussing fossil invertebrates with a group of students from Home School Day in the NHM Grand Foyer.*



### Vertebrate Paleontology



*Diana McIntyre pauses during her tour of the Point Vicente Interpretive Center to explain modern gray whale anatomy using this interactive model.*

Our Museum houses some of the most significant specimens of modern and fossil marine mammals from Southern California. These creatures have a long history of flourishing on the Pacific Coast of North America, and our Museum employs some of the world’s leading experts on modern and fossil marine mammals. On 11 April, our marine mammal paleontologists collaborated with the Museum’s Education Department to offer the first annual field trip, *Whale Tales: A Palos Verdes Perspective on Marine Mammals*. The field trip took place on the Palos Verdes Peninsula at the Point Vicente Interpretive Center. Vertebrate Paleontology Collections Manager Dr. Samuel A. McLeod,

Assistant Collections Manager Vanessa R. Rhue, and Mammalogy Associate Curator Dr. Jorge Velez-Juarbe worked with Education Program Coordinator Gabrielle R. Sjoberg to offer this one-day field trip. Guests listened to a lecture by Museum staff, viewed fossils on exhibit, and participated in whale watching. Participants learned about the local geology and spectacular fossils preserved in Miocene rocks and Pleistocene sediments from the Palos Verdes Peninsula. Museum guests were led by recently retired Docent Coordinator Diana McIntyre on a private tour of the exhibits. After lunch, Sheila Parker, volunteer with the *Gray Whale Census and Behavior Project*, spoke to the group about the citizen science initiative and trained people on how to look for whales. From the observation station at Point Vicente, Museum families were able to spot migrating fin whales and observe the behavior of these large and charismatic marine mammals.



*Dr. Jorge Velez-Juarbe, Vanesa R. Rhue, Diana McIntyre, and Dr. Samuel A. McLeod (left to right) gather near the Gray Whale Census Project observation station.*

# Student Mentoring and Research

## Invertebrate Paleontology

In January Invertebrate Paleontology collections manager Austin Hendy hosted Paige Funkhouser of Oberlin College (Ohio) for a month long internship. This was made possible through a program at Oberlin which allows students to participate in real-life work experiences. Paige helped Austin kick off the inventory of the vast Invertebrate Paleontology collections, undertake specimen photography, and develop web-based resources for identifying and interpreting Pleistocene fossils in Southern California. We hope to see more students visiting the NHM-LAC as part of this program in future years.

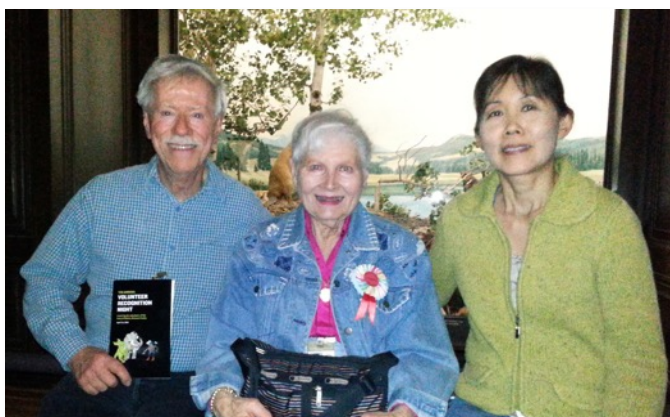
# Volunteers and Research Associates

## History

### *Thank You Gary Kisor*

The Seaver Center bids so-long to Gary Kisor, a dedicated volunteer since 2007. Gary would still be working with us had he not decided to relocate to be closer to family. Gary worked on a ton of collections: World War II manuscripts, movie lobby and window cards, an extensive collection of maps, railroad and aviation ephemera, Los Angeles Chamber of Commerce publications, automotive literature, and county incorporation records. Quantified by the number of boxes, Gary organized over twelve hundred archival boxes of collections.

*Pictured is Gary on the right next to fellow History volunteers Delia Garcia in the middle and Carol Brookshire standing on the left.*



Grace May Levine and Esperanza Gutierrez were honored on April 23rd at the annual Volunteer Appreciation Night. Esperanza was recognized as the Seaver Center's Volunteer of the Year for her outstanding work. Grace received a pin for 45 years of continuous volunteer service. Two other Seaver Center volunteers also received continuous service pins: Delia Garcia for 15 years and Peter Bomba for 5 years. Pictured is Grace seated between two Seaver Center Collections Managers.

## Invertebrate Paleontology

### *Difference makers*

Since arriving in December, Invertebrate Paleontology collections manager Austin Hendy has set about building a team of enthusiastic and hard-working volunteers to assist the department in reaching its curatorial and outreach goals. Lidia Lustig is a regular at IP's Carson collections facility, assisting Research Associates with their research, digitizing publications that cite the collection (now over 500 papers, monographs and books), and helping to amalgamate and conserve the IP research library. In April she was awarded the Outstanding Achievement Award for IP at this year's Volunteer Recognition Night. More recent Lidia has been joined by Cambria Rodriguez and Matthieu Munoz who are assisting with digital photography, and Carolyn Marie Weis, Carole Elkins, and Janice Tomson who are helping with the collection inventory. A big thanks to all these difference makers.

Invertebrate Paleontology research associates are a regular fixture at Carson and are critical to the collection's ongoing research presence. John Alderson, Louella Saul, and Bob Stanton continue their efforts to publish Takeo Susuki's thesis on the Topanga Formation (Miocene) of the Santa Monica Mountains. This is going to be a highly sought-after monograph when it is published. Now retired, Richard Squires of California State University Northridge visits now and again and continues to publish research at a frenetic pace.

