



SAN DIEGO NATURAL HISTORY MUSEUM

**IMPACT REPORT**  
2018-2019



Supporting  
a planet that  
supports us

## Dear Museum friends,

Every year, the value of our 145-year-old collection grows, and our research is increasingly vital, especially in the face of global species loss. Our talented staff and volunteers are dedicated to our region, and share a pride in our environmental stewardship. I am pleased to present this impact report detailing some of the many actions we are taking to promote healthy and diverse ecosystems in this corner of the world we are fortunate to call home.

Field-based scientific studies form the heart of our activities, and it was a banner field season due to prolific winter rains. In addition to individual studies throughout Southern California and the Baja California Peninsula, our scientists organized a major binational expedition to survey islands in the Gulf of California, many of which had not been assessed by biologists for 60 years. With colleagues in Mexican non-governmental organizations and the Mexican government, we completed a study of conservation priorities in the Baja peninsula.

Back home in Balboa Park, we continued to make the Museum a vibrant, enticing, and informative place. With new exhibits and displays on view in previously empty corridors, we are extending the museum experience throughout our public spaces. Summer evening hours on the rooftop have operated near or at capacity, and engaged new visitors who can't visit during our regular hours.

Our efforts to expand museum access have taken flight. Our free family admissions through Museums for All skyrocketed, and we added summer camp scholarships. We provided field trip funding

for 7,000 schoolchildren, although the demand is much greater than our funding. We continue to digitize collections records and library holdings, making our material widely available online.

We are also pleased to share our love of the outdoors. Our Canyoneers and Whalers lead hikes and whale watching expeditions. Our leadership of City Nature Challenge and participation in other BioBlitz efforts encourages everyone to get outside and take a closer look at the nature around us.

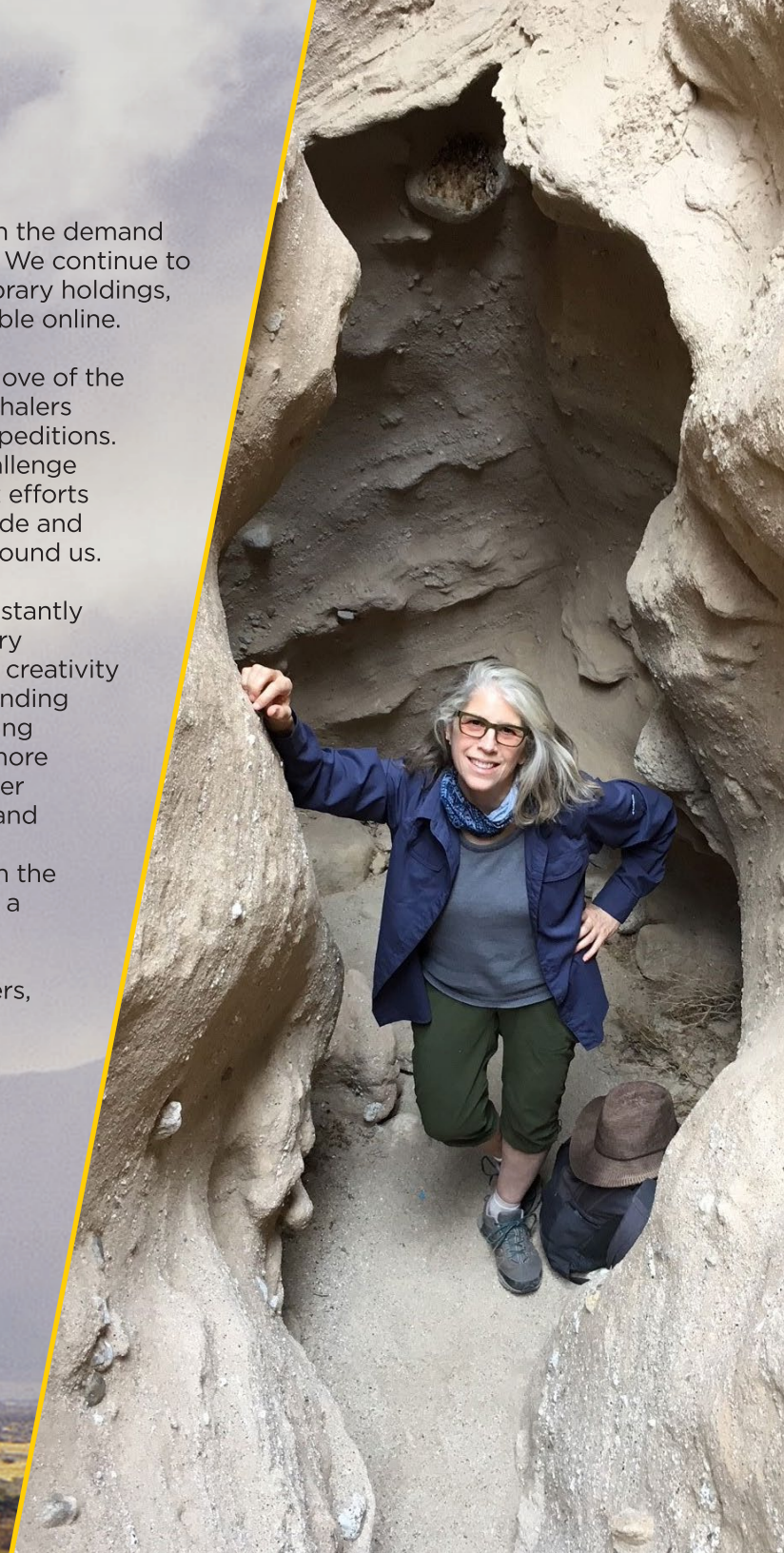
History is in our name, yet we constantly look to the future. Our Evolutionary Venture Fund helped us integrate creativity and innovation into operations, funding staff-generated ideas. By embracing reasonable risk and becoming a more agile organization, we will be better able to face future opportunities and challenges. Our program received national recognition this year from the American museum community as a model for innovation.

Our generous supporters, members, volunteers, and staff made all of this possible. It is a remarkable community, and all contribute to our success.

Sincerely,



**JUDY GRADWOHL**  
**PRESIDENT AND CEO**





In a binational effort with Mexican colleagues, our researchers surveyed 15 southern Gulf of California islands for the first time in 60 years. The trip resulted in 144 new botanical records, range extensions for some of the islands' herpetological inhabitants, and at least one new species of insect. These observations and new findings are critical to future conservation and management efforts.



# Monitoring Biodiversity and Change on the Gulf Islands

Ranging in size from small islets of mostly barren rock to large mountainous monoliths home to unique plants and animals, the islands of the Gulf of California have long called to researchers and conservationists.

Early expeditions to the islands by researchers from the Museum, the University of California, and the California Academy of Sciences were critical in calling attention to these unique biological gems, ultimately resulting in the Mexican government first declaring the islands as a wildlife refuge in 1978 and their designation as a UNESCO World Heritage Site in 2005.

Now, 40 years after that first declaration, the islands of the Gulf of California are protected, yet they have not been studied by scientists in more than 60 years. The Museum, along with colleagues from Mexico, launched a research expedition to the southern islands of the Gulf of California. Departing from Cabo San Lucas on November 8, 2018, the team spent 13 days exploring 15 islands, assessing the presence of terrestrial species at each location.

Led by Drs. Exequiel Ezcurra and Sula Vanderplank, and endorsed by the National Commission for Biodiversity in Mexico, the expedition was fueled by the passion of a binational team of botanists, herpetologists,

mammalogists, entomologists, and ornithologists. Captained by Art Taylor, the 95-foot *Searcher* motored up the Gulf with brief stops at Islas San Marcos and San Francisco before reaching the expedition's northernmost destination, Isla Tortuga, a dormant volcano that is home to arguably the greatest density of rattlesnakes on the planet.

Ricocheting between islands on the southward return, the expedition team accomplished all of their goals and more. The botany team documented 144 new records of plants previously unknown to occur on one or more of the islands. This was a critical step in the completion of a detailed botanical database for all the islands of northwestern Mexico.

Despite less than ideal weather conditions, the herpetology team was able to observe 25 of the 57 species known from the visited islands. These included two new range extensions, a Western Patch-nosed Snake (*Salvadora hexalepis*) on Isla Carmen and the Peninsular Leaf-toed Gecko (*Phyllodactylus nocticolus*) on the small island of Isla Las Galeras Este. The expedition also yielded the discovery of new species, as the entomology team observed what appears to be an undescribed species of lacebug feeding on a native passionflower.

Despite their conservation status, these islands are not without problems. The presence of feral cats, goats, and cattle continue to degrade these fragile ecosystems. Likewise, the team documented the presence of invasive species of plants that appear to be relatively newly established and thus could be more likely to be successfully eradicated before they alter the ecosystems further.

These discoveries and observations are currently being shared with Mexican governmental agencies and conservationists to help inform future management decisions. Meanwhile, museum researchers and colleagues are preparing for another trip to the islands in spring 2021. Their goal: to establish long-term ecological monitoring plots on three key islands so conservationists don't have to wait another 60 years to see how the islands have changed.



# Identifying the Biggest Conservation Priorities in Baja California

The peninsula of Baja California is a special place biologically, with many species found nowhere else on earth. Despite our knowledge of its unique species richness and endemism, it has often been challenging for conservation organizations to assemble good scientific data to provide a high-level, landscape view of areas of greatest conservation importance.

This past year, The Nat took the first step in addressing this issue through a collaborative process with dozens of academic researchers, government agencies, and conservationists throughout our region. We combined expert knowledge gained through workshops in Ensenada, La Paz, and San Diego with over 630,000 records of birds, plants, mammals, reptiles, amphibians, scorpions, and freshwater fish to create the most complete synthesis of biodiversity data to date, in this region.

An early result? Maps synthesizing the data are already available for conservation organizations interested in science-based decision making. These maps show total biodiversity documented, and density of native, non-native, endemic, and endangered species. The maps show us what we do know, but perhaps more importantly, they indicate major gaps in knowledge. Vast areas of the peninsula remain unexplored, or haven't been visited by scientists in the past 50 years. The Museum is using this information to identify areas for future exploration and discovery.

The conservation community needs biodiversity data that can aid decision-making. For this reason we are partnering with data scientists from UC Berkeley and Mexico's Commission for the Knowledge and Use of Biodiversity (CONABIO) to fill in the knowledge gaps using computer models. These models use our existing data and combine them with environmental and geologic data to predict which species might be found in unexplored areas.

