

Research & Collections Newsletter



Winter 2017

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

Dinosaur Institute

Gnatalie Quarry Collection Research

Dr. Pedro Mocho, the Haaga Family Postdoctoral Fellow, fresh from Gnatalie quarry fieldwork, spent 7 weeks from September to November visiting museums in Europe and North America to analyze sauropod bones for comparison with the bones of over 4 specimens discovered during the Dinosaur Institute's 10 years excavating at the Gnatalie quarry in southeast Utah. He visited the Museo Paleontológico de Castilla-La Mancha (Cuenca, Spain), the Yale Peabody Museum of Natural History (New Haven, USA), the Cleveland Museum of Natural History (Cleveland, USA), the Carnegie Museum of Natural History (Pittsburgh, USA), the Field Museum and the University of Chicago (Chicago, USA). Research on the dinosaurs of the Gnatalie quarry is moving forward, with histology in the pipeline.

Anthropology

Tattoo Training

On December 7th, Collection Managers Chris Coleman and KT Hajeian presented a lecture to volunteers about the objects from the Anthropology collections that were added to the *Tattoo* exhibit. Chris talked about the tombs from San Sebastian, Jalisco, Mexico where the West Mexican figurines were found and discussed the interpretations of the tattoos on the body of the shaman represented in the vessel from the Casas Grandes site in Chihuahua, Mexico. KT talked about the tattooing cultures of the six cultures from different world regions (New Guinea, Japan, North American Arctic, American Southwest, New Zealand, and



Images used in the exhibit showing the similar facial tattoos of two Inuit women from very different times.

Africa's Congo) represented by the fifteen objects and four historic photographs from the Ethnology collections on display in the exhibit.

A figure from Nayarit, Mexico, on display in the Tattoo exhibit.



Anthropology (Ethnology) & History (Seaver Center)

Docent Roundtable Tour

On Jan. 16th, the Docent Roundtable explored some highlights of two collections: historical photographs from the Seaver Center and cultural items from around the world in the Ethnology collections. The Docent Roundtable maintains a strong following, so the large group was divided into two and while one group explored the history behind some of the oldest street names in Los Angeles with Betty Uyeda, the other group toured through the Ethnology storeroom with KT Hajeian, a space remembered by some in the group from their past volunteer work.



Pictured is Lugo Street — located at where the city first expanded southward in 1859.



A glimpse at what the Docents explored in the Ethnology storeroom.

Field Work

Community Science

SuperProject Plus Field Work (Nov. 28-Nov. 30): (Miguel Ordeñana, Lisa Gonzalez, and Jann Kempf): Miguel accompanied Lisa and Jann during SuperProject Plus field work to check in with site hosts, collect data, and install bat detectors and camera traps in new backyards.

Dinosaur Institute

From 10/21 to 10/31, Dr. Luis Chiappe and Jose Soler traveled to Sao Paulo, Brazil, to continue working with William Nava, Director of the Museum of Paleontology in Marilia and Agustin Martinelli from the Universidade Federal do Rio Grande do Sul on the Cretaceous bird fossils collected during a field expedition in May 2017 in the town of Presidente Prudente.

Marilia crew takes a break from preparing the tiny bones of ancient birds. From left to right is Jose Soler, DI; Agustin Martinelli; Luis Chiappe, DI Director; and William Neva, Director of the Marilia museum.



Luis Chiappe works through tiny blocks filled with Late Cretaceous bird bones.



From 11/16 to 2/15, Dr. Nate Smith spent 3 months searching for Early and Middle Triassic vertebrates in the Central Transantarctic Mountains of Antarctica. Previous discoveries have established localities at Beardmore and Shackleton Glaciers, as well as an early Jurassic dinosaur fauna discovered on Mt. Kirkpatrick near the Beardmore Glacier. These finds help scientists understand high latitude ecosystems during the early evolution of the dinosaurs.



Nate Smith searches for Antarctic dinosaurs in the world's most extreme conditions.



From 11/18 to Dec 5, Maureen Walsh traveled to Beijing, China, to continue preparation of early cretaceous birds currently in the research pipeline of Dr. Luis Chiappe. From 12/4 to 12/9, Luis Chiappe travelled to Beijing, China, with a week of research and meetings with the BMNH Director Qinjing Meng, NHM President Lori Bettison Varga and VP of Exhibits Gretchen Baker.

Luis Chiappe describes a large feathered dinosaur to NHM President Lori Bettison-Varga while visiting the Beijing Museum of Natural History.

DISCO

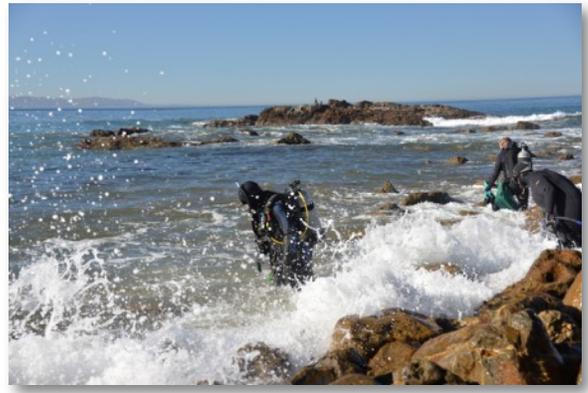
Collaboration with California Science Center

In a new collaboration with the California Science Center (CSC), DISCO staff provided shore support to CSC divers on a kelp collecting trip. CSC collects entire kelp, blades and holdfast, to mount in their large public aquarium. Prior to installation in the aquarium, CSC staff try to get the kelp holdfasts as “clean” of invertebrates as possible. Those animals are exactly the specimens the DISCO program can use to generate genetic barcode reference sequences — a perfect complementarity!