*The Carson IP Research Associate team.  
From left to right: Austin Hendy,  
Lidia Lustig, Richard Squires,  
Lindsey Groves, Louella Saul,  
Bob Stanton, and John Alderson.*



## Vertebrate Paleontology

We would like to thank all of our 2014–2015 volunteers for their service to our Vertebrate Paleontology collections. The skill, dedication, and enthusiasm each of you bring to the task at hand is very much appreciated. Whether you are using a zip scribe to reveal the morphology of a new species, washing matrix and picking microfossils, cataloging specimens, editing digital images, assisting with archival housings, or stabilizing specimens in need of care, each of you are making a lasting contribution to the care and accessibility of our vast collections for posterity. Thank you!

Vertebrate Paleontology volunteer Karen Z. Kent was chosen as our department's 2014–2015 Volunteer of the Year. Family and friends gathered on 23 April during the Museum's annual *Volunteer Recognition Night* to recognize Karen for her lasting contributions to our department and Museum collections. Not only do we appreciate her witty sense of humor and delightful personality, we also admire her ability to use her hands skillfully, manipulate dental instruments with ease, and apply a keen awareness of the materials and methods used in vertebrate fossil preparation. During her time with us thus far, she has conserved the lower jaw of a large Mastodon specimen and added the finishing touches to the preparation of a large baleen whale skull. In recent months, Karen has enthusiastically agreed to take on a new project close to her heart, namely the task of researching methods for preparing and stabilizing mammoth tusks. Outside the lab, Karen has assisted Museum staff on weekends with the excavation of a large quarry from the Shark-tooth Hill Bonebed, Kern County, California. Thank you, Karen, for your dedicated service!



*Assistant Collections Manager, Vanessa R. Rhue (left), stands with L.A. County Youth Volunteer of the Year, Ridlee Dunlap (center), and her mother Marcie Redpath (right) at the awards ceremony in downtown Los Angeles.*

Vertebrate Paleontology volunteer Ridlee Dunlap was honored as the 2015 Los Angeles County Youth Volunteer of the Year for our Museum. On 13 April a luncheon was held downtown at the Dorothy Chandler Pavilion, where Miss Dunlap received a scroll and medal in recognition of her superb service. Miss Dunlap just completed her junior year of High School and has aspirations of becoming a paleontologist. Miss Dunlap began volunteering with us at the age of 16 and has shown remarkable talent in preparing fossils and processing matrix to recover, identify, and document the tiny fossils associated with a 15.5 million year old basking shark. We very much appreciate Miss Dunlap's efficient work ethic and cheerful disposition. We are very pleased that her faithful service and worthy contributions to our Vertebrate Paleontology collections were noticed and honored by the County of Los Angeles.

# Distinguished Visitors

## Ichthyology

Eminent ichthyologist, geologist and paleontologist Dr. Werner Schwarzhans visited the Section of Fishes in May. Werner is working on a variety of projects, including gobies and the acropomatid fish *Synagrops*. But his main focus this time was the Fitch Otolith Collection, where he is collaborating with Gary Takeuchi and Richard Huddleston on several fossil otolith localities that had been sampled by John Fitch in the past.

## Malacology

Ángel Valdés (Cal Poly Pomona) made four visits to Malacology to use the SEM facilities and collection. Students Craig Hoover, Haleh Golestani, Hessam Ghanimi, Tabitha Lindsay, Clara King, Jenny McCarthy, Sarah Christianscher, Sabrina Medrano, and Alison Fritts-Perriman visited with Ángel individually. Associate Shawn Wiedrick (Irvine, CA) made three visits to use the Malacology library and examine the holdings of Indo-Pacific and Panamic turrid gastropods and use the library. Daniel Geiger (Santa Barbara Museum of Natural History) visited to discuss editorial strategies pertaining to the eventual publication of several incomplete manuscripts that former curator Jim McLean will no longer pursue. Josh Hallas (California Academy of Sciences) examined Malacology holdings of the nudibranch *Aphelodoris* for his thesis research. Doug Eernisse (California State University, Fullerton) visited to examine holdings of liotiid limpets for research purposes. Stewart Edie (University of Chicago) spent two days in the Malacology collection examining venerid bivalves from the eastern Pacific and western Atlantic for his thesis research. Lynn Wang (USC Biology) has been photographing oyster specimens as part of her research using the Malacology camera set-up.



## Vertebrate Paleontology

On 14 May, Dr. Gerald Mayr of the Senckenberg Research Institute and Natural History Museum Frankfurt, Ornithological Section, Frankfurt am Main, Germany, visited our collections. Dr. Mayr works on fossil birds and spent time studying our Pelagornithids from the Pacific Northwest. Dr. Mayr recently published on one of our Vertebrate Paleontology specimens, an extinct sea bird called *Osteodontornis* from the Arikarean Nye Mudstone of Oregon.

*Dr. Gerald Mayr holds up the limb bones from a fossil skeleton of Osteodontornis, collected by James L. Goedert in the early 1980's*

Dr. Larisa de Santis, Assistant Professor of Earth and Environmental Sciences at Vanderbilt University, visited our Vertebrate Paleontology collections 29 May. She is working on a collaborative project concerning the paleoecology of xenarthrans. During her visit, she sampled the dentin of ground sloth, *Nothrotheriops shastensis*, collected from Gypsum Cave, Nevada, in order to better assess the enrichment rate of ground sloths. Samples of ground sloth hair and dung are also being analyzed from this locality.