This project demonstrates the critical role natural history museums play as keepers of the ecological record, and how that record can be combined with modern data analysis to better conserve this region we call home.

In order to determine the most critical areas for conservation efforts in Baja California—which included identifying areas with the most significant knowledge gaps—we created an intense collaborative effort with multiple conservation groups and agencies in Mexico and California. Over 630,000 records of plants, birds, mammals, reptiles, amphibians, and other species have been synthesized into a coherent picture of the regional biodiversity for the very first time. This will allow researchers to see the “big picture” and focus on areas of greatest importance.





The conservation community needs biodiversity data for decision-making now.

# Paleo Monitors: The Unsung Heroes of Science

A lot happens behind the scenes at the Museum, but the work done by our Paleo Monitors is so far behind the scenes that sometimes even museum staff are surprised to learn about their work.


The Museum's PaleoServices Department works with government agencies and the private sector across California to salvage, conserve, and document the important fossils that preserve the history of our region.

The staff who serve as Paleontological Field Monitors are the boots on the ground in this effort. They spend almost 100 percent of their time on construction sites watching carefully for fossils to be uncovered. Ultimately, they save our paleontological heritage before it gets covered in concrete or ground into backfill.

This is not Hollywood-style paleontology with graduate students delicately excavating a *velociraptor* claw. These are construction sites with monitors working around dangerous heavy machinery. John Pfanner and Evan Martin have been with the Museum for twenty and five years, respectively. They share both the excitement and challenges of working on construction sites.

"The one thing we all look for on every job site is the equipment," explains John Pfanner. "Very large, very dangerous, and unforgiving. It is imperative to stay out of the way and stay safe."

While watching out of the corner of their eyes for dozers



Our Paleo Monitors are critical "first responders" who are responsible for spotting potential fossil remains at local construction sites. Their expert attention to detail and experience in salvaging specimens before they are crushed under earth moving equipment contribute to our extensive knowledge of local paleontological history.

and graders, their main mission is finding fossils turned up in the wake of heavy construction.

“I look for unusual colors or shapes that stand out against the surrounding sediment,” Martin said. He explains that white or bright red oxidation are often good indicators of fossils. Bone and shell can often be bright white. Mollusk traces are often red or orange from the weathering away of their shells, as are many plant fossils. Shape is useful too. In an area with lots of rounded rocks, an angular bone fragment will stand out. Likewise, a round clam or spiraled snail will stick out in a sediment containing angular rocks.

“Different areas of the region consist of sediments of different ages. Based on our collective experience, we usually have a good idea of what to expect where we are working,” adds Pfanner. “Some areas are

bleak and lack fossil resources, and other areas hit fossils with every pass of the grader.”

Some of their favorite fossil finds might be surprising. Pfanner’s most memorable discoveries are impressions of leaves, as they can tell us a lot about the environment from their time period. “Also, I can’t forget the coprolites (paleo fecal matter) from Kelly Ranch in Carlsbad—they were very visual. So much so the city inspector didn’t want to handle them despite their millions of years in age!”

These Paleo Monitors don’t just find fossilized feces. They also discover the animals that deposited them. Martin recalls some memorable finds, “A mysticete (whale) mandible near SDSU, a bivalve trace fossil from the Scripps Formation that a researcher recently published on, and a microfossil assemblage from Rancho

Penasquitos that yielded primate and bat teeth.”

Although mostly unseen—except by construction workers on job sites throughout our region— these Paleo Monitors make significant scientific, educational, and financial impacts on our organization. In the last fiscal year, the Department of PaleoServices generated \$1,264,000 in revenue to support the research and collections of the Museum.

Little do our visitors know, more than 95 percent of the fossils on display are collected by Paleo Monitors. More importantly, the Monitors are saving our collective history from destruction, giving those fossils a “forever home” in service of research and education.

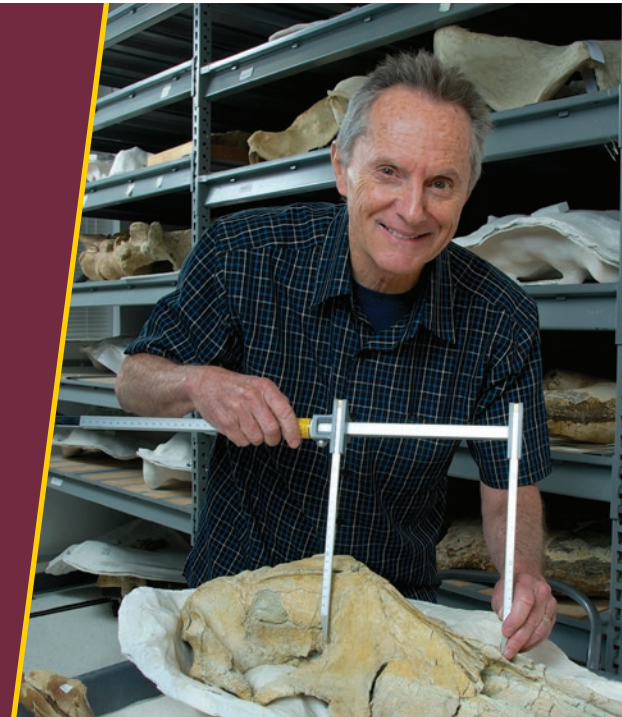
## Milestone Accomplishment Tom Deméré

This year we celebrated Curator of Paleontology and Director of PaleoServices Dr. Tom Deméré’s 40th anniversary of working at the Museum. During his tenure thousands of fossils have been salvaged from active construction sites and conserved by the Museum. Those fossils serve as the backbone of *Fossil Mysteries*, which Tom curated, inspiring thousands of visitors since the exhibition opened in 2006.

Tom has excelled at bringing together multidisciplinary teams to generate amazing results. Among his many scientific

accomplishments, his research on baleen whale evolution is internationally recognized. Most recently, Tom was thrust into the limelight as the public face of an international team that set back the peopling of the Americas by over 100,000 years with the discovery of the Cerutti Mastodon site.

Tom does all of these things with poise, professionalism, humility, and humor, making him beloved by all at the Museum and beyond. Congratulations, Tom!



# Biodiversity Research Center of the Californias Associates

## **BIRDS AND MAMMALS RESEARCH ASSOCIATES**

Ms. Susan Arter  
Dr. Christopher Clark  
Dr. Horacio de la Cueva Salcedo  
Dr. James Diffendorfer  
Mr. Richard A. Erickson  
Dr. Marilyn Fogel  
Dr. Jennifer Gee  
Dr. Alan Harper  
Dr. Jeffrey L. Lincer  
Dr. Eric Mellink  
Dr. Michael A Patten  
Dr. Amadeo M. Rea  
Dr. Aaron Sasson  
Dr. Wayne D. Spencer  
Mr. Christopher Swarth  
Dr. Howard H. Thomas

## **BIRDS AND MAMMALS DEPARTMENTAL ASSOCIATE**

Ms. Samantha Marcum

## **BOTANY RESEARCH ASSOCIATES**

Dr. José Delgadillo Rodriguez  
Dr. José Luis León de la Luz  
Dr. Michael S. Mayer  
Dr. Pedro Peña Garcillán  
Dr. Michael G. Simpson  
Dr. Sula Vanderplank  
Dr. Peter Vroom

## **BOTANY DEPARTMENTAL ASSOCIATES**

Dr. Ken Bowles\*  
Mr. John La Grange  
Ms. Margaret Mulligan  
Mr. Jim Rocks

## **BOTANY FIELD ASSOCIATES**

Mr. Larry Hendrickson  
Ms. Victoria Marshall  
Mr. Warren Schmidtman

## **BRCC RESEARCH ASSOCIATES**

Dr. Exequiel Ezcurra  
Dr. Xavier López-Medellín  
Dr. Enriqueta Velarde  
Dr. Elisabet Wehncke

## **COLLECTION CARE ASSOCIATE**

Dr. Paisley Cato

## **ENTOMOLOGY RESEARCH ASSOCIATES**

Dr. John Brown  
Mr. David K. Faulkner  
Dr. Matthew Graham  
Dr. Marshal C. Hedin  
Dr. Maria Luisa Jiménez  
Dr. Daniel Marshalek  
Dr. Geoffrey Morse  
Dr. Tomas M. Mustelin  
Dr. James Zahniser

## **ENTOMOLOGY DEPARTMENTAL ASSOCIATES**

Mr. Michael Klein  
Mr. Ron McPeak  
Ms. Daniela E. Ramirez C.

## **HERPETOLOGY RESEARCH ASSOCIATES**

Dr. Charles Crumly  
Dr. Patricia Galina  
Dr. Lee Grismer  
Dr. William Presch  
Dr. Todd Reeder  
Dr. Gorgonio Ruiz Campos

## **HERPETOLOGY DEPARTMENTAL ASSOCIATES**

Ms. Anny Peralta Garcia  
Mr. Clark Mahrtdt  
Mr. Richard Schwenkmeyer  
Mr. Angelo Soto-Centeno  
Mr. Jorge Valdez Villavicencio  
Mr. Dustin Wood

## **LIBRARY EMERITUS**

Ms. Carol Barsi

## **LIBRARY DEPARTMENTAL ASSOCIATE**

Dr. Reed Pierce

\* Deceased

## **MARINE INVERTEBRATES RESEARCH ASSOCIATE**

Dr. Joel Martin

## **MARINE INVERTEBRATES DEPARTMENTAL ASSOCIATES**

Mrs. Carole M. Hertz  
Mr. Larry Loveall

## **MINERALOGY ASSOCIATE**

Mrs. Pamela Bruder

## **PALEONTOLOGY RESEARCH ASSOCIATES**

Dr. J. David Archibald  
Dr. Annalisa Berta  
Dr. Michelangelo Bisconti  
Dr. Robert M. Chandler  
Dr. Eric Ekdale  
Dr. Steven Holen  
Dr. Paul Murphey  
Dr. Charles L. Powell  
Dr. Donald R. Prothero  
Mr. Robert Reynolds  
Dr. Hugh M. Wagner

## **PALEONTOLOGY DEPARTMENT ASSOCIATES**

Mr. Richard Cerutti  
Ms. H. Patricia Don Vito  
Ms. Carol Stadum

# Science in Service to Conservation

The global state of biodiversity has become a topic of great scientific interest. In May 2019 the 450-member Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released a comprehensive report documenting a drastic decline in biological diversity that is occurring faster than at any time in human history. This international phenomenon is also apparent locally, and here at the Museum we are committed to documenting and preserving our remaining regional biodiversity.