DISCO will continue to work with CSC on specimen acquisition and other research projects as the collaboration develops.

Divers making the swim out to the kelp bed, overflowed by a Coast Guard helicopter.



California Science Center divers prepare to enter the water on the Palos Verdes Peninsula.

Marine Biodiversity Center

From 6-21 November, Marine Biodiversity Staff traveled to the Smithsonian National Museum of Natural History where they used the Laboratories of Analytical Biology to do 96-well plate DNA extraction, gene amplification and sequencing for 3100 marine invertebrate samples collected for the DISCO project. The mission once again resulted in a huge success rate and the sequences are being analyzed for posting to the Barcode of Life Database and for use in other projects.

DISCO on the Channel Islands

In January, Dean Pentcheff, Adam Wall, and Regina Wetzer had an opportunity to join our National Park Service colleagues on Anacapa Island for intertidal collections. Low tides were beautiful, the skies blue, the winds warm on Day 1. Santa Ana winds picked up and so did the swells. As is always a possibility with fieldwork, there was a slight change of plans and we



Transferring to Anacapa Middle Island's rough volcanic shore by skiff.

concluded our field trip with several excellent collections made from the dock and shore.



Sailing on the R/V Shearwater among the Channel Islands on a windy day.

Central Coast invertebrates for DISCO

Regina Wetzer and Leslie Harris had a productive collecting trip to Bodega Bay and Pillar Point (Half Moon Bay) in late November. The California Academy of Sciences (CAS) has been documenting wildlife at Pillar Point since at least 2012. Their Citizen Science program has compiled the most comprehensive iNaturalist intertidal field guide anywhere. In cooperation with CAS and the UC Conservation Genetics Consortium's CALeDNA project, our collections from Pillar Point will be adding to the publicly accessible genetic barcode library and the biodiversity knowledge of this important site:

https://www.inaturalist.org/check_lists/101509-CAS-Pillar-Point-Check-List

Meetings, Workshops, and Presentations

Community Science

L.A. County Park and Rec ESTEAM Camp Training (12/14/17): Richard Smart joined Christina Kasteley (Public Programs) and Michelle Race (Mobile Museums) to attend an ESTEAM camp training meeting to plan for L.A. County Park and Rec ESTEAM summer camps. ESTEAM stands for environment, science, technology, engineering, arts, and mathematics.

Lila Higgins attended the 2017 ICOM NATHIST Conference *The Anthropocene, Natural History Museums in the Age of Humanity* in Pittsburgh, PA (Oct 25-30). Lila presented a session, "Connecting People to Place Through Citizen Science in the City."

iPAGE AISL STEM Inclusivity and Equity Development Workshop, Sep. 24-Sep. 29, St. Paul, Minnesota (Miguel Ordeñana): Miguel attended the first of 4 multi-day equity and inclusivity workshops at the Science Museum of Minnesota. The focus of the workshop is to improve inclusivity and equity in STEM programs at science and technology centers located throughout the United States. Miguel was part of a multi-departmental cohort that represented NHMLA at the workshop. Miguel and the cohort will return in November, January, and March in addition to hosting a site visit from the iPAGE staff.

Miguel Ordeñana represented R&C at the Science Museum of Minnesota for the second round of iPage STEM inclusion and equity workshops (Nov. 15-17). He was accompanied by staff from M&C, Education and Programs, and Exhibits.

Association of Science and Technology Centers annual conference in San Jose, CA (Oct 19-24), attended by Lila Higgins, Miguel Ordeñana, and Richard Smart: Lila and Richard presented a pre conference workshop, "Taking a Deeper Dive into Community and Citizen Science at Science Centers and Museums." Rick Bonney (Cornell Lab of Ornithology) and Chris Goforth (North Carolina Museum of Natural Sciences) were also on the workshop panel.

Miguel took part in the ASTC Diversity and Leadership Development Fellows program (Oct. 19-24): The program was a leadership program that provided multiple workshops on diversity, inclusion, internal communication, and leadership. The program also offered networking opportunities with CEOs and Directors within ASTC. Lila co-chaired a Citizen Science Community of Practice meeting. Richard and Miguel attended.



Dinosaur Institute

Dr. Pedro Mocho presented a talk on “Sauropod Dinosaurs of the Upper Jurassic of Portugal” to the Southern California Paleontological Society on Sunday, January 14 at the La Brea Tar Pits and Museum.

DISCO

Talk and poster at Western Society of Naturalists

Three members of the DISCO staff attended the 2017 meeting of the Western Society of Naturalists in Pasadena on November 17–19. Dean Pentcheff presented a talk outlining the DISCO program (see title slide), and Kathy Omura and Leslie Harris presented a poster describing the specimen acquisition and processing of the DISCO project, soliciting specimens for use as barcode references.