On 4 June, David Gelsthorpe, Curator of Earth Science Collections at the Manchester Museum in the UK, visited our collection to examine our Pleistocene materials.

On 5 June, Judy Bernal of BCR Consulting visited our collections to examine a Pleistocene collection of fossils from the Costa Mesa area of Orange County for comparative purposes.

Barbara and Donald Cumberland, conservators with the National Park Service, visited our collections on 15 May. Barbara conducted a collections condition survey of the paleontological materials post acquisition by the National Park Service. Specimens from the following islands were included in the survey: Anacapa Island, Santa Barbara Island, San Miguel Island, and Santa Cruz Island.

On 22 May, Dr. Werner Schwarzhans of Hamburg, Germany, and Collections Manager of the Page Museum, Gary T. Takeuchi, worked on fossil fish from our Vertebrate Paleontology collections. The specimens they examined from the Clarendonian Puente Formation included lantern fishes, Myctophidae, and bigscale fishes, *Scopelogadus*. These fossil fish represent a portion of a large fauna that was collected during the excavation of the Los Angeles Metro Rail lines.



Dr. Werner Schwarzhans (left) uses a microscope to count vertebrae while Gary Takeuchi examines another specimen from the Puente Formation.



Dr. Trevor Worthy (right) and his wife Jenny work on taking measurements from a specimen of *Diatryma* from the Vertebrate Paleontology collections.

Dr. Trevor Worthy of Flinders University, Australia, and his wife Jenny visited the Vertebrate Paleontology collections on 20 April 2015 to examine our specimens of the bizarre and large bird, *Diatryma*, from the famous Wasatchian Willwood Formation deposits of Wyoming. During his visit to Los Angeles Dr. Worthy also spent time in the Rancho La Brea collections and presented a Research & Collections seminar on Earth Day titled *Insights from the St. Bathans Fauna on the Early Miocene Land and Freshwater Animals of Zealandia*.

Dr. Harry Jerison, Emeritus Professor at UCLA, visited staff in our Vertebrate Paleontology department on 13 May to share his latest research on the evolution of brain size in dinosaurs compared to other vertebrates. Vertebrate Paleontology Senior Preparator Howell W. Thomas and Vertebrate Paleontology Research Associate Cara Burres-Jones talked with Dr. Jerison about their work on some important fossils from the late Miocene of central California.

Dr. Harry Jerison (left) talks with VP Research Associate Cara Burres-Jones and Howell W. Thomas about the peculiar fossilization of a sperm whale brain from the central coast of California.



Graduate student Travis Park of Monash University and Museum Victoria in Melbourne, Australia, visited our Vertebrate Paleontology collections for a week of study, 13–17 April. His Ph.D. research is investigating the auditory and feeding structures in an extinct group of whales known as the toothed mysticetes.



*Travis Park examines our holotype material of *Chonecetus goedertorum* from the Pysht Formation of Washington alongside other specimens of aetiocetids.*



On 17 April, Dr. Tariel Eybatov, Director of the Natural-Historical Museum at the Azerbaijan Academy of Sciences, Geology Institute, visited our Museum and collections with his colleague. Our Emeritus Chief Curator, Dr. John M. Harris, collaborated with the Azerbaijanis on research concerning fossils recovered from the Binagadi asphalt seep near the capital city of Baku in Azerbaijan. Our Vertebrate Paleontology collections also contain fossils from other local Brea deposits from Maricopa, McKittrick, and Carpinteria.

*Caption: Vertebrate Paleontology Collections Manager Dr. Samuel A. McLeod leads a private tour for our distinguished guests from Azerbaijan.*



# Recent Publications

Chen, S.-k., Li, Q., & Wang, X. (2015). Chalicothere fossils from the early Late Miocene of the Qaidam Basin, and their paleoenvironmental implications. *Quaternary Sciences* 35(3), 528-538.

Deng, T., Wang, X., Wang, S.-q., Li, Q., & Hou, S.-k. (2015). Evolution of the Chinese Neogene mammalian faunas and its relationship to uplift of the Tibetan Plateau. *Advances in Earth Science* 30(4), 407-415.

Grimaldi, D., P.S. Ginsberg, L. Thayer, S. McEvey, M. Hauser, M. Turelli, **B. Brown** (2015) Strange little flies in the big city: Exotic flower-breeding Drosophilidae in urban Los Angeles. *PLoS ONE* 10(4): e0122575.

**Hartop, E.A., B.V. Brown, H.L. Disney** (2015) Opportunity in our ignorance: Urban biodiversity study reveals 30 new species and one new Nearctic record for *Megaselia* (Diptera: Phoridae) in Los Angeles (California, USA). *Zootaxa* 3941(4): 451-484.

*As you may have heard, news coverage of the BioSCAN "30 Species" paper spread far and wide. Coverage traveled worldwide, and was on virtually every major news outlet. Social media posts, shares, and likes numbered in the tens of thousands. BioSCAN is still seeing press trickle in; the flies just made the Harper's Index for July, and interviews are still being conducted. The team is very excited there was and is so much interest in our urban flies! See the Addendum at the end of this newsletter for a partial list of press coverage.*

Jaramillo, C., Moreno, F., **Hendy, A.J.W.**, Sánchez-Villagra, M.R., Marty, D. (2015) Preface: La Guajira, Colombia: a new window into the Cenozoic neotropical biodiversity and the Great American Biotic Interchange. *Swiss Journal of Palaeontology* 134 (2).