Dr. Michael Wall, vice president of science and conservation and curator of entomology, has been leading our efforts to boost awareness about regional biodiversity. In February 2019 he convened the Museum's second annual State of Biodiversity Symposium. During this one-day event, binational panels of experts gathered to discuss the topics of climate change impacts on biodiversity; measuring and conserving regional endemism; public awareness and engagement around regional biodiversity; and restoration and recovery strategies for conservation reliant species. The broad audience for this event included students and academic researchers, conservation scientists,

governmental public land managers, and interested citizen scientists. The diverse and large audience underscores the importance of our pursuit of this mission driven work.

Dr. Wall expanded the conversation on regional and global biodiversity and connected with an even larger audience through the publication of an op-ed in the San Diego Union-Tribune. While referencing the dire message of IPBES report—and noting the local loss of biodiversity—he explained that we can also see the success of conservation efforts. The op-ed encourages readers to understand the consequences of our actions and how we have the power to influence what happens next for the planet. Dr. Wall used these platforms to promote the importance of the societal changes necessary to tackle the global problem of biodiversity loss.

Through these projects, we are continuing to promote hypothesis-driven scientific research about the biodiversity of Southern California and the peninsula of Baja California, and we are making a concerted effort to share this information with everyone in our regional and global community.

In a timely response to recent reports documenting drastic species decline worldwide, we have placed public awareness of our local conservation needs front and center. Activities like hosting the State of Biodiversity Symposium and partnering with local media to tell these stories help increase awareness of these important issues and conversations.



# Nothing Ventured...:the Museum's Internal Venture Fund Encourages Experimentation and Growth

We continue to expand our standing as a leader in the museum world. President and CEO Judy Gradwohl was invited by the American Alliance of Museums to pen a featured article in the national publication, *Museum Magazine*, about the advancements we have made as a result of the Evolutionary Venture Fund (EVF) that she launched in 2017. This fund has created 14 staff-driven projects. Read an excerpt of the article to learn more about this industry-leading program. The full story is available at [sdnat.org/blog](http://sdnat.org/blog).

Originally published in *Museum Magazine*, May-June 2019:

Museums subsisting on tight budgets often don't prioritize taking risks and experimenting with new ideas. Yet, museums that don't do these things will struggle to adapt to changing conditions or grow beyond their current scale. At The Nat, we established an internal venture fund to encourage a risk-tolerant and creative atmosphere and develop longer-term strategies for building audiences and earned revenue. While we envisioned the program as beneficial, we did not anticipate the depth and breadth of cultural change it would ignite.

With a set of goals and challenges framed by our updated Strategy Roadmap, along with a tight budget, we turned to a local foundation that graciously granted us \$175,000 to start the EVF. All staff were invited to submit proposals, which were

evaluated on the issue being "solved," the feasibility of the implementation, whether they represented a sensible risk, and whether the work could be sustained after project completion.

Over the past two years and several round of proposals, more than 14 projects have been funded and executed, including an art cart, escape room, rooftop refresh, botanical specimen scanner, and visitor survey. Some are creating new sources of earned revenue for the Museum, including the escape room, rooftop refresh, and a temporary conversion of the traveling exhibition gallery into meeting and event space. And while some of the projects stopped after the funding ended, others evolved into new programs supported by the general operating budget or revenue generation.

While not without its challenges—including the limitations of time from staff who are also focusing on operations—we saw immediate benefits from multidisciplinary teams and new energy in staff who didn't usually develop museum content. The Evolutionary Venture Fund has been a powerful change agent for the Museum—awakening an entrepreneurial spirit in staff, helping them better understand the nature of work across the museum, demonstrating the value of interdisciplinary teams, and bringing to light a variety of previously hidden talents. It has given staff a voice in our collective future, and it is an important statement about our values and direction.

It signals to the outside world that The Nat is dedicated to being creative, taking risks, growing, and improving our Museum and culture.

# Volunteer Awards

## 25 YEARS

Pamela Hartwell, Covey  
Carol Telle, Docent  
Ann Uri, Docent  
Greg Williams

## 15 YEARS

Susan Linn, Docent  
Jenny McReynolds, Docent  
Stephen Munzinger, Canyoneer  
Nancy Nenow, Parobotanist  
Phillip Roullard, Parobotanist, Exhibits,  
Entomology, Birds, Mammals, and Botany  
Nancy Sams, Docent  
Chris Schaefer, Docent  
Jeanne Shenkman, Covey

## 10 YEARS

Debbie Burnett, Whaler  
Carol Filloon, Docent  
Gerald Green, Parobotanist  
Lynne Grenfell, Botany  
Frances Heath, Whaler  
Mary Lueking, Canyoneer  
Eva McCatty, Canyoneer  
Judythe Roberts, Docent  
Mary Ellen Walther, Botany

## 5 YEARS

Martha Alden, Botany  
Pam Barratt, Docent  
Alan Berlin, Administration  
Andrew Currie, Canyoneer  
Irina Fridman, Docent  
Sam Gabriel, Canyoneer  
Jorgiann Holmes, Whaler  
Nichta Hopps, Birds and Mammals  
Jeanine Kleeman, Docent  
Joal Mayer, Docent  
Alyssa Semerdjian, Birds and Mammals  
Donna Zoll, Canyoneer

# Volunteering: A Lifelong Opportunity for Nature and Science Lovers

At The Nat, we welcome children and adults of all ages, not only as visitors but also as volunteers. The Museum accepts volunteers as young as 9 years old when volunteering with a parent. Our first youth volunteers were 9-year-old twin boys, Maddox and Jack Macy. The boys were homeschooled students, and their mother was looking for an opportunity that would give them more social interaction. They were shy at first but quickly got into the swing of things and looked forward to coming in each week.

Serving as NATuralists is a perfect fit for these parent/child teams. The NATuralists engage our visitors with fun, interactive games that create “sticky moments” we hope stay with our visitors long after they leave. The young volunteers are stationed in our exhibitions, where they engage visitors through interactive games such as “scat match” or animal camouflage. There are 10 parent/child pairs volunteering as NATuralists, with both fathers and mothers working alongside their children.

Once a volunteer reaches 16, there are other opportunities to serve, including summer camp and high school internships. Summer camp aides ensure campers have a fun and safe experience. For internships, the Museum has relationships with several high schools in San Diego and has become a destination for learning about nature, by working behind the scenes with our scientists. Interns assist in Botany, Entomology, and Paleontology by

mounting plants, sorting insects, and preparing fossil specimens.

Young adults seek out opportunities to enhance their learning (and their resumes). Our science departments offer plenty of enriching tasks, and young adults are eager to help. For some it clarifies their goals, and many go on to pursue degrees in biology, geology, zooarcheology, entomology, or zoology. For volunteers who work in a traditional weekday job, both the Whalers and Canyoneers offer weekend volunteering.

Retirement is another ideal time to volunteer, and The Nat is a popular choice. Approximately 38 percent of our volunteers are over 55, and our oldest are well into their 90s. Many choose the science departments, and we have other senior volunteers working in the galleries, leading hikes, educating schoolchildren, and sharing their love of whales with passengers on the *Adventure Hornblower*. Productive engagement is essential as we age, and The Nat offers many opportunities for that engagement. Look no further than Bill Barbour, our resident ambassador, who turned 90 this year. He comes in twice a week to charm our visitors with quizzes, and tales of some of the unique specimens in *Unshelved: Cool Stuff from Storage*.

Volunteers are essential to the Museum and everyone has something to offer, no matter what age.

# Going Digital: Increasing the Value of Natural History Collections

Natural history collections have immense scientific importance. They are time capsules that tell us about current and past life, and even can help develop predictions for the future. Plant and animal specimens, along with their associated data (where, when, and the conditions surrounding their collection), represent an incredible repository of information on biodiversity, ecosystems, and natural resources. The same holds true for the items housed in our Research Library—from field notes to photographs to items in our Rare Book Room.

This is why the Museum is committed to digitizing as much of our collection as possible. These resources include original field notes and photographs made by naturalists in the early days of the San Diego Society of Natural History, as well as historic images from our photograph collection: large glass plate negatives from the late 1800s, plus many more snapshots, prints, film negatives, and 35mm slides.

Digital versions of photo scrapbooks and field notes of early collecting trips into Baja California are particularly compelling. Some date back to the late 1800s and tell a dramatic story of the physical challenges faced by our early naturalists when exploring remote areas across the border. At that time, the plants and animals of our binational region were largely unknown and undescribed, so the region represented a tantalizing adventure beckoning to curious and intrepid pioneering naturalists, such as Frank Stephens, Charles Orcutt, and Rosa Smith Eigenmann.

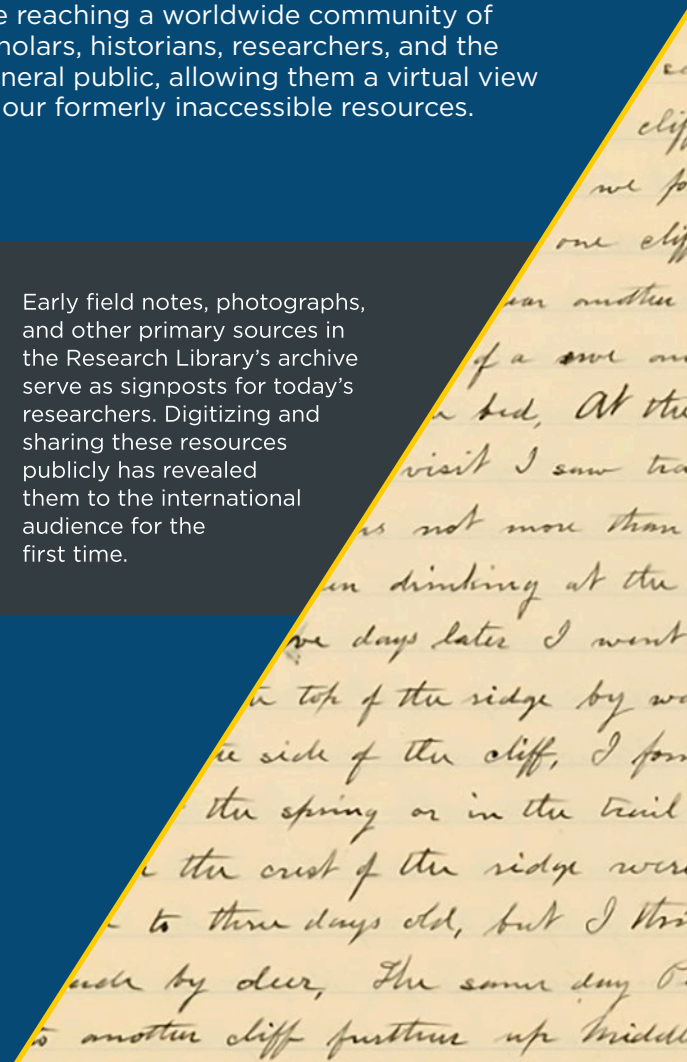
The documents and images in our archives are not just of interest for their historical value or factual documentation of “the way things used to be.” They are strikingly relevant today. They present an important resource for current ecologists and other scientists, who may be documenting the impact of changing habitats or climate, or seeking to understand if an endangered or rare species that was found in the past may still exist, or has actually vanished. Several species of plants and animals have recently been “re-discovered” by our research staff, and early field notes have proven remarkably useful in this effort.