Herpetology

Lectures and Fieldwork in Hawaii

Greg Pauly was invited to the University of Hawaii, Manoa Campus to give two seminars. His main seminar was entitled “Is Citizen Science the Next Revolution in Ecology and Behavior Research? Examples from the Reptiles and Amphibians of Southern California (RASCals) Project.” He also gave a talk on the evolution of mating signals.

Greg also took advantage of the trip to collect representative samples of species being transported to California from Hawaii via the nursery plant trade. He returned to the Museum with 27 specimens collected across Oahu.

Polychaetes & Marine Biodiversity Center

Specimen photography workshop

On October 16, Polychaetes (Leslie Harris) and the Marine Biodiversity Center (Dean Pentcheff) hosted a specimen photography workshop for the members of the Southern California Association of Marine Invertebrate Taxonomists (SCAMIT). A variety of approaches were demonstrated, ranging from macro-photography setups with custom lighting to microscope-based digital photography. As well as NHM staff, Dr. Peter Bryant from UC Irvine demonstrated the microphotographic video techniques he uses on larval invertebrates, and Tim Arehart demonstrated underwater in situ photography for tidepool work.

Vertebrate Paleontology

Alan Zdinak (VP) presented his talk “The Bone War: Fact & Friction” on two occasions in November. The first was on 11/11 at the La Brea Tar Pits and Museum as an enrichment talk to docents. On 11/30 he gave it again as part of the R&C seminar series. The talk covered the notorious rivalry between 19th Century paleontologists Edward Drinker Cope and Othniel Charles Marsh, which Alan began researching while employed at the Yale Peabody Museum (founded by Marsh). Head librarian Richard Hulser was on hand with historic prints and publications by Marsh and Cope from the NHM research library collections.

External Funding

Community Science

As part of their Arts & Sciences Cities of Distinction program, The Phi Beta Kappa Society awarded the Citizen Science Office a \$5,000 grant to support future citizen science programming. On Oct 17, Lila Higgins accepted the

honor on stage and gave an acceptance speech. Miguel Ordeñana, Richard Smart, Maiz Connolly, Jessie Jennewein, Lori Bettison-Varga, Carol Bornstein, Libby Ellwood, Kristin Friedrich, Kelsey Ziff, L.A. County Park & Recreation colleagues, and LAUSD colleagues were in attendance.

Vertebrate Paleontology

The Vertebrate Paleontology department is pleased to announce receipt of federal funding (Cooperative Agreement No. L17AC00191) in the amount of \$16,000 from the Bureau of Land Management. Funds from this grant will be used to support the curation, conservation, and digitization of vertebrate fossils and their associated accessory data from Gypsum Cave, Nevada. This historic collection was amassed in the 1930s and is known to contain fossil amphibians, reptiles, birds, and mammals. The predominant taxon in this collection is



Shasta's ground sloth, which is evidenced by exceptionally preserved soft tissue, claw sheaths, hair, and fibrous dung.

*The ungual phalanges of the smaller species of ground sloth, *Nothrotheriops shastensis*, which shows the unusual preservation of an outer sheath covering, LACM (CIT) 109 / 892.*

Public Outreach

Community Science

“Take Two” KPCC Interview, September 15 (Miguel Ordeñana): Miguel was interviewed by A Martínez for an episode of Take Two about the significance of P-22 to Angelenos and the future of local urban wildlife.

USC Ecology Lecture (Nov 1): Miguel Ordeñana provided a guest lecture on urban ecology to the USC Intro to Ecology class. Miguel spoke about his work studying wildlife using both traditional methods and newer techniques via citizen science.

iNaturalist Training (Nov 3): Richard Smart and Jessie Jennewein gave a 90 minute training to work-study students from BioSCAN and Herpetology. Seven students made 30 observations as part of the training.

iNaturalist Training (Nov 8): Richard Smart, Maiz Connolly, and Jessie Jennewein, gave a 6 hour training on how to use the iNaturalist mobile app, website, and project builder, plus tips regarding project management. Participants included people from Los Angeles County Parks & Rec, Friends of the L.A. River, teachers, and general members of the public.

Junior Scientist (Nov 11): Jessie Jennewein participated in two interactive programs on urban biology and citizen science. The classes focused on squirrels in urban environments and the importance of NHM's Southern California's Squirrel Survey. Jessie Jennewein gave a brief presentation and explored the gardens with the Junior Scientist to build observational skills (i.e. finding dreys, observing squirrels interacting with environment, and trace



evidence like the chewed casings of acorn shells) and to further discuss how the families can aid in data collection via iNaturalist.

P-22 Day and P-22 Hike (Oct. 22): Miguel attended the 2nd annual P-22 Day celebration in Griffith Park. Miguel also hiked the final 6 miles of the 45 mile hike retracing P-22's approximate journey to Griffith Park. Miguel also participated in the opening ceremonies of the festival in Griffith Park and participated in the launch of a new P-22 coloring book that he contributed to.

Cal State University Channel Islands Lecture (10/03): Miguel was invited to provide a guest lecture during an Environmental Studies course. He lectured about local urban wildlife research, citizen science, and urban mammal ecology.

San Pascual Elementary P-22 Program, 10/05, (Miguel Ordeñana, Margarete Villalobos): Miguel presented the story of P-22 to elementary students from San Pascual which concluded with a tour of the P-22 exhibit. This was done in partnership with School Programs. The visit was featured in the LAUSD newsletter.