*This is an editorial about a spectacular new vertebrate paleontological fauna discovered in northern South America which will be key to understanding changes in environments and biodiversity of the neotropics during the Miocene.*



**Kampf, A.R.**, Mills, S.J., Nash, B.P., Dini, M. and Molina Donoso, A.A. (2015) Tapiate,  $\text{Ca}_5\text{Al}_2(\text{AsO}_4)_4(\text{OH})_4 \cdot 12\text{H}_2\text{O}$ , a new mineral from the Jote mine, Tierra Amarilla, Chile. *Mineralogical Magazine* 79, 345-354. [doi:10.1180/minmag.2015.079.2.12](https://doi.org/10.1180/minmag.2015.079.2.12)

Li, Q., and **Wang, X.** (2015). Discovery of Neogene beavers (Castoridae, Mammalia) in central Qaidam Basin, and their paleoenvironmental significance. *Quaternary Sciences* 35(3), 1-13.

Moreno, J.F., **Hendy, A.J.W.**, Quiroz, L., Hoyos, N., Jones, D.S., Zapata, V., et al. (2015) Revised Stratigraphy of Neogene strata in the Cocinetas Basin, La Guajira, Colombia. *Swiss Journal of Palaeontology* 134 (2).

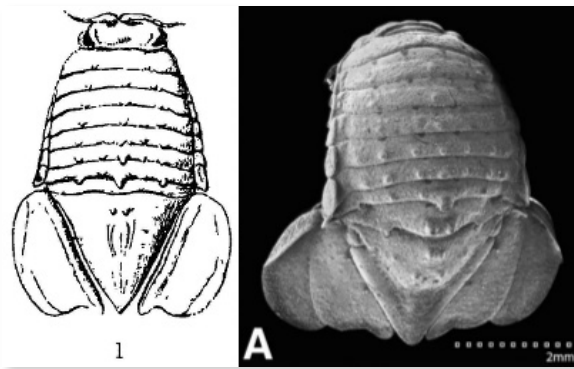
*The stratigraphic framework that supports a newly discovered and very rich vertebrate paleontological assemblage in northern Colombia, including a newly named rock formation.*

Muhs, D.R., Simmons, K.R., **Groves, L.T.**, McGeehin, J.P., Schumann, R.R., and Agenbroad, L.D. 2015. Late Quaternary sea-level history and the antiquity of mammoths (*Mammuthus exilis* and *Mammuthus columbi*), Channel Islands National Park, California, USA. *Quaternary Research* 83:502-521, figs. 1-15.  
*This paper documents the earliest presence of mammoths on the California Channel Islands at 80,000 years and demonstrates that they were able to survive a decrease in land area during the last interglacial period.*

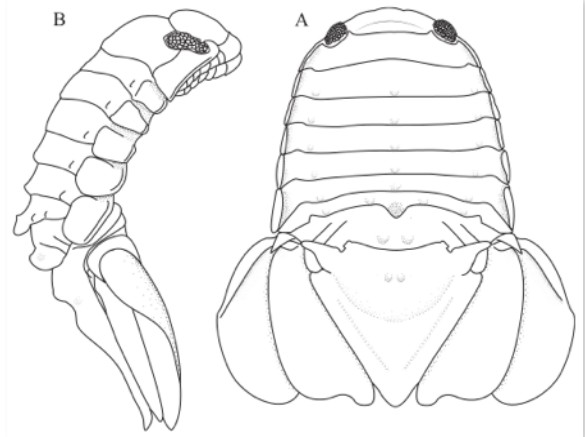
Stidham, T. A., **Wang, X.**, Li, Q., and Ni, X. (2015). A shelduck coracoid (Aves: Anseriformes: *Tadorna*) from the arid early Pleistocene of the Qinghai-Tibetan Plateau, China. *Palaeontologia Electronica* 18(2), 24A.

**Wall, A.R.**, N.L. Bruce, **R. Wetzer.** 2015. Status of *Exosphaeroma amplicauda* (Stimpson, 1857), *E. aphrodita* (Boone, 1923) and description of three new species (Crustacea, Isopoda, Sphaeromatidae) from the north-eastern Pacific. *Zookeys* 504: 11-58. doi: [10.3897/zookeys.504.8049](https://doi.org/10.3897/zookeys.504.8049)

*E. amplicauda* is a small marine intertidal isopod described by William Stimpson in 1857. Stimpson was the first curator of the Department of Invertebrates at the Smithsonian Institution in Washington, D. C. As one of America's foremost invertebrate zoologists, Stimpson was very prolific. In his short 24 year career he described 950 species. Descriptions then were brief and microscopes were not as sophisticated as those available today.



The single drawing of *E. amplicauda* from the original species description is a postage stamp-sized figure and is reproduced here and compared with the SEM of a male paratype.



*E. amplicauda* male neotype LACM CR-2014.1. A dorsal; B lateral.

**Wetzer, R.** 2015. Collecting and preserving marine and freshwater Isopoda (Crustacea: Peracarida). *Biodiversity Data Journal* 3: e4912. doi: [10.3897/BDJ.3.e4912](https://doi.org/10.3897/BDJ.3.e4912)

*Isopoda are the most diverse Crustacea. In order to encourage the study of isopod crustaceans and their use in biodiversity studies, systematics, ecology, physiology and more, one needs to know who the isopods are and where to find them. This is a short "how to" guide focusing on the free-living marine and freshwater isopods: where they live and how to collect and preserve them.*

# Miscellaneous

## History

William Estrada was one of five people quoted in the June 2015 issue of *Los Angeles Magazine* on what a denser, more vertical Los Angeles will need to thrive in the future (pg. 98–99).