Several public platforms make the digitized resources easily searchable and available. The Online Archive of California ([oac.cdlib.org](http://oac.cdlib.org)), is a treasure trove of free access for more than 200 of the state’s most extensive archival institutions, including The Nat. One example of a document that might be used by researchers documents a trip to Baja California taken in collaboration with Mexican scientists in 1923. The digitized typescript and black and white photographs lifted from field journals literally paint a picture of what that expedition was like.

Expanding beyond California, the Internet Archive ([archive.org](http://archive.org)) is international in scope, and now includes 86 sets of field notes from The Nat. We also provide important resources to the Biodiversity Heritage Library ([biodiversitylibrary.org](http://biodiversitylibrary.org)), the world’s largest open access digital library for biodiversity literature and archives. Currently we have a total

of 20,848 pages of field notes available there. These archives are far from dusty items thrown in an attic. The physical specimens in our research collections provide tremendous value, and digitizing them increases that value exponentially. Having specimen records digitized and images online makes the collection easily searchable and accessible around the world. Between the three digital platforms and information on our own website, we are reaching a worldwide community of scholars, historians, researchers, and the general public, allowing them a virtual view of our formerly inaccessible resources.

Early field notes, photographs, and other primary sources in the Research Library’s archive serve as signposts for today’s researchers. Digitizing and sharing these resources publicly has revealed them to the international audience for the first time.





# Equitable Access for All

A museum visit can inspire the development of new skills and interests, ignite creativity, and enrich social connections. But not everyone has the means to visit. This is why the San Diego Natural History Museum joined Museums for All, a national initiative to provide free general admission to individuals and families who receive federally or state-funded food assistance.

In our first program year, we welcomed nearly 1,000 members of the community, and in our second year we welcomed over 4,000 visitors. For many guests, this was their first visit to The Nat.

While Resident Free Days (the first Tuesday of each month) offer no-cost admission to those living in San Diego County, Museums for All lets families and individuals experience the Museum any time, whenever is convenient for them. Museums for All is a national, branded access program that encourages individuals of all backgrounds to visit museums regularly and build lifelong

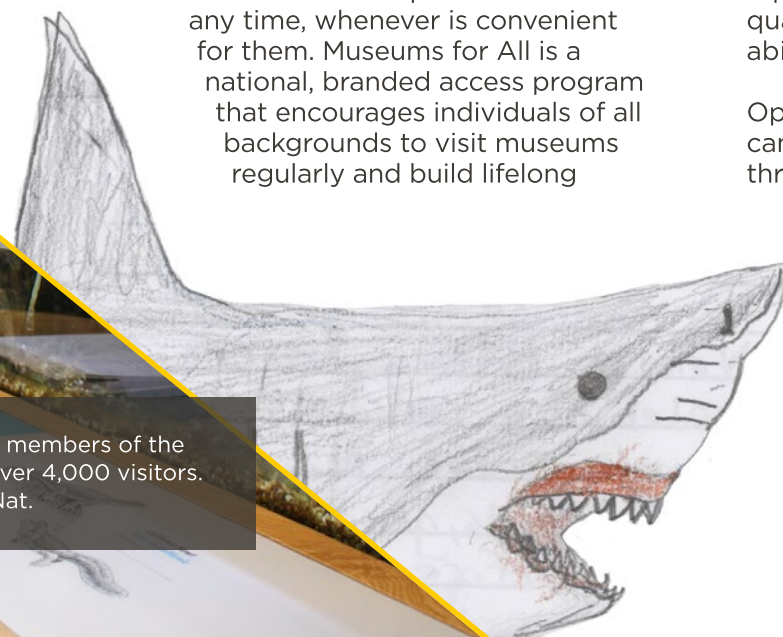
museum habits. It is a way to broaden our visitor base and reach out to underserved communities by addressing financial barriers to visitation.

But being welcoming is more than being free. We strive to ensure that guests feel welcome and valued when they are here. As Museum guests explore, they learn all we have to offer.

During spring 2019, a family visited The Nat for the first time through Museums for All and learned that we offer Summer Camp scholarships. The parents were eager to apply, and ultimately the children were awarded full tuition for one week of camp where they experienced enrichment activities that fostered a passion for their environment. This family was grateful to the donors and staff making it possible for families to enjoy these quality programs regardless of their ability to pay.

Opportunities like Museums for All and camp scholarships were made possible through the support of our members, donors, and partners. Generous philanthropic efforts go beyond dollars raised; the Museum ensures we are supporting one another in our community.

In our first full program year, we welcomed 1,000 members of the community, and our second year we welcomed over 4,000 visitors. For many guests, this was their first visit to The Nat.





## You Asked, We Answered: Meeting the Needs of Our Visitors

Is it possible for a museum to serve everyone? That is our tough mandate throughout the museum industry, given that visitors come from every walk of life, educational background, physical ability, and age. We always look for ways to meet our visitors where their interests lie. The more relevant and satisfying someone finds a visit to the Museum, the more they will gain from the experience. Our goal is relevance and connection, while serving our mission.

We have listened to our visitors and grown our programming over many years to be responsive, but there were a few areas where we still fell short. We opened two exhibitions last year, *The Backyard* and *Hidden Gems*, which spoke directly to answering these needs.

A dinosaur-themed play space in our Atrium served the needs of parents and our youngest guests for years. But as our programming and amenities expanded, the play space needed a new home.

A solution was offered when we reclaimed an underutilized classroom to house *The Backyard*. Opened in July 2018, this gallery provides a dedicated and enclosed space for our youngest visitors (ages 0-5), who can explore in a safe environment and learn about nature through creative toys and interactive spaces. With its homey familiarity, it delights the

children and provides parents and caregivers a comfortable place to hang out with their little ones.

Another long-term challenge was the absence of a dedicated gems and minerals hall—especially after the 2012 departure of the temporary exhibition *All That Glitters*. We have extraordinarily beautiful and intriguing specimens in our mineralogy collection, and our goal was to put them on public display for the long term. Yet our available galleries are meant to house rotating exhibitions that change every few years. The solution? Utilize the previously empty space near the elevators on every one of the five floors, which amounted to 2,000 square feet and formed an innovative vertical exhibition experience.

*Hidden Gems*, which opened in November 2018, takes visitors on a journey across five Museum floors. While the exhibits can be experienced in any order, each floor displays objects that deliver on a different theme: fluorescence, birthstones, gems of San Diego County, the value and application of minerals, and geologic diversity.

This approach allowed The Nat to deliver on several visitor expectations: showcase gems and minerals on a long-term basis, activate previously underutilized spaces, and retain the ability to host rotating exhibitions in more traditional galleries.

## Creating Community at The Nat

Exploring exhibitions is just one way visitors engage with The Nat. Our expansive program offerings encourage guests to appreciate the natural world in the manner through which they feel most connected.



## Trending Living The Nat Life.

Visitors are looking for different ways to explore the places and subjects they love. The Nat may document the past and present, but investment in our future requires breaking a few museum stereotypes. How can we let people know we're not a dusty old museum? How can we balance education and entertainment? And what can we offer to people who work during the day when we are typically open?

After-hours programming creates special opportunities for adult audiences as well as families. Offered three times per year,

the Secret Society of Adultologists offers full access to the Museum through science, entertainment, food, and drink. Our summertime Nat at Night series draws people who can't—or prefer not to—visit during the day. They can enjoy less crowded galleries, participate in pop science trivia, and enjoy a drink, dinner, and the view from the rooftop.

Breaking stereotypes about how visitors engage with collections, Escape The Nat is one of—if not the only—museum escape room in California. Entertainment is education in these environments, and the best lessons are learned with gusto.

## Outdoor Enthusiasts Get out...side!

The Nat is far more than what goes on within our museum walls. As we are fond of saying, we believe nature is the biggest exhibition of all. Outdoor enthusiasts enjoy and actively explore the natural world, and appreciate the natural science connections we provide. These individuals can support the Museum, its programs, and conservation efforts without ever stepping inside our doors.

One such example is the Canyoneers program. Rain or shine, trained volunteers and citizen scientists lead nature hikes for a curious, nature-loving audience. These hikes are not only fun, they teach people about the plants, animals, and habitats of San Diego County. This engagement also

goes offshore with whale watching tours. The Museum collaborates with Hornblower Cruises to provide gray and blue whale watching off the San Diego coast, complete with Museum Whalers who provide interpretative information and help point out marine life.

Outdoor enthusiasts are also burgeoning citizen scientists who help us document biodiversity while they're outside, through events like Snapshot CalCoast, Border BioBlitz, and City Nature Challenge. The 2019 Challenge alone resulted in 38,242 observations of 2,800 species, and had 1,188 individuals engaged with the natural world beyond museum walls.





## Science Lovers For the love of science. (Liven up your brain.)

Museums are becoming increasingly important as people look for trusted sources of information—studies have indicated that Americans trust museums more than just about any other source of information.

Those wanting to take a deeper dive into the latest scientific research, conservation efforts, and 21st century environmental issues have opportunities aplenty at The Nat. The Biodiversity Research Center of the Californias forms the beating heart of information and research, providing content for our education programs and exhibitions in addition to conducting important research in the fields of paleontology, botany, and entomology, to name a few. However this work has

not always been shared with our museum audiences. Efforts are underway to bring this research to the forefront, where the public can not only access the work being done, but participate.

Citizen science projects give people the opportunity to work alongside scientists and actively contribute to current studies. A recent project focused on setting and monitoring traps for the invasive Shot Hole Borer Beetle. Programs like Natural History 101 and Nat Talks provide opportunities to meet the people behind the research, and learn directly from them.

Participation in our research grows our community's stake in our work, creating greater trust of the Museum and developing a solid understanding of our environment and science.