Descanso Gardens Habitat Exhibit, 10/09, (Miguel Ordeñana): Miguel and other local wildlife experts were asked to provide guidance on a new local habitat/wildlife themed exhibit at Descanso Gardens.

Esperanza Elementary P-22 Presentation, 10/12 (Miguel Ordeñana, Elyse): Miguel presented the story of P-22 to elementary students from Esperanza which concluded with a tour of the P-22 exhibit. This was done in partnership with School Programs.

Stoneview Nature Center Wildlife Hunt, September 23 (Miguel Ordeñana, Maiz Connolly, Richard Smart, Lila Higgins, Estella Hernandez, Jan Kempf): The Community Science Office and Urban Nature Research Center staff partnered with L.A. County Parks and Rec to host the first BioBlitz on Stoneview Nature Center. The training include an iNaturalist training and BioBlitz. 441 observations were made of 104 species.



TEDx Talk, September 30 (Lila Higgins)

Lila Higgins gave a TEDx talk at the Huntington library titled, "Learning to Love Nature in a Big City." The talk focused stories about nature in LA that help us all to begin to see nature in our cities in new ways—through science, nature education, and even nature meditation. As a call to action it asks, how can you work to love nature in your city just a little bit more: <https://www.youtube.com/watch?v=jz6cRzd29WM>

Community Science @ DISCO

Marine Sampling: King Harbor Marina, September 16 (Richard Smart, Miguel Ordeñana, Regina Wetzer, Dean Pentcheff, Leslie Harris, Kathy Omura, Jenessa Wall, Adam Wall): The Citizen Science Program and the DISCO Project staff worked together to hold a training at King Harbor Marina and SEA Lab in Redondo Beach. 15 participants learned how to collect marine invertebrates from floating docks, how to make identifications, how to photo specimens for science, and how to post photos to iNaturalist. 89 observations of 20 species were made.



Ocean Bioblitz (Nov 18): Richard Smart and Jesse Jennewein worked with members of the DISCO team (Regina Wetzler, Leslie Harris, and Jenessa Wall) to host a public program off the floating docks at the Ocean Institute in Dana Point. Participants collected dock fouling, sorted them in trays, photographed them, and added photos to iNaturalist. 24 people were in attendance, and 152 observations of 49 species were added to iNaturalist. Jonathan Witt (Senior Education Director, Ocean Institute) and Todd Haney (Science Teacher, Sage Hill School) were collaborators on this program. One of the many “wow” moments of the day: “Realizing that the branch wasn’t just a branch and was actually a pipefish — that was probably the highlight of the day.”



Participants collecting dock fouling.



Participants sorting and identifying what they collected.

Community Science @ UNRC

SuperProject 2017 Mid-year Event (Nov 12): Lila Higgins, Richard Smart, Maiz Connolly, Jessie Jennewein, Jann Vendetti, Lisa Gonzalez, Jane Li, Estella Hernandez, Jan Kempf, Bree Putman, and Terry McGlynn hosted a 2.5 hour family-friendly party at Stoneview Nature Center to thank our volunteers for their participation in the first half of the UNRC’s 2017 SuperProject. Lila Higgins, Jann Vendetti, and Maiz Connolly gave a brief presentation, followed by dinner and activities centered on the theme of making nocturnal observations, including: a night hike, a spider hike, a UV insect trap demonstration, and a demonstration of camera traps. 54 guests attended.



Young guests look close at some of the nocturnal animals at Stoneview Nature Center.



Attendees socializing with each other and NHMLA staff.

Augustus F. Hawkins Nature Day (12/16/17): Lila Higgins, Richard Smart, Maiz Connolly, Jessie Jennewein, Estella Hernandez, and Bree Putman hosted a 2.5 hour family-friendly outreach event at Augustus F. Hawkins Nature Center. The event included a guided nature walk, specimen displays and tabling by UNRC and CS staff. Participants were offered free tickets to NHMLA and produce from the Nature Gardens.



Anthropology

Haunted Museum

At the Haunted Museum event on October 22nd, Anthropology presented items related to the event's theme of *Spells* by bringing out objects from the collections related to health remedies, poisons, and chants. This included obsidian mirrors, grinding vessels, quivers filled with poison darts and a blow-gun for those darts. The event was packed with costumed and excited children with their parents, gawking at the different presentations and gathering stickers from each station in hopes of being turned into a wizard once they collected them all.



Photos taken by Mario de Lopez



Dinosaur Institute

Dinosaur Institute joined the Haunted Museum venue with examples of how bones and skin discovered in prehistory could have been embellished upon and woven into stories that become myth and legend.

From left to right, Erin Perez, Emily Bishop and Erika Canola.

History

The Valley Industry and Commerce Association invited History Department Collections Manager Beth Werling to speak at their quarterly meeting on December 7. Beth delivered a talk on "Filming in the Valleys" about location filming from the silent to modern era in the northern San Fernando and Santa Clarita Valleys. A significant portion of VICA's work focuses on the film industry and keeping it in Southern California. They have been one of the organizations that successfully lobbied state government to issue tax credits to local productions, making them

competitive with other states that have benefitted from “runaway productions”. Members were fascinated to learn that from the earliest days of film making, the Valleys were a significant site for production companies to use.