## Malacology

The 2012 paper *Sea-level history during the Last Interglacial complex on San Nicolas Island, California: Implications for glacial isostatic adjustments processes, paleozoogeography and tectonics* by D.R. Muhs, K.R. Simmons, R.R. Schumann, L.T. Groves, J.X. Mitrovica, and D. Laurel, published in *Quaternary Science Reviews*, has been chosen to receive the 2015 Kirk Bryan Award for Research Excellence from the Geological Society of America (GSA) and the Quaternary Geology and Geomorphology Division. This prestigious award is given for a publication of distinction within the past 5 years which has advanced the science of geomorphology or Quaternary geology. Senior author Dan Muhs will formally accept the award for the group at the national GSA meeting in Baltimore, MD, in November.

The *Research & Collections Newsletter* is issued quarterly by the Research and Collections staff of the Natural History Museum of Los Angeles County.

*Editor:* Dr. Joel W. Martin, Curator of Crustacea and Chief of the Division of Invertebrate Studies.

*Layout and Photo Editing:* Dean Pentcheff.

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

# Addendum

## Select press coverage

Hartop, E.A., B.V. Brown, H.L. Disney (2015) Opportunity in our ignorance: Urban biodiversity study reveals 30 new species and one new Nearctic record for *Megaselia* (Diptera: Phoridae) in Los Angeles (California, USA). *Zootaxa* 3941(4): 451-484.

## Mainline National and International Media

New York Times	<a href="http://dotearth.blogs.nytimes.com/2015/03/25/earths-untallied-biological-bounty-from-l-a-suburbs-to-deep-seabed-sediments/">http://dotearth.blogs.nytimes.com/2015/03/25/earths-untallied-biological-bounty-from-l-a-suburbs-to-deep-seabed-sediments/</a>
Washington Post	<a href="http://www.washingtonpost.com/news/morning-mix/wp/2015/03/26/how-a-scientist-discovered-30-new-species-in-l-a-s-smoggy-backyards/">http://www.washingtonpost.com/news/morning-mix/wp/2015/03/26/how-a-scientist-discovered-30-new-species-in-l-a-s-smoggy-backyards/</a>
Washington Post (ex L.A. Times)	<a href="http://www.washingtonpost.com/national/health-science/you-may-not-love-these-flies-but-theyre-good-for-the-world/2015/03/30/208a5240-d4ad-11e4-a62f-ee745911a4ff_story.html">http://www.washingtonpost.com/national/health-science/you-may-not-love-these-flies-but-theyre-good-for-the-world/2015/03/30/208a5240-d4ad-11e4-a62f-ee745911a4ff_story.html</a>
CBS News	<a href="http://www.cbsnews.com/news/la-is-buzzing-with-30-new-fly-species/">http://www.cbsnews.com/news/la-is-buzzing-with-30-new-fly-species/</a>
NBC News	<a href="http://www.nbcnews.com/science/environment/30-new-species-discovered-l-cities-teeming-life-n330816">http://www.nbcnews.com/science/environment/30-new-species-discovered-l-cities-teeming-life-n330816</a>
BBC	<a href="http://www.bbc.com/earth/story/20150402-alien-flies-buzzing-los-angeles">http://www.bbc.com/earth/story/20150402-alien-flies-buzzing-los-angeles</a>
The Guardian	<a href="http://www.theguardian.com/cities/2015/apr/02/30-new-species-fly-discovered-los-angeles">http://www.theguardian.com/cities/2015/apr/02/30-new-species-fly-discovered-los-angeles</a>
World Post / Huffington Post	<a href="http://www.huffingtonpost.com/aaron-pomerantz/la-30-newest-species_b_6944318.html">http://www.huffingtonpost.com/aaron-pomerantz/la-30-newest-species_b_6944318.html</a>
UPI	<a href="http://www.upi.com/Science_News/2015/03/26/Biodiversity-survey-in-LA-turns-up-30-new-species-of-flies/2121427387880/">http://www.upi.com/Science_News/2015/03/26/Biodiversity-survey-in-LA-turns-up-30-new-species-of-flies/2121427387880/</a>
News Maine	<a href="http://newsmaine.net/22859-30-new-species-fly-discovered-los-angeles">http://newsmaine.net/22859-30-new-species-fly-discovered-los-angeles</a>
The Columbus Dispatch	<a href="http://www.dispatch.com/content/stories/national_world/2015/03/28/los-angeles-abuzz-over-discovery-of-new-flies.html">http://www.dispatch.com/content/stories/national_world/2015/03/28/los-angeles-abuzz-over-discovery-of-new-flies.html</a>
Omaha Sun Times	<a href="http://www.omahasuntimes.com/2015/03/los-angeles-30-newest-species/">http://www.omahasuntimes.com/2015/03/los-angeles-30-newest-species/</a>
Uncover Michigan	<a href="http://uncovermichigan.com/content/23622-scientists-find-30-new-fly-species-urban-los-angeles">http://uncovermichigan.com/content/23622-scientists-find-30-new-fly-species-urban-los-angeles</a>
Bend Bulletin	<a href="http://www.bendbulletin.com/nation/3018607-151/30-new-species-of-flies-just-in-la">http://www.bendbulletin.com/nation/3018607-151/30-new-species-of-flies-just-in-la</a>
Daily Kos	<a href="http://www.dailykos.com/story/2015/03/26/1373469/-30-new-insect-species-discovered-in-Los-Angeles">http://www.dailykos.com/story/2015/03/26/1373469/-30-new-insect-species-discovered-in-Los-Angeles</a>
Harper's Index	<a href="http://harpers.org/archive/2015/07/harpers-index-373">http://harpers.org/archive/2015/07/harpers-index-373</a>