## Family Friendlies Greetings to parents! (And kids.)

Providing a welcoming environment for children and youth is what foments a life-long love of museums and learning, but the reality is children are not the ones driving themselves to Balboa Park. Parents are always seeking productive, safe, and engaging environments for their children. The Nat checks all the boxes parents need: quality engagement, stimulation, flexible possibilities for all family members to enjoy (exhibits featuring different subjects, films, programs), and—as anyone with young kids knows is critical—accessible bathrooms! Programs like Spring Fling speak to all these needs with a full week of activities that blend

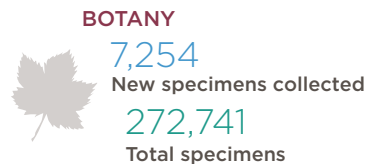
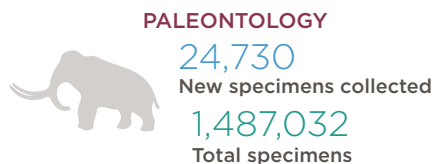
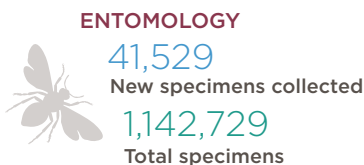
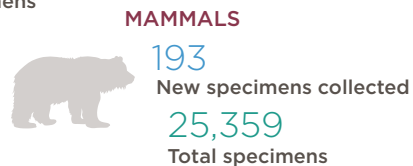
art and science. Highlighting our science departments, there are hands-on activities, mini tours, live animal encounters, and plenty of opportunities for parents and children to learn together. Family Days offer a similar experience once a month during the school year. Joy is sparked in numerous corners of the Museum, including the formerly barren education corridor we now affectionately call the Pollinator Hallway. Here, cubbies for school groups resemble a honeycomb, and family style portraits of insect faces line the walls before opening up into *The Backyard*.



## Collections

~8 million

total number of specimens



## Visitation



371,969  
people visited the Museum



550,992  
website visits (64% from mobile devices)

## Public Programs

**NATURE TO YOU LOAN LIBRARY**  
808 loans reaching 144,429 people

**SCHOOL PROGRAMS**  
602 programs reaching 20,066 people

**FAMILY AND PUBLIC PROGRAMS**  
84 programs serving 8,034 participants

**MUSEUM ACCESS FUNDS**  
7,167 students from Title 1 schools served

**MUSEUMS FOR ALL**  
4,293 received free admission when  
presenting an EBT card

## Social Media



44,258  
likes



9,526  
followers



4,748  
followers



315  
subscribers

## Volunteers



750  
total volunteers



55,745  
total volunteer hours



\$1,670,120  
Dollar value of volunteer hours  
(per Bureau of Labor Statistics)

**CANYONEERS**  
led 71 hikes for 1,547 people  
led 20 school hikes for 566 students

**DOCENTS**  
reached 4,880 students and  
chaperones with 201 programs

**WHALERS**  
reached 25,813 passengers  
on 265 cruises through  
Hornblower Cruises and Events

48 NATuralists  
used interactive games and crafts to  
engage guests at the Museum

35 high school students  
volunteered for winter and summer camps

11 high school and college students  
completed internships

# Financials

The Museum experienced positive financial and operational results for the fiscal year ended June 30, 2019. We continue to implement the Museum's Strategy Roadmap, and our resources are focused on our visitors, members, staff, and volunteers. We are looking to make transformational change by creating the space and opportunity to innovate and try new things. This commitment is integral to our success in helping to drive sustainable financial success and create memorable experiences for our guests.

The Museum's financial model continues to focus on a mix of revenue sources that allows for greater financial stability throughout the year. Among these, admissions, contributions, and paleontological and biological consulting services are the highest revenue producers. While the Museum's total revenue decreased in FY 2019, we nevertheless finished the year with a small operating surplus of \$245,403 before depreciation. This was due in no small part to a growth of \$206,216, or 15.7%, in auxiliary activities, which include food and beverage services, retail merchandise, educational programs, and facility rentals for special events. The most notable improvement was in food and beverage services, profits for which grew by 35% compared to the prior year.

Enhancing the experience of our visitors is essential to maintaining and increasing their support. The generous gifts provided by our visitors and long-standing donors allow the Museum to balance its operating budget, invest in its staff, develop its

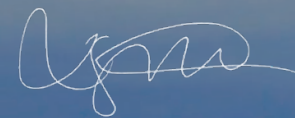
programs, and improve its facilities. The Nat welcomed 371,969 visitors in FY 2019, surpassing our budgeted expectations. As a result, admissions and membership revenue of \$3,029,677 remained a large source of our unrestricted operating funds. While traveling exhibitions have contributed to the Museum's earned revenue in past years, they were also very costly to deliver, a dichotomy that led to our strategic decision to focus on core exhibitions developed by our in-house staff. This has proven to be a tactically sound decision, as operating expenses remained relatively constant last year, while the number of admissions and resulting revenue saw a healthy increase.

During FY 2019, The Nat raised \$3,341,380 in support of its operations, programs, capital improvements, and endowment across the program service areas of research, education, and exhibits. Overall, revenue from contributions and net assets released from restrictions decreased by \$1,573,395 when compared to prior year. This was due in large part to receiving an extraordinary unrestricted bequest of \$1 million in FY 2018, which led to contributions revenue returning to a more typical level. Finally, paleontological and biological consulting services, along with grant income, accounted for \$2,746,667, or 26%, of the Museum's revenue.

The Museum's strong financial performance is also demonstrated by its balance sheet. Although net assets decreased by \$526,347 in FY 2019, cash increased by \$256,211, while the value of the Museum's endowment rose to \$20.6 million.

In addition, we invested \$217,269 to fund capital improvement projects to meet critical infrastructure needs. Our fiscal 2019 financial results are reported in detail in our audited financial statements, which are posted on our website.

The foundation for all our achievements and future endeavors is a continued focus on establishing sound financial management, disciplined investment, and thoughtful planning. Significant progress was made last year to advance the Museum's goals. This year we will continue analyzing many of our programs and operations in order to ensure their efficiency, effectiveness, and financial sustainability. The Nat is not immune to the challenges faced by other museums and cultural institutions nationwide. However, our careful stewardship of donor funds over the long term, our continued growth in unrestricted earned revenue streams, and our improvements in operational management will ensure that the Museum remains on sound financial footing and is positioned to achieve its aspirations. We will succeed because of our bold vision, resilience, and connection to the region we serve.



**MARK OROZCO**  
CFO/COO

**29%**

**ADMISSIONS & MEMBERSHIP**

**\$3,029,677**

25% Admissions  
\$2,635,841

4% Memberships  
\$393,836

**OPERATING REVENUE**  
**\$10,639,959**

**31%**

**CONTRIBUTIONS\***

**\$3,341,380**

\* Indicates a portion of net assets released from restrictions of \$1,969,238

**53%**

**VISITOR EXPERIENCE**

**\$6,369,851**

**14%**

**AUXILIARY ACTIVITIES**

**\$1,522,235**

6% Food & Beverage  
\$611,896

3% Facility Rentals for Special Events  
\$296,045

3% Other  
\$327,800

2% Education  
\$286,494

**26%**

**CONTRACTS & GRANTS**

**\$2,746,667**

19% Paleontology and BioServices Contracts  
\$1,997,909

7% Grants  
\$748,758

**OPERATING EXPENSES**

**\$11,930,755**

(Includes depreciation of \$1.5 Million)

**10%**

**MANAGEMENT & GENERAL**

**\$1,134,889**

**7.5%**

**FUNDRAISING**

**\$889,385**

**.5%**

**COST OF DIRECT BENEFITS TO DONORS (GALA)**

**\$66,040**

**29%**

**SCIENCE & RESEARCH**

**\$3,470,590**

Read the full FY 2019 audited financial report at [sdnat.org/about-us](http://sdnat.org/about-us).

# Publications

Research publications are at the very core of the scientific process. Isaac Newton noted “If I have seen further, it is from standing on the shoulders of giants.”

When scientific results are not published, we don’t advance the field. Through publication, research is open to the rigorous critique, testing, rejection, or verification necessary for knowledge to grow.

In this way, our researchers continue a long tradition of scientific inquiry at The Nat and become the giants of tomorrow.

**Bold** indicates Museum research associates.

*Italics* indicates Museum staff members.

Aguilar-Aguilar, R., **G. Ruiz-Campos**, S. Martorelli, M.M. Montes, and A. Martínez-Aquino. 2019. A new species of *Ascarophis* (Nematoda: Cystidicolidae) parasitizing *Clinocottus analis* (Pisces: Cottidae) from Baja California, Mexico. *The Journal of Parasitology*, 105(4): 524–532.

Airola, D., **C.W. Swarth**, et al. 2018. Breeding status of the Tricolored Blackbird in the foothill grasslands of the Sierra Nevada, California. *Central Valley Birds* 21: 1-24.

Amalina, Nur, M.I. Azhari, M., Norshagiqinah, A., Nor Azrin, N. A. Shukor, M. N., Aisah, M. S., Amirrudin, A., **Grismer, L. L.**, Norhayati, A. 2017. Species composition of amphibian and reptiles in Tembat Forest Reserve, Hulu Tenengganu, Terenggaru, Peninsular Malaysia. *Malaysian Applied Biology* 46:119-129.

Annoor, T., **D.R. Prothero**, and V.J.P. Syverson. 2018. From colts to horses: a study of the allometric growth in limb bones in *Equus occidentalis* from La Brea tar pits. *New Mexico Museum of Natural History Bulletin* 79: 13-16.

**Arter, S., A. Sasson**, and *P. Unitt*. 2018. Avifaunal Change in Southern California from an Archaeological Perspective. In *Trends and Traditions: Avifaunal Change in Western North America*, edited by David Shuford, Robert Gill, Jr. and Colleen Handel, pp. 442–452. Studies of Western Birds 3. Western Field Ornithologists, Camarillo, CA.

**Arter, S.** 2018. The Zooarchaeological Remains from Cave Complex A. Pp 95-112 in *Ethnoarchaeology in the Tell Halif Environs: Excavations in Site 1, Complex A, 1976-1979*. By J.D. Seger and K.E. Seger. Eisenbrauns Inc., University Park, PA.

