

### Pages from the Past

Clinton G. Abbott, Director of the San Diego Natural History Museum for 24 years (1922–1946), is shown in this photo from 1924. Abbott is sitting in the Museum truck, surrounded by ocotillos in the area near Agua Caliente in the Anza Borrego desert. Abbott, born in England to American parents, came to San Diego from Albany, NY, in 1921. His work at the Museum made a significant impact on the international conservation of marine mammals, as well as other animals and plants. For more information about his contributions, see sdnhm.org/abbott.



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The Membership Department can be reached Monday–Friday, 9 AM–5 PM for assistance with change of address, replacement cards, renewing or upgrading your membership, and any other questions. Contact 619.255.0275 or membership@sdnhm.org.

San Diego Natural History Museum Mission: To interpret the natural world through research, education and exhibits; to promote understanding of the evolution and diversity of southern California and the peninsula of Baja California; and to inspire in all a respect for nature and the environment.

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### CURATOR'S CORNER NOTES FROM THE BIODIVERSITY RESEARCH CENTER OF THE CALIFORNIAS

### Herpetology

The Department of Herpetology has joined with the other Museum research departments to work on Santa Cruz Island for The Nature Conservancy. It is the largest of the Channel Islands, and while typically islands are not very diverse when compared to the biodiversity of the adjacent mainland, it has a large number of unique species. There are eight currently known amphibians and reptiles found there, of which three are endemic to the Northern Channel Islands. Herpetology Curator Bradford Hollingsworth, Ph.D., visited the island in early March as part of the team to assess and recommend future research directions.



### Entomology

Collection improvement work continues in the Entomology Department under various grants. Here Celeste McCormack, one of our undergraduate interns, sorts and organizes butterflies in the Family Pieridae of which we have over 1,400 specimens from around the world.



#### Birds and Mammals

In 2006, a small herd of pigs (Sus scrofa) were introduced to the San Diego River region near El Capitan Reservoir. Since then the herd has expanded in range and numbers and now threatens the vast nature-reserve system in San Diego County. The Museum performed the early distribution surveys in 2009/2010, and is now developing webpages so that accurate information is conveyed to the public on the negative impacts of this species.



The Channel Island Salamander (Batrachoseps pacificus) is found on San Miguel, Santa Rosa, and Santa Cruz Islands.



Diorama from The Horse. © AMNH/M. Shanley

# From Little Leaf-Browsers to Big Grass-Grazers

By Kesler Randall, Erica Kelly, and Hallie Johnson

Long before humans were here, prehistoric horses roamed the coastal San Diego region. We find their fossils in our local sedimentary deposits, many of which date within the last 65 million years, during the geologic period called the Cenozoic Era. Another term for this period of time is "The Age of Mammals" since it is when mammals—including horses—arose and diversified. The horses we know and love today, it turns out, looked pretty different a long time ago.

Horses and their relatives, family Euquidae, evolved in North America approximately 55 million years ago from a ruminant (or deer-like) ancestor. Since then, this group of mammals has gotten bigger in size and diversified into many different species. Also, over time, the

look of these equids has changed considerably, most notably in regards to the skeleton. These changes include a reduction of the number of foot bones. This actually made the horse faster! Also, the animal's teeth became increasingly dissimilar, allowing them to chew rough grasses with greater ease.

Today, paleontologists are able to study the evolution of our local horse ancestors because along the coast of San Diego, Cenozoic-aged deposits (also known as sedimentary rocks) are plentiful. We know that San Diego, Oceanside, and Carlsbad were home to some of North America's earliest horses between 37 and 43 million years ago. Their fossils—partial skulls, jaws, and teeth—tell us these dog-sized horses

were not yet grazing grasses like the horses we know today. Instead, their cusped teeth were an adaptation for grinding tough leaves and twigs. By studying these fossils, we can theorize how horses adapted to their environment as the evolutionary shift from the forests to grasslands was taking place.

The Museum's Paleontology Collection contains fossil horses found just northeast of us in Barstow, California, including 12 million-year-old horse teeth, which are still much smaller than the teeth of today's horse, but display a more complicated enamel pattern and a flatter tooth surface than horses from the Eocene. These middle Miocene horses were probably evolving with taller, flatter teeth to better exploit food resources in changing grasslands.