The 12th annual Archives Bazaar at USC Doheny Library brought together scores of archival institutions and historical groups, including the Seaver Center. The October 21st event, held free to the public, was an opportunity to spread the word about the rich collections available for research. Pictured are Collections Managers John Cahoon and Betty Uyeda, along with former Assistant Collections Manager, Rosa Mazon.



Dr. William Estrada, Curator of History, presented a talk entitled “Four Angelenos in Paris, Their Journey and Triumph at the 1924 Olympic Games” based on Dr. Estrada’s ongoing manuscript on the ‘24 Games. It was held on the evening of October 26, 2017 at the venerable Los Angeles Athletic Club,



where he was introduced by Karen Hathaway, President of the Athletic Club. A musical prelude was provided by Collections Manager Brent Riggs and accompanied by John Cahoon and Betty Uyeda, Collections Managers (photo at left).

On Saturday October 14th, History Curator Dr. William Estrada led about 20 people on a tour of The Old Plaza in Downtown L.A. as part of NHM’s *In the Field* program. Dr. Estrada, author of the



award-winning book *The Los Angeles Plaza, Sacred and Contested Space*, told stories, gave anecdotes and provided insights about the historic heart of Los Angeles gleaned from his 12 years as curator at El Pueblo.

Also helping guide the tour were History Collections Managers Betty Uyeda and John Cahoon, and Anthropology Collections Manager KT Hajeian gave a wonderful explanation of David Alfaro Siqueiros historic mural “America Tropical” located on the second floor of the Italian Hall on Olvera Street.

Vertebrate Paleontology

On 23 and 24 September 2017, the Vertebrate Paleontology department participated in the second annual Dino Fest. Specimens from our Cenozoic collections that normally are not on view to the public were showcased. Guests learned about the difference between antlers and horns as evidenced by various species of fossil bison, pronghorn antelope, deer, and a cast of an ancestral giraffe. The budding paleontologists in the crowd especially enjoyed the opportunity to touch real fossils and display their coloring sheets as museum art on the walls behind the display.

On 22 October 2017, the Vertebrate Paleontology collections staff pulled out all the stops for a Haunted Museum display of fossil spells featuring claws and teeth. From the enormously large claws of ground sloths to the bizarre claws of Chalicotheres and the impressively large teeth of great white shark, the guests were stunned by the incredible array of preservation, shape, and size. A matching game of claws proved to be a competitive exercise as family members tried to identify the distal



phalanges of dire wolf, eagle, cat, and bear.



Assistant Collections Manager Vanessa Rhue holds up two artist's illustrations of different species of Bison that roamed North American during the Pleistocene.

Collections Manager Dr. Sam McLeod talks with guests at Haunted Museum about the fossil claws and teeth on display.

Student Mentoring and Research

Dinosaur Institute

Paul Haaga awarded the NHM a grant of \$4,500 in support of the Princeton Internships in Civic Service award. From June to August, 2018, Princeton student Diana Chao of Clairemont, CA, will join the DI for 10 weeks working with Collection Manager Maureen Walsh on curation projects including the reconstruction of the Mojave Jurassic dinosaur trackways, collected in 2008, in San Bernardino County, CA, and learning fossil preparation with Preparator Jose Soler. She will also join the Proyecto Dinosaurios crew and travel to the Gnatie Quarry in Utah.

DISCO

Intertidal field trip for USC

On the beautiful afternoon of November 5, DISCO staff members Regina Wetzler and Dean Pentcheff led an intertidal field trip for the students of the USC Biology 120 class. For many students, this was their first exposure to the rich diversity of animal (and plant (and algal)) life in the marine intertidal zone. Being able to see live representatives of a dozen phyla in one location is an extraordinary opportunity.



USC Environmental Studies class lab

Thanks to NHMLA's world-class collections of marine invertebrates, the Museum is a great place to hold a lab on invertebrate diversity. DISCO hosted a lab section for a USC Environmental Studies course co-taught by Karla Heidelberg (Director of Environmental Studies) and Carly Kenkel (a new USC faculty member specializing in coral reef responses to climate change).



Volunteers and Research Associates

Vertebrate Paleontology

Fossil Prep Lab

James Preston has been volunteering with VP in the Fossil Prep Lab since March. He's proven himself a diligent worker, a quick study, and brings useful experience in fieldwork and Materials Science. In addition to his efforts in the lab, he also volunteers as a gallery interpreter and holds a day job outside the museum. "I have always had a passion for people and paleontology, and NHM has allowed me to pursue both." James holds a BA in Anthropology from Cal State Los Angeles, and hopes to pursue a career as a Gallery Interpreter or Fossil Preparator.

James Preston



The Vertebrate Paleontology department is pleased to welcome a new volunteer to our team. Victoria Betancourt joined us in October 2017 and has been diligently working on condition assessments, photography, and housing of Pleistocene fossils in our collections. Victoria has quickly learned the properties of archival materials used to support specimens and will be learning more about the taxonomy and osteology of our extensive fossil deposits from the Rancholabrean of California and Mexico. Victoria holds a BS in Neuroscience and Behavior and also has a passion for teaching art. In her spare time she enjoys painting, drawing, and learning new artistic skills such as digital design.

Victoria Betancourt returns specimens to the Vertebrate Paleontology collection after a special public outreach event.