Ballesteros-Córdova, C.A., A. Varela-Romero, **G. Ruiz-Campos**, L.T. Findley, J.M. Grijalva-Chon, y L.E. Gutiérrez-Millán. 2019. Mitochondrial evidence for a new evolutionary significant unit within the *Gila eremica* lineage (Teleostei: Cyprinidae) in Sonora, Northwest Mexico. *Animal Biodiversity and Conservation*, 42:1: 171-186.

Basset, Y., R. Ctvrticka, C. Dahl, S. Miller, D. Quicke, S. Segar, H. Barrios, R. Beaver, **J. Brown**, S. et al. 2019. Insect assemblages attacking seeds and fruits in a rainforest in Thailand. *Entomological Science* 22: 137–150.

**Bisconti, M.**, D.K. Munsterman, K. Post. 2019. A new balaenopterid whale from the Late Miocene of the Southern North Sea Basin and the evolution of balaenopterid diversity. *PeerJ*: 7: e6915 DOI 10.7717/peerj.6915

**Brown, J. W.**, and J. B. Sullivan. 2018. A new species of *Cenopsis* Zeller, 1876, from the Southeastern United States (Lepidoptera: Tortricidae: Sparganothini). *Proceedings of the Entomological Society of Washington* 120: 493–499.

**Brown, J. W.**, D. Matthews, and J. Miller. 2018. Two new species of *Megalota* from the Bahamas (Lepidoptera: Tortricidae: Olethreutinae). *Zootaxa* 4455: 597–600.

**Brown, J. W.**, and R. L. Brown. 2018. Revised status of *Epinotia cupressi* Heinrich and descriptions of two new species of *Epinotia* Hübner, [1825], from the western U.S.A. (Lepidoptera: Tortricidae: Olethreutinae). *Proceedings of the Entomological Society of Washington* 120: 675–686.

**Brown, J. W.** 2019. A new species of *Cyanocydia* Razowski and Becker, 2012 from Cuba (Tortricidae: Olethreutinae: Grapholitini). *Proceedings of the Entomological Society of Washington* 121: 155-159.

Burge, D. O., V.T. Parker, **M. Mulligan**, and V.L. Sork. 2019. Influence of a climate gradient on genetic exchange between two oak species. *American Journal of Botany* 106(6): 864-878. Doi:10.1002/ajb2.1315

Cabrera-Huerta, M., **G. Ruiz-Campos**, **H. de la Cueva**, P. Unitt, and J. García-De León. 2018. Variación fenológica infraespecífica de la codorniz de California (*Callipepla californica*, Aves: Odontophoridae) de la península de Baja California, México. Intraspecific phenological variation of the California Quail (*Callipepla californica*, Aves: Odontophoridae) from Baja California peninsula. *Mexico Huitzil* 19: 180-204.

Castillo, C.M., S.L. Klemperer, J.C. Ingle, Jr., **C.L. Powell**, II, M.R. Legg, and R.D. Francis. 2018. Late Quaternary subsidence of Santa Catalina Island, California Continental Borderland, demonstrated by seismic-reflection data and fossil assemblages from submerged marine terraces. *Geological Society of America Bulletin*, v. 131, nos. 1/2, p. 21-42, <https://doi.org/10.1130/B31738.1>.

Chan, Kin Onn, **L. L. Grismer**, R. M. Brown 2018. Comprehensive multi-locus phylogeny of Old-World tree frogs (Anura: Rhacophoridae) reveals taxonomic uncertainties and potential cases of over- and underestimation of species diversity. *Molecular Phylogenetics and Evolution* 127: 1010-1019.

Chan, K.O. & **Grismer, L.L.** 2019. To split or not to split? Multilocus phylogeny and molecular species delimitation of southeast Asian toads (family Bufonidae). *BMC Evolutionary Biology*.

Crabo, L.G., Wikle, D., **Mustelin, T.**, Hammond, P. 2018. Six new species and one new subspecies of noctuid moths from western United States of

America and Mexico (Lepidoptera, Noctuidae). *ZooKeys* 788: 201–239.

Davis, Hayden R., **L. L. Grismer**, A.J. Cobos, M. L. Murdoch, A. X. Sumarli, S. Anuar, M. A Muin, P.Wood Jr., E. S.H. Quah 2018. Checklist of the Herpetofauna of Hutan Lipur Gunung Senyum, Pahang, Peninsular Malaysia. *Russian Journal of Herpetology* Vol. 25, No. 3, pp. 207-220.

**de la Cueva, H.** 2018. Insectos. In: E. Garduño and E. Niebla (eds.) *Historia natural de la sierra de San Pedro Mártir*. Universidad Autónoma de Baja California y Tirant lo blanch. 137-144 pp.

De León Ibarra, A., N. A. Mariano, V. Sorani, G. Flores, E. Rendón Alquicira, and **E. V. Wehncke**. 2019. Physical environmental conditions determine ubiquitous spatial differentiation of standing plants and seedbanks in Neotropical riparian dry forests. *PLoS ONE* 14(3): e0212185. doi: 10.6084/m9.figshare.7390.

Derkarabetian, S., J. Starrett, N. Tsurusaki, D. Ubick, S. Castillo, and **M. Hedin**. 2018. A stable phylogenomic classification of Travunioidea (Arachnida, Opiliones, Laniatores) based on sequence capture of ultraconserved elements. *Zookeys*, 760:1-36.

**Erickson, R.A.**, R. Carmona, and **G. Ruiz-Campos**. 2018. Baja California Peninsula, winter season 2015-2016. *North American Birds* 70(2): 235-236.

**Erickson, R.A.**, K.L. Garrett, E. Palacios, S.C. Rottenborn, and *P. Unitt*. 2018. Joseph Grinnell meets eBird: Climate change and 100 years of latitudinal movement in the avifauna of the Californias, in *Trends and traditions: Avifaunal change in western North America* (W.D. Shuford et al., eds.). *Studies of Western Birds* 3:12-49, plus online supplement.

**Erickson, R.A.** and W.G. Burt. 2019. Additional information on a nonnative whiptail population (*Aspidoscelis flagellicauda/sonorae* complex) in suburban Orange County, California. *Bulletin of the Southern California Academy of Sciences* 118(1):76-78.

**Erickson, R.A.**, **E. Mellink**, and G. Marrón. 2019. A new locality for the endangered *Microtus californicus* in Mexico, with clarification of the known distribution. *Western North American Naturalist* 79(1):135-138.

**Erickson, R.A.**, R. Carmona, and **G. Ruiz-Campos**. 2019. Baja California Peninsula, spring migration 2016. *North American Birds* 70(3):391-392.

**Erickson, R.A.**, R. Carmona, and **G. Ruiz-Campos**. 2019. Baja California Peninsula, nesting season 2016. *North American Birds* 70(4):392-393.