Late Miocene fossil horses from Lawrence Canyon in Oceanside are approximately 5 to 7 million years old, and continue to show evolution at work as we can see an increase in tooth size, tooth flattening, and increase in the height of the crown. Then, Pliocene horses, which lived 3.5 million years ago, were discovered in Chula Vista and show us some of the diversity we see in North American horses in the Miocene and Pliocene. The vast differences in fossil teeth and foot bones represent a diversity of horses in our region, with several species, including a zebra-like animal. Pleistocene horses have been discovered all over the San Diego coast, from National City to Oceanside. These animals, approximately 500,000 to 100,000 years old, represent small and large forms. Some Pleistocene horse fossils are very similar to the domestic horse, Equus caballus. San Diego Pleistocene horse fossils, along with those from local Pliocene deposits. have a single toe bone on each foot, which is reduced from their early Eocene ancestors who ran on four toes on the front feet and three toes on their hind feet.

The San Diego Natural History Museum is fortunate to house this diversity of regional fossil horses that help our understanding overall of horse evolution and their environmental adaptations. Next time you visit the Museum, make sure to check out the fossil horses on display in Fossil Mysteries, and then visit The Horse to see the difference between horses, then and now!



Fossilized left dentary (lower jaw bone) still contains the cheek teeth (premolars and molars) of an approximately 200,000 year old horse.



Fossilized phalanx (toe bone) from the foot of an approximately 100,000 year old horse was discovered during construction of State Route 54 in National City.

### **BLUE WHALE-WATCHING SEASON JUST BEGAN!**



"[Horses have] fired the imaginations of painters from the prehistoric hunter-artists of Altamira to Leonardo da Vinci, Velazquez, Goya and Picasso, still in the history of photography no cameraman has recorded the horse with such excitement and personal style as has Robert Vavra. His photographs are works of art."

—James A. Michener

NOW ON DISPLAY

VAVRA'S VISION EQUINE IMAGES



## AND THEY'RE OFF!

## theNAT and the Del Mar racetrack partner for *The Horse*

Joe Harper, CEO of the Del Mar Thoroughbred Club (DMTC), has developed a generous marketing partnership with the NAT in support of our newest exhibition, *The Horse*.

Special activities include Racetrack Clubhouse ticket giveaways for Museum patrons on special partner days and a special Race Sponsorship Day, when an actual race will be named in honor of *The Horse*. The Del Mar season runs July 18 through September 5, 2012.

In the words of Harper, "The Horse coming to the west is special; the horse, we should all remember, is how we got here. Horses are at the very core of what America is all about. They are a large part of our history and they live on with us today as both symbol and reality of all the things that are good and true and strong in our society. I'd encourage you to do your insides and your

insights a favor and go see The Horse."

Additionally, the Del Mar racetrack has loaned the Museum iconic photographs from its own historic collection of racing photographs. These images are part of a special San Diego-only section of the exhibition and will teach visitors about the history and famous horses of the Del Mar racetrack. We are honored to partner with the DMTC and appreciate their generous support of The Horse.



Zenyatta, "Queen of Racing," and her jockey, Mike Smith. Courtesy Del Mar Thoroughbred Club

### All About the Nature to You Loan Program

Where can you find a bobcat, rattlesnake, owl, hummingbird, and octopus peacefully coexisting? Why, the Nature to You Loan Library, of course!

The Nature to You Loan
Program contains specimens
representative of the biological
and geological diversity of
habitats found worldwide with
close attention paid to the
southwestern United States and
Baja California. The collection
includes mounted mammals,
birds, reptiles, insects, bones
and fossils.

Since 1923, the Loan Program has brought the world of natural history to students of all ages by developing exhibits of the natural world and making them available to San Diego educators. Supported by donations and membership fees, the collection has grown from 70 original specimens to more than 1300. Last year, loaned specimens were seen 110,328 times! A searchable online database of specimens

allows program members to view hundreds of different animals available for loan.

A \$50 annual membership to the library brings nature into your classroom, art studio or home with a year of access to the program's collection. The coyote, gila monster and golden eagle are among some



of the most popular animals to be checked out. Last year, 517 loans were made.