## Los Angeles Media

L.A. Times	<a href="http://www.latimes.com/science/sciencenow/la-sci-sn-new-flies-la-20150326-story.html">http://www.latimes.com/science/sciencenow/la-sci-sn-new-flies-la-20150326-story.html</a>
KPCC	<a href="http://www.scpr.org/news/2015/03/27/50614/30-new-species-of-fly-discovered-in-los-angeles/">http://www.scpr.org/news/2015/03/27/50614/30-new-species-of-fly-discovered-in-los-angeles/</a>
KCET	<a href="http://www.kcet.org/news/define/rewild/invertebrates/30-new-species-discovered-in-urban-los-angeles.html">http://www.kcet.org/news/define/rewild/invertebrates/30-new-species-discovered-in-urban-los-angeles.html</a>
KTLA	<a href="http://ktla.com/2015/04/21/new-insect-species-at-the-natural-history-museum/">http://ktla.com/2015/04/21/new-insect-species-at-the-natural-history-museum/</a>
L.A. Weekly	<a href="http://www.laweekly.com/slideshow/meet-your-creepy-but-beautiful-bug-neighbors-5478415">http://www.laweekly.com/slideshow/meet-your-creepy-but-beautiful-bug-neighbors-5478415</a>
L.A. Weekly	<a href="http://www.laweekly.com/news/creepy-but-gorgeous-new-species-in-your-backyard-5475925">http://www.laweekly.com/news/creepy-but-gorgeous-new-species-in-your-backyard-5475925</a>
LA Observed	<a href="http://www.laobserved.com/archive/2015/03/30_new_species_of_flies_d.php">http://www.laobserved.com/archive/2015/03/30_new_species_of_flies_d.php</a>
CurbedLA	<a href="http://la.curbed.com/archives/2015/03/new_bug_species_los_angeles.php">http://la.curbed.com/archives/2015/03/new_bug_species_los_angeles.php</a>

## Science and Nature Media

IFLScience	<a href="http://www.iflscience.com/plants-and-animals/30-new-fly-species-discovered-los-angeles">http://www.iflscience.com/plants-and-animals/30-new-fly-species-discovered-los-angeles</a>
Science Friday	<a href="http://sciencefriday.com/blogs/04/15/2015/picture-of-the-week-scuttle-flies.html?series=31">http://sciencefriday.com/blogs/04/15/2015/picture-of-the-week-scuttle-flies.html?series=31</a>
Why Evolution is True	<a href="https://whyevolutionistrue.wordpress.com/2015/04/08/unknown-flies/">https://whyevolutionistrue.wordpress.com/2015/04/08/unknown-flies/</a>
The Wildlife Society	<a href="http://wildlife.org/video-entomologists-discover-30-new-species-in-la-backyards/">http://wildlife.org/video-entomologists-discover-30-new-species-in-la-backyards/</a>

Discover Magazine Citizen Science	<a href="http://blogs.discovermagazine.com/citizen-science-salon/2015/04/17/citizen-science-helps-discover-thirty-new-species-where-you-would-least-expect-it">http://blogs.discovermagazine.com/citizen-science-salon/2015/04/17/citizen-science-helps-discover-thirty-new-species-where-you-would-least-expect-it</a>
Sci-Tech Today	<a href="http://www.sci-tech-today.com/story.xhtml?story_id=133007GK7D0E">http://www.sci-tech-today.com/story.xhtml?story_id=133007GK7D0E</a>
Strange Behaviors	<a href="https://strangebehaviors.wordpress.com/2015/03/26/finding-30-new-species-in-los-angeles-backyards/">https://strangebehaviors.wordpress.com/2015/03/26/finding-30-new-species-in-los-angeles-backyards/</a>
Science Codex	<a href="http://www.sciencecodex.com/30_new_species_discovered_in_los_angeles_in_firstever_intensive_urban_biodiversity_survey-153687">http://www.sciencecodex.com/30_new_species_discovered_in_los_angeles_in_firstever_intensive_urban_biodiversity_survey-153687</a>
Phys.org	<a href="http://phys.org/news/2015-03-species-los-angeles-first-ever-intensive.html">http://phys.org/news/2015-03-species-los-angeles-first-ever-intensive.html</a>
Your Wild Life	<a href="http://www.yourwildlife.org/2015/04/could-there-be-200-million-species-on-earth/">http://www.yourwildlife.org/2015/04/could-there-be-200-million-species-on-earth/</a>