- Ervin, E.L., **C.R. Mahrdrdt**, and B. Johnson. 2019. Geographic Distribution. *Indotyphlops braminus* (Brahminy Blind Snake). *Herpetological Review* 50(1):105-106.
- Ervin, E.L. and **C.R. Mahrdrdt**. 2019. *Chelydra serpentina* (Snapping Turtle). *Predatory Encounter*. *Herpetological Review* 50(1):120-121.
- Ezcurra, E.**, E. Barrios, P. Ezcurra, A. Ezcurra, **S. Vanderplank**, O. Vidal, L. Villanueva-Almanza, and O. Aburto-Oropeza. 2019. A natural experiment reveals the impact of hydroelectric dams on the estuaries of tropical rivers. *Science Advances* 5, eaau9875.
- Freitas, E. S., A. Datta-Roy, P. Karanth, **L. L. Grismer**, C. D. Siler. 2019. Multilocus phylogeny and a new classification for African, Asian and Indian supple and writhing skinks (Scincidae: Lygosominae). *Zoological Journal of the Linnean Society*, XX, 1-30.
- Galvez, S., **D.R. Prothero**, and V.J.P. Syverson. 2018. How did bison calves grow up? Postnatal limb allometry in *Bison antiquus* from La Brea tar pits. *New Mexico Museum of Natural History Bulletin* 79: 213-217.
- Gillespy, P.D., **D.R. Prothero**, and J. French. 2018. Ontogenetic changes in distal and proximal limb bones of juvenile Pleistocene coyotes (*Canis latrans*) and dire wolves (*Canis dirus*) from the Rancho La Brea tar pits, California. *New Mexico Museum of Natural History Bulletin* 79:225-238.
- Goldberg, S.R. and **C.R. Mahrdrdt**. 2018. Reproduction in the Cape Region Whiptail *Aspidoscelis tigris maximus* (Squamata: Teiidae) from Baja California Sur, Mexico. *Texas Journal of Science* 70(1):1-5.
- Goldberg, S. R., C. R. Bursey, **L. L. Grismer** 2017. Nematodes of Five Species of Bufonids (Anura: Bufonidae) from Peninsular Malaysia. *Pacific Science* vol.71, no 3:367-375.
- Goldberg, S.R., **L. L. Grismer** 2018. Notizen zur Fortpflanzung des Bintang- Bogenfingergeckos *Cyrtodactylus bintangrendah* (Squamata, Gekkonidae) von der Malaiischen Halbinsel. *Sauria*, Berlin, 40:84-85.
- Goldberg, S. R., C. R. Bursey, **L. L. Grismer** 2018. Endoparasiten beim seribuat- Bogenfingergecko *Cyrtodactylus seribuatensis* (Squamata, Gekkonidae) von der Malaiischen Halbinsel. *Sauria*, Berlin 40:92-94.
- Goldberg, S. R., C. R. Bursey, **L. L. Grismer** 2018. Notizen über die Helminthen des Langschwanzskinks *Eutropis longicaudatus* (Squamata: Scincidae) von der Malaiischen Halbinsel. *Sauria*, Berlin 40:71-73.
- Goldberg, S. R., C. R. Bursey, **L. L. Grismer** 2018. Endoparasiten bei der Schmetterlingsagame *Leiolepis belliana* (Squamata, Agamidae) aus Kambodscha. *Sauria*, Berlin 40:78-80.
- Goldberg, S. R., C. R. Bursey, **L. L. Grismer**. 2018. Gastrointestinal Helminths of the Spotted Forest Skink, *Sphenomorphus scotophilus* (Squamata: Scincidae), from Peninsular Malaysia. *Comparative Parasitology*, 85: 83-88.
- Goldberg, S.R., C. R. Bursey, **L. L. Grismer**. 2019. Endoparasiten beim Vierstreifen-Bogenfingergecko, *Cyrtodactylus quadrivirgatus* (Squamata: Gekkonidae), von der Malaiischen Halbinsel. *Sauria*, Berlin 41:45-47.
- González-Jaramillo, M. J.L. Rangel-Salazar, and **H. de la Cueva**. 2019. Influence of natural tail streamer asymmetry and tail length on annual apparent survival of adult Magnificent Frigatebird (*Fregata magnificens*). *Revista Mexicana de Biodiversidad* 90: e902626.
- González-Acosta, A.F., E.F. Balart, **G. Ruiz-Campos**, H. Espinosa Pérez, V.H. Cruz. Escalona, y A. Hernández-López. 2018. Diversidad y conservación de los peces de la bahía de La Paz, Baja California Sur, México. *Revista Mexicana de Biodiversidad*, 89:705-740.
- Grismer, L. L.**, et al. 2017. Systematics, ecomorphology, cryptic speciation and biogeography of the lizard genus *Tytthoscincus* Linkem, Diesmos & Brown (Squamata: Scincidae) from the sky-island archipelago of peninsular Malaysia. *Zoological Journal of the Linnean Society*, XX, 1-37.
- Grismer, L. L.**, P. L. Wood, Jr., K. K. P. Lim, L.J. Liang 2017. A new species of Swamp-dwelling skink (*Tytthoscincus*) from Singapore and Peninsular Malaysia. *Raffles Bulletin of Zoology* 65:574-584.
- Grismer, L. L.**, P. L. Wood Jr., E. S.H. Quah, M. L. Murdoch, M. S. Grismer, M. W. Herr, R. E. Espinoza, R. M. Brown, A. Lin. 2018. A phylogenetic taxonomy of the *Cyrtodactylus peguensis* group (Reptilia: Squamata: Gekkonidae) with descriptions of the new species from Myanmar. *Peer J- Life & Environment* <https://peerj.com/articles/5575>.
- Grismer, L. L.**, P. L. Wood Jr., M. Kyaw Thura, T.Zin, E.S.H. Quah, M.L. Murdoch, M. S. Grismer, A. Lin, H.Kyaw, N. Lwin 2018. Twelve new species of *Cyrtodactylus* Gray (Squamata: Gekkonidae) from isolated limestone habitats in east-central and southern Myanmar demonstrate high localized diversity and unprecedented microendemism. *Zoological Journal of the Linnean Society* 182, 862-959.
- Grismer, L. L.**, P. L. Wood Jr., M. Kyaw Thura, N. Myo Win, M.S. Grismer, L. A. Trueblood, E. S.H. Quah. 2018. A re-description of *Cyrtodactylus chrysoptilos* Bauer (Squamata: Gekkonidae) with comments on the adaptive significance of orange coloration in hatchlings and descriptions of two new species from eastern Myanmar (Burma). *Zootaxa* 4527:151-185.
- Grismer, L. L.**, P. L. Wood Jr., E. S.H. Quah, M. L. Murdoch, M. S. Grismer, M. W. Herr, R. E. Espinoza, R.M. Brown, A. Lim 2018. A phylogenetic taxonomy of the *Cyrtodactylus peguensis* group (Reptilia: Squamata: Gekkonidae) with descriptions of two new species from Myanmar. *Peer J* 6:e5575; doi 10.7717/peerj.5575.
- Grismer, L. L.**, H.R. Davis 2018. Phylogeny and biogeography of Bent-toed Geckos (*Cyrtodactylus* Gray) of the Sundaic swamp Clade. *Zootaxa* 4472: 365-374.
- Grismer, L. L.**, P. L. Wood Jr., M. Kyaw Thura, E. S.H. Quah, M. S. Grismer, M.L. Murdoch, R. E. Espinoza, A.Lin 2018. A new *Cyrtodactylus* Gray, 1827 (Squamata, Gekkonidae) from the Shan Hills and the biogeography of Bent-toed Geckos from eastern Myanmar. *Zootaxa* 4446:477-500.
- Grismer, L. L.**, P. L. Wood Jr., M. K. Thura, E. S.H. Quah, M. L. Murdoch, M. S. Grismer, M.W. Herr, A. Lin, H. Kyaw 2018. Three more new species of *Cyrtodactylus* (Squamata: Gekkonidae) from the Salween Basin of eastern Myanmar underscore the urgent need for the conservation of karst habitats. *Journal of Natural History*, 52:19-20, 1243-1294, doi: 10.1080/00222933.2018.1449911.
- Grismer, L. L.**, P. L. Wood, Jr., G. R. Zug, M. K.Thura, M. S. Grismer, M.L. Murdoch, E. S.H. Quah, A. Lin 2018. Two more new species of *Hemiphyllodactylus* Bleeker (Squamata: Gekkonidae) from the Shan Hills of eastern Myanmar (Burma). *Zootaxa* 4483: 295-316.
- Grismer, L. L.**, E. S.H. Quah, Z. Duzulkafly, P. Yambun 2018. On the taxonomy of *Lygosoma bampfyldaei* Bartlett, 1895 (Squamata: Scincidae) with descriptions of new species from Borneo and Peninsular Malaysia and the resurrection of *Lygosomas schneideri* Werner, 1900. *Zootaxa* 4438:528-550.
- Grismer, L. L.**, P. L. Wood, Jr., M. K. Thura, M. S. Grismer, R. M. Brown, B.L. Stuart 2018. Geographically structured genetic variation in *Ptychozoon linoatum* (Squamata Gekkonidae) and a new species from an isolated volcano in Myanmar. *Zootaxa* 4514: 202-214.
- Grismer, L. L.**, P.L. Wood Jr., E.S.H. Quah, M. K. Thura, R.E. Espinoza, M. S. Grismer, M. L. Murdoch, A. Lin 2018. A new species of Crocodile Newt *Tylotriton* (Caudata: Salamandridae) from Shan State, Myanmar (Burma). *Zootaxa* 4500: 553-573.
- Grismer, L. L.**, P.L. Wood Jr., A.B. Ahmad, B.S. Baizul- Hafsyam, M. Afiq- Shuhaimi, S.A. Rizal, E. S.H. Quah 2018. Two new *Tytthoscincus* Linkem, Diesmos, & Brown (Squamata: Scincidae) from Peninsular Malaysia and another case of microsyntopy between ecologically specialized, unrelated, leaf-litter species. *Zootaxa* 4425:087-107.
- Grismer, L. L.**, P.L. Wood, Jr., M.K. Thura, N.M. Win, E. S.H. Quah 2019. Two more new species of the *Cyrtodactylus peguensis* group (Squamata: Gekkonidae) from the fringes of the Ayeyarwady Basin, Myanmar. *Zootaxa* 4577:274-294.
- Grismer, L. L.**, E. S.H. Quah 2019. An updated and annotated checklist of the lizards of Peninsular Malaysia, Singapore, and their adjacent archipelagos. *Zootaxa* 4545: 230-248.
- Grismer, L. L.** Z. Dzukaflly, M.A. Muin, E. S. S. Quah, B. R. Karin, S. Anuar, and E. S. Freitas. 2019. A new skink of the genus *Subdoluseps* (Hardwicke & Gray, 1828) from Peninsular Malaysia. *Zootaxa*, 4609, 358-372.
- Grismer, L.L.**, P.L. Wood, Jr., E.S.H. Quah, M.K. Thura, Espinoza, R.E., & Murdoch, M. L. 2019. A new species of crocodile newt *Tylotriton* (Caudata: Salamandridae) from northern Myanmar. *Journal of Natural History*. 53, 475-495. <https://doi.org/10.1186/s12862-019-1422-3>
- Harrington, S.M., *B.D. Hollingsworth*, T.E. Higham, and T.W. Reeder. 2017. Pleistocene climatic fluctuations drive historical and secondary contact in the Red Diamond Rattlesnake (*Crotalus ruber*) in Baja California. *Journal of Biogeography* DOI: 10.1111/jbi.13114
- Hedin, M.**, S. Derkarabetian, A. Alfaro, M.J. Ramirez, and J.E. Bond. 2019. Phylogenomic analysis and revised classification of atypoid mygalomorph spiders (Araneae, Mygalomorphae), with notes on arachnid ultraconserved element loci. *PeerJ*, 7, e6864.
- Hedin, M.**, S. Derkarabetian, J. Blair, and P. Paquin. 2018. Sequence capture phylogenomics of eyeless *Cicurina* spiders (Araneae, Hahniidae) from Texas caves, with emphasis on US federally endangered species from Bexar County. *Zookeys*, 769:49-76.
- Hedin, M.**, S. Derkarabetian, M.J. Ramirez, C. Vink, and J.E. Bond. 2018. Phylogenomic reclassification of the world's most venomous spiders (Mygalomorphae, Atracinae), with

implications for venom evolution. *Scientific Reports* (2018) 8:1636 DOI:10.1038/s41598-018-19946-2

Hernández-Vázquez, S., J.A. Castillo-Guerrero, **E. Mellink**, y A.M. Almaguer-Hernández. 2018. Colony Size and breeding success of Red-billed Tropicbird (*Phaethon aethereus*) on Peña Blanca Island, Colima, México. *Waterbirds* 41:128-134. DOI: 10.1675/063.041.0203

Hernández-García, R.J. y **E. Mellink**. 2018. Population fluctuations of Mourning Doves (*Zenaidura macroura*) in the state of Jalisco, Mexico, during 2004-2017. *American Midland Naturalist* 180:87-97. DOI: 10.1674/0003-0031-180.187

Htun, T., **D.R. Prothero**, and V.J.P. Syverson. 2018. Postnatal allometric limb growth in juvenile camels from the Pleistocene of Rancho La Brea tar pits. *New Mexico Museum of Natural History Bulletin* 79:267-270.

Htun, T., **D.R. Prothero**, J.M. Hoffman, S. Lukowski, and V.J.P. Syverson. 2018. Allometric trends in growth and dwarfing in the extinct Pleistocene Channel Islands pygmy mammoth *Mammuthus exilis*. *New Mexico Museum of Natural History Bulletin* 79:261-265.

Izam, N. A. M., A. B Ahmad, **L. L. Grismer**, A. N.Sadin, S. Md. Nor, Norhayati Ahmad 2017. Species composition and richness of amphibians in logged forests at Hulu Terenggan, Peninsular Malaysia. <http://dx.doi.org/10.1063/1.4966872>.

Karin, B. R., E.S. Freitas, S. Shonleben, **L. L. Grismer**, A.M. Bauer, I. Das 2018. Unrealized diversity in an urban rainforest: A new species of *Lygosoma* (Squamata: Scincidae) from western Sarawak, Malaysia (Borneo). *Zootaxa* 4370: 345-362.