As you might expect, the program is very popular with San Diego County teachers. Loan Program specimens allow students to study animals up close, an experience not always possible on the trail or at a zoo. Animals of the Loan Program complement curricula in a way unlike anywhere else. One of the most popular questions is where do the animals come from? All of them died of natural causes and were salvaged for use by the Museum. Many were part of the Museum's exhibits dating back to the early 20th century and some have been donated by the San Diego Zoo and the general public.

The Case A Critter program is a great community service project





in which individuals, businesses, and school groups may sponsor an exhibit that will become part of the lending collection. Sponsors are recognized with a brass plaque mounted on the exhibit.

"We like to think that the specimens in the collection get a second life as teaching tools," says Education Collection Manager, Lauren
Marino. "Children and
adults get an added
appreciation for these
creatures and for nature
when they can see
things up close and
personal. They really
grasp how extraordinary
they are," she adds.

So, if you ever need a chinstrap penguin, hawksbill sea turtle or

atlas beetle to get your point across, you know where to go! Contact Lauren Marino at 619.255.0236 or loanprogram@sdnhm.org

For information about how you can "Case a Critter" or support the Nature to You Loan Program, please contact Eowyn Bates at ebates@sdnhm.org or 619.255.0172.

The Nature to You Loan Program would like to thank Bank of America Charitable Foundation. Inc.; The Covey; Mrs. Ruth Dickinson: Samuel and Katherine French Fund: Groce Natural History Endowment Fund; The Pratt Memorial Fund at Union Bank: The Rice Family Foundation; Rivkin Family Fund I at the San Diego Foundation; Roots and Shoots Canyonview Elementary School; Ellen Browning Scripps Foundation; The Thursday Club Foundation: Union Bank Foundation: and VWR Charitable Foundation for their support!

### **GO GREEN!**

We are making the transition to sending many of our event invitations and other membership communications via email. We don't want you to miss out any activities—so, please contact membership@sdnhm.org or 619.255.0275 with your email address. Thank you for helping the Museum become more environmentally sustainable.

### **Corporate Profiles**

### Barney & Barney: Supporting Science Education!

We would like to thank the Barney & Barney Foundation for its generous support of the Museum Access Fund! The Museum Access Fund enables more than 6.000 disadvantaged students each year to participate in the hands-on science learning programs provided by the Museum at no cost to them or their Title I funded schools. The majority of these students score lower than the general student population on standardized tests for math, science, and English. Providing supplemental non-traditional educational opportunities is vital to increasing these students' future achievement.

Out-of-school science learning has become increasingly important. Just one-third of California elementary school teachers said they feel prepared to teach science due to increased emphasis on math and reading. A 2011 report by a collaboration of institutions including the University of California, Berkeley, finds that many teachers reach to outside partners, such as teaching museums like ours, to fill in the gaps.

By opening up a world of learning enrichment for these students, the Barney & Barney Foundation has done more than give them an enjoyable experience. The Foundation has given them a chance to learn standards-based environmental science through hands-on experiments and other opportunities they would not typically have in their Title-1 funded schools. In fact, teachers often tell us the Museum Access. Fund has enabled their students. to visit a Museum for the first time ever!

#### The ResMed Foundation: Supporting Science Education Outreach!

Our thanks, also, to the ResMed Foundation for supporting the Museum's ResMed Science Outreach project. ResMed's aift will enable our educators to bring the Museum's engaging science programs into classrooms at Title I schools. serving 1,000 disadvantaged students. Using a van funded by the County Board of Supervisors at the recommendation of Pam Slater-Price to transport natural fossil, plant, and animal specimens—ranging from small beetles to large bobcats—the Museum's educators and trained docents bring nature into the classroom to inspire scientific investigation.

Real-life specimens provide a tangible teaching element beyond books or videos. For example, educators may use bird specimens to demonstrate habitat adaptations by comparing the beak of a kestrel—used to tear its prev—to the straw-like beak of the marbled godwit, which pokes into mud and sand for its food. Or, to compare the tree-grasping claws of a forestdwelling woodpecker with the water-dwelling, wading feet of a duck.

In teaching life cycles, educators may use an array of insect specimens to demonstrate the stages of metamorphosis. Utilizing real specimens that students can study, touch, and measure gets students interested and involved in science.