Distinguished Visitors

Anthropology

On Wednesday January, Amy Gusick, Chris Coleman and KT Hajeian hosted a behind the scenes tour for two Museum Fellows prospects, Prema and Tulsy Ball. The Balls, escorted by Sabrina Burris and Cristina Rosales, were able to tour both the Archaeology and Ethnology storage areas and to meet our new Associate Curator of Anthropology Amy Gusick. Afterwards, according to Cristina, Prema and Tulsy enjoyed the tours and were looking forward to getting involved with NHM as Fellows donors.

Community Science

October 17, the Community Science Office hosted Dr. Hannah Grist, Ecological Researcher / CoCoast Project Officer for the Scottish Association for Marine Science. Dr. Grist also had discussions with Jann Vendetti, Regina Wetzer, and Dean Pentcheff.

History

Near the end of December, members of the L.A. County Sheriff's Department, along with individuals involved with the Sheriffs' Museum, made a site visit to the Seaver Center. The Sheriffs' Museum recently relocated to the Hall of Justice. Their Historian/ Archivist Mike Fratantoni is leading the effort to understand best practices for its archival photograph and documents collections, and Collections Managers Betty Uyeda (pictured) and John Cahoon gladly shared advice.



Vertebrate Paleontology

On 2 January 2018, Bethany Wurster and Caleb Ferbrache, graduate students at Utah State University, measured bacula and astragali of *Canis* from our brea deposits McKittrick and Maricopa.



Bethany Wurster and Caleb Ferbrache hold up one of the Canis astragalus bones that they are measuring from the McKittrick brea deposit.

On 11 and 12 January 2018, Dorien de Vries, PhD candidate at Stony Brook University, visited our collections to examine and mold rodent teeth found from a Peruvian locality called Santa Rosa, of Eocene age.



Dorien de Vries selects teeth of rodents to mold for future analysis using CT scans to study the change in occlusal patterns through time.

Vertebrate Paleontology

On 27 October Justin Keller, UCLA graduate student in the department of Ecology and Evolutionary Biology, visited our department to examine and measure the skulls of modern ursids and pinnipeds.

On 6 November 2017 Dr. Harry Jerison, Professor Emeritus of Psychiatry & Biobehavioral Sciences at UCLA, visited our collections as part of his ongoing research on brains and endocasts of living and fossil mammals.

VP Collections Manager Dr. Sam McLeod (at left) with Dr. Harry Jerison (at right) hold a plaster endocast and fossil skull of Merychippus seversus, LACM (CIT) 368 /2929.



During the week of December 11th 2017, Madeleine Alberdi, an undergraduate student at Vanderbilt University, visited the collections to work on fossil pinnipeds. Madeleine is a recipient of the NHM Collections Study Award and is working with Dr. Rachel Racicot and Dr. Simon Darroch on a CT scanning project which incorporated scans of holotype enaliarctine skulls from our collections.



On 12 December 2017, Dr. Alton Dooley of the Western Science Center was accompanied by colleagues Brett Dooley, Brittany Stoneburg, and Leya Collins. Together they measured and photographed the holotype of *Pliomastodon cosoensis* from the Coso Mountains of California. They also took images of the adorable juvenile *Pliomastodon* that was figured by J.R. Schultz in his 1937 publication, "A Late Cenozoic Vertebrate Fauna from the Coso Mountains, Inyo County, California."

Dr. Alton Dooley (at right) with his team from the Western Science Center pose with the type series of Pliomastodon cosoensis.

Recent Publications

Alves, P. and **Kampf, A.** (2017) A mina de ferro e manganês da Herdade dos Pendões, Odemira, sudoeste de Portugal. *Acopios* 8, 17-62.

Bell, Alyssa, Yun-HsinWu, and **Luis M. Chiappe.** 2017. Morphometric comparison of the Hesperornithiformes and modern diving birds. *Palaeogeography, Palaeoclimatology, Palaeoecology*. <https://doi.org/10.1016/j.palaeo.2017.12.010>

Codorniu, L., **Chiappe, L. M.**, and D. Rivarola. (2017) Neonate morphology and development in pterosaurs: Evidence from a ctenochasmatid embryo from the Early Cretaceous of Argentina. In D. W. Hone, M. P. Witton, & D. M. Martill (eds), *New Perspectives on Pterosaur Palaeobiology*, Geological Society, London, Special Publications 455. <https://doi.org/10.1144/SP455.17>

Di, L., **Chiappe, L.M.**, Serrano, F., Habib, M., Zhang, Y., and Q. Meng. 2017. Flight aerodynamics in enantiornithines: Information from a new Chinese Early Cretaceous bird. *PLOS One* <https://dx.doi.org/10.1371/journal.pone.0184637>

Ellwood, E. R., P. Kimberly, R. Guralnick, P. Flemons, K. Love, S. Ellis, J. M. Allen, J. H. Best, R. Carter, S. Chagnoux, R. Costello, M. W. Denslow, B. A. Dunckel, M. M. Ferriter, E. E. Gilbert, C. Goforth, Q. Groom, **E. R. Krimmel**, R. LaFrance, J. L. Martinec, A. N. Miller, J. Minnaert-Grote, T. Nash, P. Oboyski, D. L. Paul, K. D. Pearson, **N. D. Pentcheff**, M. A. Roberts, C. E. Seltzer, P. S. Soltis, R. Stephens, P. W. Sweeney, M. von Konrat, **A. Wall**, **R. Wetzer**, C. Zimmerman, and A. R. Mast. 2018. Worldwide engagement for digitizing biocollections (WeDigBio): The biocollections community's citizen-science space on the calendar. *BioScience* 68:112–124. <https://dx.doi.org/10.1093/biosci/bix143>

This article describes an international online and onsite event that engages tens of thousands of citizen scientists each year in transcribing natural history specimen data. NHM hosted an onsite event in 2015 and hopes to again this October. Five NHM staff (Ellwood, Pentcheff, Wall, Wetzer and very new hire Krimmel) were involved in this highly-collaborative project.