## Other International Coverage

NRC Handelsblad (Netherlands)	<a href="http://www.nrc.nl/handelsblad/van/2015/maart/30/even-goed-zoeken-in-de-tuin-30-nieuwe-vliegjes-1480123">http://www.nrc.nl/handelsblad/van/2015/maart/30/even-goed-zoeken-in-de-tuin-30-nieuwe-vliegjes-1480123</a>
Now News (Korea)	<a href="http://nownews.seoul.co.kr/news/newsView.php?id=20150402601021&amp;wlog_sub=nvt_ix_024">http://nownews.seoul.co.kr/news/newsView.php?id=20150402601021&amp;wlog_sub=nvt_ix_024</a>
Scientias (Netherlands)	<a href="http://www.scientias.nl/30-nieuwe-soorten-ontdekt-in-los-angeles/">http://www.scientias.nl/30-nieuwe-soorten-ontdekt-in-los-angeles/</a>
ANSA Ambiente & Energia (Italy)	<a href="http://www.ansa.it/web/notizie/canali/energiaeambiente/natura/2015/03/27/a-los-angeles-30-nuove-specie-di-mosche_da6b6ba7-9be4-4edf-a7cc-eb989baf6740.html">http://www.ansa.it/web/notizie/canali/energiaeambiente/natura/2015/03/27/a-los-angeles-30-nuove-specie-di-mosche_da6b6ba7-9be4-4edf-a7cc-eb989baf6740.html</a>
Daily Green (Italy)	<a href="http://www.dailygreen.it/news/item/4274-le-mosche-invadono-los-angeles.html">http://www.dailygreen.it/news/item/4274-le-mosche-invadono-los-angeles.html</a>
CHIP Online (Turkey)	<a href="http://www.chip.com.tr/haber/sehirde-yasayan-30-yeni-sinek-bulundu_54872.html">http://www.chip.com.tr/haber/sehirde-yasayan-30-yeni-sinek-bulundu_54872.html</a>
MeteoWeb (Italy)	<a href="http://www.meteoweb.eu/2015/03/scoperte-los-angeles-30-nuove-specie-mosche/420390/">http://www.meteoweb.eu/2015/03/scoperte-los-angeles-30-nuove-specie-mosche/420390/</a>
Nigerian Nation	<a href="http://world.nigeriannation.com/los-angeles-30-newest-species/">http://world.nigeriannation.com/los-angeles-30-newest-species/</a>
China Topix	<a href="http://www.chinatopix.com/articles/43979/20150328/30-new-species-of-flies-discovered-in-los-angeles.htm">http://www.chinatopix.com/articles/43979/20150328/30-new-species-of-flies-discovered-in-los-angeles.htm</a>
Yibada	<a href="http://en.yibada.com/articles/22673/20150327/urban-bio-diversity-survey-leads-discovery-30-new-species-los.htm">http://en.yibada.com/articles/22673/20150327/urban-bio-diversity-survey-leads-discovery-30-new-species-los.htm</a>
Gizmodo India	<a href="http://www.gizmodo.in/science/30-Previously-Unknown-Species-of-Fly-Discovered-in-Los-Angeles/articleshow/46705135.cms">http://www.gizmodo.in/science/30-Previously-Unknown-Species-of-Fly-Discovered-in-Los-Angeles/articleshow/46705135.cms</a>
Gizmodo Australia	<a href="http://www.gizmodo.com.au/2015/03/30-previously-unknown-species-of-fly-discovered-in-los-angeles/">http://www.gizmodo.com.au/2015/03/30-previously-unknown-species-of-fly-discovered-in-los-angeles/</a>

## Other Coverage

RedOrbit	<a href="http://www.redorbit.com/news/science/1113364717/redorbit-exclusive-meet-the-crazy-fly-lady-and-her-genitalia-pins-040215/">http://www.redorbit.com/news/science/1113364717/redorbit-exclusive-meet-the-crazy-fly-lady-and-her-genitalia-pins-040215/</a>
The Hoops News	<a href="http://www.thehoopsnews.com/2015/03/31/4168/scientists-discovers-30-new-fly-species-in-la-video/">http://www.thehoopsnews.com/2015/03/31/4168/scientists-discovers-30-new-fly-species-in-la-video/</a>
The Silver Ink	<a href="http://www.thesilverink.com/30-new-fly-species-discovered-in-los-angeles/21280/">http://www.thesilverink.com/30-new-fly-species-discovered-in-los-angeles/21280/</a>
NewsBeat Social	<a href="http://newsbeatsocial.com/watch/0_21rpd834">http://newsbeatsocial.com/watch/0_21rpd834</a>
Daily Times Gazette	<a href="http://www.dailytimesgazette.com/30-new-species-of-fly-discovered-in-urban-los-angeles-in-intensive-survey-2/2869/">http://www.dailytimesgazette.com/30-new-species-of-fly-discovered-in-urban-los-angeles-in-intensive-survey-2/2869/</a>
Inquisitr	<a href="http://www.inquisitr.com/1966862/flies-dozens-of-new-species-discovered-in-los-angeles/">http://www.inquisitr.com/1966862/flies-dozens-of-new-species-discovered-in-los-angeles/</a>
The Market Business	<a href="http://www.themarketbusiness.com/2015-03-30-discovery-of-30-new-insect-species-in-los-angeles">http://www.themarketbusiness.com/2015-03-30-discovery-of-30-new-insect-species-in-los-angeles</a>
Empire State Tribune	<a href="http://www.estrib.com/2015/03/29/8528/the-importance-of-finding-30-new-species-of-flies-found-at-the-backyards-of-los-angeles-homeowners/">http://www.estrib.com/2015/03/29/8528/the-importance-of-finding-30-new-species-of-flies-found-at-the-backyards-of-los-angeles-homeowners/</a>
Voice Chronicle	<a href="http://www.voicechronicle.com/201503-scientists-discover-30-new-insect-species-in-la">http://www.voicechronicle.com/201503-scientists-discover-30-new-insect-species-in-la</a>
Wall Street OTC	<a href="http://www.wallstreetotc.com/bioscan-discovers-30-new-species-of-flies/216960/">http://www.wallstreetotc.com/bioscan-discovers-30-new-species-of-flies/216960/</a>
Customs Today	<a href="http://customstoday.com.pk/scientists-discover-30-new-insect-species-that-belongs-to-same-genus-calls-megaselia/">http://customstoday.com.pk/scientists-discover-30-new-insect-species-that-belongs-to-same-genus-calls-megaselia/</a>
American Register	<a href="http://www.theamericanregister.com/30-new-species-of-flies-uncovered-in-la/8997/">http://www.theamericanregister.com/30-new-species-of-flies-uncovered-in-la/8997/</a>
American Register	<a href="http://natmonitor.com/2015/03/27/30-new-insect-species-discovered-in-los-angeles-biodiversity-study/">http://natmonitor.com/2015/03/27/30-new-insect-species-discovered-in-los-angeles-biodiversity-study/</a>
American Register	<a href="http://www.theamericanregister.com/researchers-found-30-new-species-of-flies-in-los-angeles/8885/">http://www.theamericanregister.com/researchers-found-30-new-species-of-flies-in-los-angeles/8885/</a>
Immortal News	<a href="http://www.immortal.org/6722/30-new-fly-species-discovered-los-angeles-biodiversity-survey/">http://www.immortal.org/6722/30-new-fly-species-discovered-los-angeles-biodiversity-survey/</a>
Daily Science Journal	<a href="http://dailysciencejournal.com/30-new-species-discovered-in-a-biodiversity-survey-conducted-in-los-angeles/21919/">http://dailysciencejournal.com/30-new-species-discovered-in-a-biodiversity-survey-conducted-in-los-angeles/21919/</a>
Perfect Science	<a href="http://perfsience.com/content/2141529-scientists-confirm-presence-30-new-species-flies-la">http://perfsience.com/content/2141529-scientists-confirm-presence-30-new-species-flies-la</a>
National Monitor	<a href="http://natmonitor.com/2015/03/27/30-new-insect-species-discovered-in-los-angeles-biodiversity-study/">http://natmonitor.com/2015/03/27/30-new-insect-species-discovered-in-los-angeles-biodiversity-study/</a>
Tech Times	<a href="http://www.techtimes.com/articles/42653/20150327/30-new-species-discovered-in-la-during-urban-biodiversity-survey.htm">http://www.techtimes.com/articles/42653/20150327/30-new-species-discovered-in-la-during-urban-biodiversity-survey.htm</a>
Newser	<a href="http://www.newser.com/story/204565/30-new-fly-species-found-buzzing-in-hazy-la.html">http://www.newser.com/story/204565/30-new-fly-species-found-buzzing-in-hazy-la.html</a>
HNGN	<a href="http://www.hngn.com/articles/80412/20150326/los-angeles-is-home-to-30-previously-unknown-insect-species.htm">http://www.hngn.com/articles/80412/20150326/los-angeles-is-home-to-30-previously-unknown-insect-species.htm</a>