The impact of science learning goes far beyond the content at hand. According to the Association of Science-Technology Centers, out-of-school science programs promote increases in creativity, logic development, communication skills, and reading readiness!

#### theNAT is GREEN!

Did you know? The San Diego Natural History Museum is LEED certified! This means your company could host their upcoming celebration while enjoying the beauty of science, nature, and art in a certified environmentally friendly space.



Each area within the San Diego Natural History Museum offers its own unique twist that is certified eco-friendly. Enjoy your party and save the planet!

Imagine your guests sipping champagne and savoring delicacies while taking in the stars and San Diego skyline along the El Mirador Rooftop.



Picture your guests dancing on the pristine granite floor of the Sefton Atrium where the sky truly is the limit with the four-story translucent ceiling above.

Feeling a little nostalgic? Invite your guests to interact with the prehistory of San Diego County and the southern California



region within Fossil Mysteries. Mix and mingle amongst those who walked the land before our time.

Like having your head in the clouds? Our third-and fourth-



floor galleries create an intimate atmosphere where your guests will get a bird's eye view of the Museum while taking in the latest exhibition on display.

Would your budget presentation look better on the big screen, or are you interested in performing your latest aria to 300 of your biggest fans? The Charmaine

and Maurice Kaplan Theater is just the space for you! With a



large-format screen and Dolby Digital sound, the Theater has multimedia capabilities and the latest acoustic technology.

Call your colleagues to attention within the state-of-the-art J. W. Sefton Boardroom. A quiet area with full audiovisual capabilities, set apart from the hustle and bustle of the Museum, will meet your



company's needs. And if a break is in order, take in a breath of fresh air along the outdoor terrace.

Contact the Events Department to reserve your environmentally friendly space at 619.255.0316!

### Live Oaks Society Profile: Shirley and Harry Koons

Shirley Koons was well known at the Museum as a volunteer with the Covey for 40 years along with her husband, Harry. Shirley passed away in late April after a long illness. Harry and Shirley's dedication to the Museum was recognized at the Volunteer Appreciation Dinner on April 25, where the Covey was presented with a proclamation from the Museum's Board of Directors in appreciation for their many years of service to the Museum.

The Koons, who were married for 66 years, met in Los Angeles right after WWII when Harry was in the early years of his Navy career, serving then as a Corpsman 2<sup>nd</sup> class. Three weeks after their 1946 wedding, Harry was shipped out with a Marine Air Group to China. He was gone for a year, while Shirley worked as a secretary at Lockheed, and eventually became secretary to a Rear Admiral. When Harry returned state-side, they had a short time together before Harry was again called to duty, this time on a Landing Ship Tank based out of Inchon and Hung Nam, Korea.

The Museum is fortunate that the Navy transferred Harry

back to San Diego, and in 1962 he retired here after 20 years of active duty. Shirley then worked for the developer of Rancho Santa Fe, and Harry attended San Diego City the earliest members of the Museum to take advantage of the Fund, now managed at Union Bank, as a way to invest in the future of the Museum while receiving a steady source

### The Museum's Pooled Income Fund was a good thing to do at the time, and we'd do it again.

**—Harry Koons** 

College, before graduating from San Diego State
University with an education degree that set him on a second career path. He taught 6th grade at Juarez Elementary School for 18 years.

The Museum was a perfect fit for Shirley, where the Koons were members and volunteers since the early 70s. Shirley became involved in the Covey through her friend Elinor Doak, and came to know Bea Smith, Flory Sell, Mary Clark, and many others who became wonderful friends while working on "Day in the Wildwood" and Christmas on the Prado. Harry says he "tagged along" as a helpful husband at first, but for many years he has been equally involved.

Harry said they were both happy to have agreed, almost 20 years ago, to take part in the Museum's Pooled Income Fund. They were some of of income. Harry said "It was a good thing to do at the time, and we'd do it again."

The Museum family is honored to have had the benefit of Shirley Koons' energy and enthusiasm for 40 years, and grateful to Harry as he carries on the family legacy at the San Diego Natural History Museum.