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Staff Departures & New Staff

Anthropology

The Anthropology Department has welcomed archaeologist Dr. Amy Gusick as a new Associate Curator and NAGPRA Officer. Dr. Gusick received her Ph.D. from the University of California, Santa Barbara, where she developed her research focus on human-environmental dynamics, the development of maritime societies, peopling of the Americas, and hunter-gatherer subsistence and settlement. Her research is focused in California, much of it based on the Channel Islands. At the museum, Dr. Gusick will be working to integrate the collections into her research and to develop an archaeology program that will encourage multidisciplinary research, public involvement, and collaboration with the Native American community.



Community Science

Jessie Jennewein was hired as a Citizen Science Coordinator through a 3-year NSF grant between NHMLA, UC Davis, NHM London, and The California Academy of Sciences to evaluate citizen science in informal youth programs.

The Community Science Office welcomes two USC work-study students: Neva Nowak and Lina Goggins-Rendon.

Jessie Jennewein

History

A fond farewell to Kristen Hayashi as she departed NHM at the end of November, 2017. She embarked on a new job as Collections Manager at the Japanese American National Museum in the Little Tokyo district of Los Angeles. Kristen began at NHM in 2006, and she held various positions in the Anthropology Department, the Registrar's Office, Exhibits, and the History Department. At the time of her departure, she was Exhibits Research & Content Specialist, culminating over seven years of experience working on the Becoming Los Angeles Exhibition.



Miscellaneous

Community Science

KPCC Take Two radio interview (Nov. 1): Miguel Ordeñana was interviewed by A Martínez about the unmarked mountain lion that was found in Laurel Canyon. They discussed the implications of the discovery and what could happen if the puma reached P-22's territory in Griffith Park.

Community Science

City of Los Angeles Certificate of Appreciation (Oct. 22): Miguel Ordeñana was awarded a certificate of appreciation on behalf of the city of Los Angeles. The certificate recognized Miguel's contributions to urban wildlife research, environmental education, and the discovery of P-22 (photo at right).

Dinosaur Institute

Dr. Luis Chiappe was recently acknowledged and appointed "Visitor Professor" by the Hebei GEO University in Hebei Province, China. He was also recognized by several colleagues for his avian research work in China with the naming of a large theropod trackway after him — *Gigandipus chiappei*.

History

AMPAS Appointment

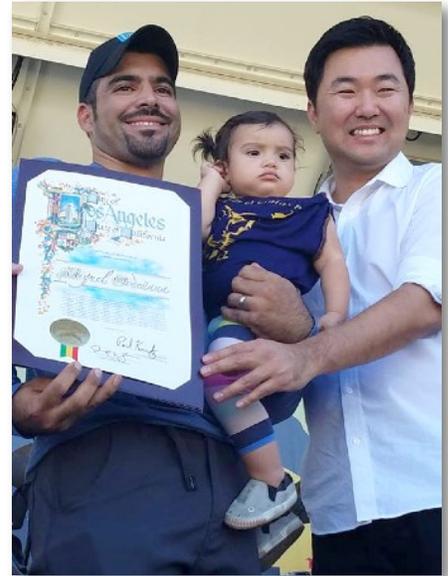
History Department Collections Manager Beth Werling has been invited to join the Technology Subcommittee of the Academy of Motion Picture Arts and Sciences' Science and Technology Council. As part of the Committee, Beth will be using her expertise to assist in the identification of historically significant filmmaking equipment and documenting what are considered to be the most important objects in filmmaking and ascertaining whether examples survive, and if so, where they are located. NHM is home to a

number of historically significant pieces, such as banks of mercury vapor lights used on film sets circa 1910, a three-strip Technicolor camera used to film *Gone With The Wind*, and *King Kong's* mechanical hand.

The subcommittee also assists the Academy's Margaret Herrick Library in identifying cameras, microphones, booms, cranes, editing equipment and lighting depicted in their collection of 10 million photographs. The equipment in these photographs provides critical provenance and context for motion picture historians, documentary film makers, and researchers who are interested in how the art form's underlying technology evolved.

The Committee also works with pre-cinema devices, sound effects, and models and miniatures.

Committee members will also use their expertise in assisting NHM in identifying significant examples in our collection and providing additional information as part of an on-going intellectual exchange. Pictured at left is the Mutoscope in the History Department's collection.



The Seaver Center for Western History research recently received a generous gift from the Seaver Institute. A major portion of the gift paid for improvements to the Reading Room and the adjoining collection processing room, which were a fading time capsule representing a 1986 gift from the Institute that originally created the Seaver

Center. These improvements include new furniture, dimmable LED lighting, new ceiling tile, new carpet and paint, new archival housing for 20,000 photographic prints, more LAN connections, and the conversion of a former shower room into a small room for photographing 2-D collections. The Reading Room is open Mondays and Thursdays by appointment. Pictured at left is the newly renovated space.