Wall A.R., Bruce N.L., Wetzler R. (2015) Status of *Exosphaeroma amplicauda* (Stimpson, 1857), *E. aphrodita* (Boone, 1923) and description of three new species (Crustacea, Isopoda, Sphaeromatidae) from the north-eastern Pacific. *ZooKeys* 504: 11-58. doi: 10.3897/zookeys.504.8049

### *Mainline National and International Media*

Newsweek <http://www.newsweek.com/new-aquatic-rolly-poly-found-near-los-angeles-332954>  
The Atlantic: Citylab <http://www.citylab.com/weather/2015/05/a-new-species-of-ocean-pillbug-was-discovered-in-los-angeles/393584/>  
Discovery <http://news.discovery.com/animals/class-field-trip-finds-new-pillbug-species-in-l-a-150518.htm>

### *Los Angeles Media*

The Daily Breeze <http://www.dailybreeze.com/environment-and-nature/20150601/new-species-of-marine-pillbug-discovered-along-san-pedro-coastline>  
Long Beach Press Telegram <http://www.presstelegram.com/environment-and-nature/20150601/new-species-of-marine-pillbug-discovered-along-san-pedro-coastline>  
KPCC: The Short List <http://www.scpr.org/short-list/2015/05/19/769/am-edition/>

### *Science and Nature Media*

IFLScience <http://www.iflscience.com/plants-and-animals/new-species-rolly-poly-pillbug-discovered-near-la>  
Science Daily <http://www.sciencedaily.com/releases/2015/05/150518111851.htm>  
Phys.org <http://phys.org/news/2015-05-species-marine-rolly-poly-pillbug.html>  
Nature World News <http://www.natureworldnews.com/articles/14767/20150519/marine-pillbug-new-species-discovered-in-los-angeles.htm>  
Science Times <http://www.sciencetimes.com/articles/6447/20150519/port-of-los-angeles-reveals-a-new-resident-of-the-city-a-rolly-poly-pillbug-species.htm>  
Science News Online <http://www.sciencenewsline.com/summary/2015051819110045.html>  
Pensoft <http://www.pensoft.net/news.php?n=490&SESID=feb9662e530a1054a4eee830147d8c5c>  
Invertebrate Zoology: Smithsonian <https://www.facebook.com/Smithsonian/posts/770665786385102>  
Earth Archives <http://www.eartharchives.org/articles/new-species-of-marine-rolly-poly-pillbug-discovered-near-port-of-los-angeles/>

### *Other Coverage*

Rhamphotheca <http://typhonectes.tumblr.com/post/119633717418/new-species-of-marine-isopod-rolly-poly-pillbug>  
Digital News World <http://www.digitalnewsworld.com/news/new-species-of-marine-rolly-poly-pillbug-discovered-near-port-of-los-angeles.html>  
Kenna Eco Diving <http://www.kennaecodiving.net/eco-sea-life/eco-issues/marine-biology/7094-new-species-of-marine-rolly-poly-pillbug-discovered-near-port-of-los-angeles>  
Omifeed <http://omnifeed.com/article/www.iflscience.com/plants-and-animals/new-species-rolly-poly-pillbug-discovered-near-la>