#### Pooled Income Fund FAQ's

- A contribution of as little as \$5000 can get you started in the Museum's Pooled Income Fund.
- It's an easy (one-page form!)
  way to give appreciated
  assets—and save capital
  gains—to benefit you AND
  the Museum.
- In 2011, our fund's rate of return (managed by Union Bank) was 4.88%

QUESTIONS? Contact Donna Raub, Director of Planned Giving, at 619.255.0314 or draub@sdnhm.org.

#### **Board of Directors Election**

Thank you for participating in the annual board election. We're delighted to welcome two new board members for a three-year term and eight board members for a second three-year term. In addition, another 15 members are currently serving on the board.

### 2012-13 Board of Directors San Diego Natural History Museum

Block, Jeff, Vice Chair

General Manager, KGTV Channel 10

Blue, Austin

Co-Founder & President,

Spectrum Aeronautical and SciFly

Busquets, Anita

President and COO, NCE Pharmaceuticals, Inc.

Crockett, Virginia, Chair

Director, The Learning Center, QUALCOMM

Davis, Walt, Secretary

Vice Admiral, U.S. Navy (Retired)

Dayton, Paul

Professor of Oceanography, Scripps Institution

of Oceanography, UCSD

Downing, John

**Downing Family Vineyards** 

Evanco, Susan

Community Volunteer

Fleming, Tom

SAIC

Hazard, Tom

Partner, R.E. Hazard Contracting Company

Henderson, Allison Community Volunteer

Hom, Matt, M.D.

Founder and Medical Director, Rejuve Medspa and Wellness

Kent, Jeffrey Kent's Bromeliads

Kovacs, Peter

Kovacs Advisory Group

Lindsay, Diana Sunbelt Publications

McDonald, Steven

Attorney & Counselor at Law

Moore, Terry, Treasurer

Principal, Director, Small Business & Program

Divisions, Barney & Barney LLC

Morgan, Dennis

Attorney

Navarra, Jerome Jerome's Furniture

Palisoul, Pam

The Palisoul Company

Proulx, Robert

Marketing Consultant

Rhodes, Bryce

Investment Manager

Wilson, Carol

Community Volunteer; Schoolteacher (Retired)

Yang, Mary Scientist

\_\_\_\_

Zinn, Ellen

Community Volunteer

### F O S S I L B A L L

M A R C H 3 1 , 2 0 1 2



Co-Chairs Susan Evanco and Eleanor Navarra



Longtime volunteer Dick Schwenkmeyer with Museum Docents: Elizabeth Smith, Cary Huckell, Carol Filloon, Carol Wilson, Rosemary Kelly, and Carol Telle.



Susan and Craig Evanco



"Chief Fossil" Mick Hager with wife Denise after receiving their gift of a weeklong cruise on "El Regalo" in the Sea of Cortez.





Longtime supporter Christy Walton with family and friends.

#### M U S E U M N E W S

#### Adventures on the High Seas Family Day

Monday, September 3; 11 AM–3 PM

All Aboard! This year marks the 100th anniversary of the maiden voyage of the RMS *Titanic*. Join us on Monday, September 3, to honor this historic event. We'll craft and learn about life aboard the famous ship. Boarding begins at 11 AM and ends at 3 PM. Family Day activities are always free for members. Note: *Titanic: The Artifact Exhibition* is a special exhibition; visit www. sdnhm.org/titanic to learn about admission prices for members.





### Wacky Science Sundays with Ms. Frizzle<sup>TM</sup>!

Join the Frizz and friends every Sunday at 12:15 and 2:15 PM. Always free for members.

July—Raptors
August—Reptiles
September—Decomposers
October—Bats
November—Cats
December—Storm Drains

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### Nature and Me Storytime

Calling all budding naturalists! Nature and Me is held the second Thursday of every month at 10:15 AM. All ages are welcome (ages 1–5 suggested) with a parent or guardian. Always free for members!

July 12—Tidepools August 9—Shells September 13—Birds October 11—Bats



### **Double Your Giving**

Do you work for QUALCOMM, Bank of America, or Caterpillar? These companies and many more will match their employees' and often retirees' charitable contributions to the San Diego Natural History Museum. We encourage you to ask your company for a matching gift form to complete and mail with your donation to the Museum.

Do you have a question regarding matching gifts? Contact Shannon Safino at ssafino@sdnhm.org or 619.255.0233.

Save the date!