La Brea Tar Pits

A lot has been happening at the La Brea Tar Pits, with two deposits from Project 23 currently being excavated in tandem: Box



Stephany working on the Box 13 Puma skull.

13 and the last portion of Box 14. Some incredible specimens have been emerging from Box 13 including complete Puma (*Puma concolor*) and long-tailed weasel (*Mustela frenata*) crania, the scapula from a notably young giant sloth (*Paramylodon harlani*) and the remains of the youngest Mastodon (*Mammut americanum*) yet from the Tar Pits.

The Tar Pits has decided to involve the community in nick-naming the *Puma* specimen, through a contest that will be open to LA County schools. This initiative is to further strengthen our institutional vision of being “a museum of, for, and with LA” and we are working in conjunction with Marketing and Education for a formal roll-out later in January.

The Fossil Lab recently hired Stevie Morley to work alongside the team as an Assistant Preparator and she also assists out in Excavations. The Fossil Lab staff has been working in collaboration with Tania Collas from the Conservation team and her collaborator, Chris Stavroudis, to find a better, alternative solvent for use in liberating the asphaltic matrix from the bones. Experimental preparation is also being conducted with Jessie George from UCLA to determine the best approach to removing asphalt from wood samples to better expose the sclerenchyma for her PhD research.



Stevie and Sean at Box 13.



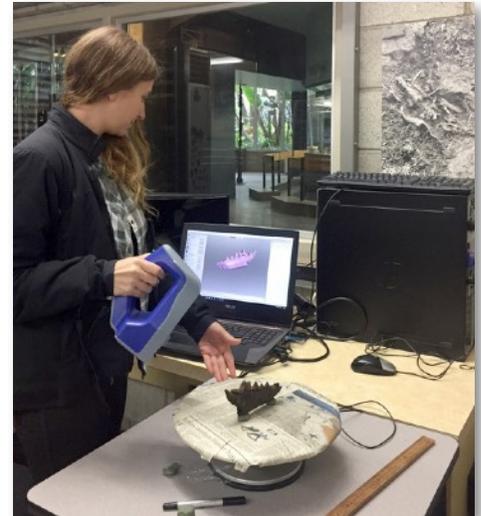
The Tar Pits staff also participated in the “Adventures in Nature Winter Camp”, where we had fun showing the children what we do in the Fossil Lab, and Carrie Howard introduced them to the process of photographing and illustrating specimens from the collection.

We also had an unusual challenge at the start of the New Year. A block of fossil-filled asphalt from the general locality of Project 23 was tackled using our standard technique of applying a solvent to release the fossils from the tar-like encasing matrix. However, to our surprise, the matrix appeared so oxidized (hardened) that the solvent was unable to dissolve the asphalt, so we had to switch to Plan B: using a zip-scribe (see photo at left). While a zip-

scribe is a classical approach to preparing fossils from non-asphaltic deposits, at the Tar Pits we seldom get to use this tool, as the nature of the asphalt usually makes it difficult or unnecessary to prepare fossils with this technique. Currently the zipscribe is slowly shaving away at the asphaltic matrix and has already revealed some special fossils including mandibles of a bison and sabertoothed cat, as well as the only known *Bison* horn core so far from the Project 23 excavations. We can't wait to see what else the zipscribe will uncover!

Collections Managers Aisling Farrell and Gary Takeuchi have been busily working with volunteers to capture all the RLB cataloged records in the EMu database with 72,735 records added in 2017. This includes newly excavated Project 23 specimens that arrive 7 days a week as well as the 100-year backlog of the Hancock Collection and Pit 91. Carrie continues to 3D surface scan fossils from the collection, which is also allowing the public to witness the various methods of data collecting and fossil preservation practiced at the Tar Pits. Additional 2017 statistics include 2985 excavated specimens which resulted in over 4400 lbs of matrix buckets being processed. The Fossil Lab prepared 2104 specimens and sorted 75 cans of matrix for microfossils.

On Saturday Dec. 9, postdoc Libby Ellwood and Assistant Collections Manager Noel Graham, along with education staff Agnes Novie and Eva Dwyer, hosted a workshop for teachers interested in using microfossil sorting kits in their middle and high school classrooms. The workshop provided teachers with background information about the tar pits, tours of excavations and the lab, and basic training in fossil sorting. Kits will be distributed in the coming weeks, providing over 600 students the opportunity to work with real microfossils and contribute to scientific research. The sorting kits are part of the NSF-funded food webs project and updates can be found on Twitter with #labreawebs.



Carrie 3D scanning.

The *Research & Collections Newsletter* was 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 Associate Vice President, Research & Collections.

Layout: N. Dean Pentcheff.

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

A final note from our editors

This issue marks the final edition of the Research & Collections newsletter in its present form — its 66th issue since beginning in 2004.

As time has moved on, and communications have diversified, the original purposes of the Newsletter are now covered by other publications, and we expect other new outlets to develop as NHMLA expands its scope.

This newsletter has been the product of thirteen years of consistent contributions of text and photographs by staff throughout NHMLA's Research & Collections. It has been our pleasure and privilege to help get your stories out to the Museum and to the world.

Joel Martin
Dean Pentcheff
February 13, 2018