October 12, 2012 6-9 PM

138<sup>th</sup> Annual Meeting

Chocolate exhibition opening
Look for the official invitation in
your mailbox this fall!

Chocolate and its national tour have been developed by The Field Museum, Chicago.
This project was supported, in part, by the National Science Foundation.



### Own a piece of history today!

Titanic coal is the only artifact from the ocean floor that you can own.

San Diego Museum Members receive 10% off their purchases made at the *Titanic* Exhibition Store.

Titanic: The Artifact Exhibition is open through September 9!



#### **VOLUNTEER NEWS**

### The Covey Forty-five Years of Service

At the San Diego Natural History Museum, the Covey volunteers have found the perfect recipe for fundraising success: one part cooking, one part planning, and a large portion of fun. After 45 years, this group of volunteers is celebrating their successes and looking back with fond memories.

In 1968, Christie Phillips, wife of the Museum's director, founded the Covey as an auxiliary support group for the Museum, with a mission to raise funds and encourage community participation in Museum activities. The Covey kicked off their early activities primarily as cooks, preparing hors d'oeuvres and meals for many Museum events. From major fundraisers like lecture luncheons, and Covey coffees, the Covey has raised over \$220,000 for the Museum in the past 22 years alone.

Perhaps their most notable accomplishment, although relatively unknown, was their active participation in the formation of the annual Balboa Park event, Christmas on the

Prado (now called December Nights). The Museum was always a favorite destination during this event. Not only was it known for providing family friendly exhibits and fun, but with the Covey's involvement, it was one of the only places in the park where visitors could sit down and enjoy a bite to eat. The old auditorium provided respite from the cold and a place where the slightly weary could rejuvenate.

Covey members were also instrumental in forming the docent program, a thriving volunteer group with 85 active members today. At that time auided tours in San Dieao museums were unheard of, and the word "docent," meaning "teaching guide," was new to most volunteers. The purpose of the new docent program was to make the Museum interesting and accessible to children and their families and to teach them what a regional museum offers. The docent program today serves more than 4.700 school children and adults annually through their special programs and provides handson interpretative carts for visitors in the Museum.

Over the years one of the many ways the Covey has raised

funds was by selling the French Market Soup mix developed by Myrt Gordon, long-time Covey member and twice president. The soup mix contains over 12 different kinds of beans and lentils and secret spices. Barbara Ellis, Covey member for 21 years, prepares over 100 bags of soup mix every year and sells every bag. It has become so popular the Covey now takes pre-orders!

Because of the generous support of the Covey in 2008, the Museum was able to produce note cards for sale in the Museum Store, featuring a unique design. Six illustrations of beautiful seashell engravings, in glorious full color, dating back to the 18th Century were reproduced for the cards. The source of the illustrations, a book cataloging the Austrian Empress Theresa's personal shell collection, is held in the Research Library's rare book collection.

All of the money raised by the Covey from its various activities goes straight to Museum research and programs. The Museum is grateful for the longtime support the Covey has provided, and was delighted to honor the Covey at the Annual Volunteer Recognition on April 25, 2012.

#### **EXHIBITION NEWS**

BOLD: The Art of DNA Barcoding

Opens October 6, 2012

Joseph Rossano's interactive BOLD sculpture series is a collaboration with leading biodiversity scientists, including Dr. Daniel H. Janzen of the



University of Pennsylvania. BOLD derives from Barcode of Life Datasystems, the Canadian repository for the International Barcode of Life project. Traveling widely from his Pacific Northwest home, Rossano engages the public in DNA barcoding of biodiversity through his artistic creations. He gives viewers access to efforts to catalog, understand, and protect our planet's precious and threatened biological resources.

Sculptured and silvered polyurethane butterflies, Moorea reef fish, and lacquered sea life are complimented by Dr. Janzen's stunning caterpillar photographs from the Area de Conservación Guanacaste, a tropical biocultural restoration and UNESCO World Heritage Site in northwestern Costa Rica.

A note from the artist, Joseph Rossano:

...I strive to distill ideas, concepts, and reality into their bare essence. My resulting minimalist sculptures, I hope, convey an emotion, ask a question, or direct the viewer on a path of introspection and investigation, as they explore man's impact on the environment.



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