Kienle, S.S., **Berta, A.** 2019. The evolution of feeding strategies in phocid seals (Pinnipedia, Phocidae). *Journal of Vertebrate Paleontology*, doi: 10.1080/02724634.2018.1559172.

**León de la Luz, J.L.;** T.R. Van Devender; *J.P. Rebman*; J. Sánchez Escalante; A. Medel Narváez; and **J. Delgadillo.** 2018. El conocimiento florístico actual del Noroeste de México: desarrollo, recuento y análisis del endemismo. *Botanical Sciences* 96 (3): 555-568.

Liang, Bin, Run-Bang Zhou, Yan-Lin Liu, Bei Chen, **L. Lee Grismer**, Ning Wang 2018. Renewed classification within *Goniurosaurus* (Squamata: Eublepharidae) uncovers the dual roles of a continental island (Hainan) in species evolution. *Molecular Phylogenetics and Evolution* 127: 646-654.

Long, K., **D.R. Prothero**, M. Madan, and V.J.P. Syverson. 2018. Allometric shape changes during ontogeny of the Rancho La Brea ground sloth

*Paramylodon harlani*. *New Mexico Museum of Natural History Bulletin* 79: 481-483.

Lisovski, S., Z. Németh, J.C. Wingfield, J.S. Krause, K.A. Hobsoon, N.E. Seavy, **J. Gee**, M. Ramenofsky. 2019. Migration pattern of Gambel's White-crowned Sparrow along the Pacific Flyway. *Journal of Ornithology*, <https://doi.org/10.1007/s10336-019-01685-4>.

Mabry, M. E. and **M. G. Simpson**. 2018. Evaluating the monophyly and biogeography of *Cryptantha* (Boraginaceae). *Systematic Botany* 43: 53-76. <http://dx.doi.org/10.1600/036364418X696978>

MacFarland, S.J., J.J. Garcia, E. Schniter, D. Guevara-Beltrán, J.G. Amador-Bibo, and **G. Ruiz-Campos**. 2019. *Elgaria velazquezi* (Central Baja California Alligator Lizard). *Herpetological Review*, 50(1): 102.

Mas, G., **M. Bisconti**, E. Torres-Roig, J. Juárez, J. Sacarès. 2019. L'última balena del Messinià. Primera cita d'un cetaci misticet relacionat amb la Crisi de Salinitat Messiniana de la Mediterrània. VII *Jornades de Medi Ambient de les Illes Balears*. Ponències i Resums. Palma 28-30 Nov., 13-15 Dec. 2018 and 10-11 Jan. 2019, pp. 112-115.

Mas, G., **M. Bisconti**, E. Torres-Roig, J. Juárez, J. Sacarès. 2019. The last whale of the Messinian. First record of a mysticete cetacean from the Mediterranean Messinian Salinity Crisis. 1st Paleontological Virtual Congress. Book of Abstracts - Palaeontology in the virtual era. 1-15 Dec. 2018, p. 97.

**Mahrtdt, C.R.**, E.L. Ervin, and G. Nafis. 2018. Geographic Distribution. *Hemidactylus garnotii* (Indo-Pacific House Gecko). *Herpetological Review* 49(4):715.

**Mahrtdt, C.R.** and B. Ayers. 2018. *Hypsiglena ochrorhyncha* (Coast Nightsnake). Diet. *Herpetological Review* 49(3):548-549.

**Marschalek, D.A., D.K. Faulkner**, D.H. Deutschman. 2019. Ecology of the threatened Harbison's dun skipper (*Euphyes vestris harbisoni*) for conservation efforts within a habitat conservation plan. *Journal of Insect Conservation* 23: 331-339.

Martínez-Ballesté, A., and **E. Ezcurra**. 2018. Reconstruction of past climatic events using oxygen isotopes in *Washingtonia robusta* growing in three anthropic oases in Baja California Sur. *Boletín de la Sociedad Geológica Mexicana* 70(1): 79-94. doi:10.18268/BSGM2018v70n1a5

**Mellink, E.**, J Luévano y M.E. Riojas-López. 2018. Half a century of changes in waterbird populations in a semiarid wetland system. *Wetlands Ecology and Management* 26: 1047-1060. DOI: 10.1007/s11273-018-9630-y

**Mellink, E.**, M.E. Riojas-López y J.A. Rivera-Villanueva. 2018. Reconsideration of the nomadic condition of the southernmost Guachichiles based on the relationship with their environment. *Journal of Ethnobiology and Ethnomedicine* 14:24. DOI: 10.1186/s13002-018-0223-x.

**Mellink, E.** y O. Hinojosa-Huerta. 2018. Breeding waterbirds of the Mexican portion of the Colorado River Delta. Capítulo 10, pp. 174-187 en Johnson, R.R., S.W. Carothers, D.M. Finch, K.J. Kingsley y J.T. Stanley (eds.). *Riparian Research and Management: Past, Present, Future*, Vol. 1. General Technical Report 377. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, Colo., U.S.A.

Mendoza-Díaz, N., H. Flores-Olvera, **M. G. Simpson**, and M. J. Moore. 2018. A new and unusual endemic species from the Chihuahuan Desert, Mexico: *Antiphytum geoffreyi* (Boraginaceae, Echinochiloideae). *Phytotaxa* 367: 275-283. <https://doi.org/10.11646/phytotaxa.367.3.7>

Miller, D. M., W. G. Spaulding, **R. E. Reynolds**, J. P. Calzia, M. E. Wells, R. J. Fleck, and S. Baltzer, 2019. Exploring ends of eras in the eastern Mojave Desert: the road log. Desert Symposium Incorporated, Volume: 7-48.

Murdoch, M. L., **L. L. Grismer**, P.L. Wood, Jr., T. Neang, N. A. Poyarkov, N. Van Tri, R. A. Nazarov, A. Aowphol, O. S.G. Pauwels, H. Ngoc Nguyen, J. L. Grismer 2019. Six new species of the *Cryptodactylus intermedius* complex (Squamata: Gekkonidae) from the Caradomom Mountains and associated highlands of Southeast Asia. *Zootaxa* 4554:001-062.

**Mustelin, T.**, Lucas, V.P. & Crabo, L.G. 2018. Survey of the Lepidoptera in the north-central Olympic National Park, Washington, USA. *J. Lep. Soc.* 72: 284-295.

**Murphey, P.C.**, G.E. Knauss, L.H. Fisk, T.A. Deméré, and **R.E. Reynolds**, 2019. Best practices in mitigation paleontology; *Proceedings of the San Diego Society of Natural History* 47, pp. 1-43.

**Murphey, P. C.**, T.S. Kelly, K.R. Chamberlain, K. Tsukul, and W.C. Clyde, 2018. Mammals from the earliest Uintan (middle Eocene) Turtle Bluff Member, Bridger Formation, southwestern Wyoming, USA, Part 3: Marsupialia and a reevaluation of the Bridgerian-Uintan North American Land Mammal Age transition. *Palaeontologia Electronica* 21(2.25A): 1-52.

Nguyen, H. N., C.W. Lu, J.H. Chu, **L.L. Grismer**, C. M. Hung, S. M. Lin 2019. Historical demography of four gecko species specializing in boulder cave habitat: Implications in the evolutionary dead-end hypothesis and conservation. *Molecular Ecology* 1-13.

Ocampo Molina, L., **X. López Medellín**, B. Maldonado Almanza, and **E. V. Wehncke**. 2019. Diferencias sociales y de conocimiento en niños de educación básica en comunidades del río Amacuzac, Morelos. *Región y Sociedad* 31, e1047. doi: 10.22198/rys2019/31/1047.

Onn, C. K., R. K. Abraham, J. L. Grismer, **L. L. Grismer** 2018. Elevational size variation and two new species of torrent frogs from Peninsular Malaysia (Anura: Ranidae: *Amolops* Cope). *Zootaxa* 4434:250-264.

Ouyssse, S., **E. V. Wehncke**, and J. J. Carrillo Rivera. 2018. Investigating regional groundwater flow systems in Baja California central desert region. *International Journal of Hydrology* 2(1): 1-11. doi: 10.15406/ijh.2018.02.00057.

Pineda Jimenez, C., **X. López-Medellín, E. V. Wehncke** and B. Maldonado-Almanza. 2018. Construyendo sociedades comprometidas con el entorno natural: Percepciones y conocimientos ambientales de los niños de escuelas rurales y urbanas del sur de Morelos, México. *Región y Sociedad*. El Colegio de Sonora. 30(72): 1-25. doi: <http://dx.doi.org/10.22198/rys.2018.72.a896>.

Pío-León, J.F., A. Nieto-Garibay, **J.L. León-de la Luz**, F. Delgado-Vargas, R. Vega-Aviña and A. Ortega Rubio. 2018. Plantas silvestres consumidas como té recreativos por grupos de rancheros en Baja California Sur, México. *Acta Botanica Mexicana* 123: 7-19.

**Peralta-García, A.**, A.J. Adams, P. Galina-Tessaro, C.J. Briggs, J.H. Valdez-Villavicencio, *B.D. Hollingsworth*, H.B. Shaffer, and R.N. Fisher. 2018. Occurrence of *Batrachochytrium dendrobatidis* in anurans of the Mediterranean region of Baja California, México. *Diseases of Aquatic Organisms* 127:193-200.

**Prothero, D.R.** 2018. *When Humans Nearly Vanished*. Smithsonian Books, Washington, DC, 198 pp.

**Prothero, D.R.** 2019. *The Story of Dinosaurs in 25 Discoveries*. Columbia University Press, New York, 472 pp.

**Prothero, D.R.** 2018. Review of "Darwin's Fossils: The Collections that Shaped the Theory of Evolution" by Adrian Lister. *Reports of the National Center for Science Education*, 38(4): 14-15.

**Prothero, D.R.** Review of the Pliocene peccaries (Artiodactyla: Tayassuidae) of North America. *New Mexico Museum of Natural History Bulletin* 79:555-563.

- Powell, C.L.**, II, E.C. Clites, and A.W. Poust. 2019. Miocene marine macropaleontology of the fourth bore Caldecott Tunnel excavation, Berkeley Hills, Oakland, California, USA. *Paleobios* 36, 34 p., <https://scholarship.org/uc/item/1gm970pg>.
- Powell, C.L.**, II, R.W. Boessenecker, N.A. Smith, R.J. Fleck, S.J. Carlson, J.A. Allen, D.J. Long, A.M. Sarna-Wojcicki, and R.B. Guruswami-Naidu. 2019. Geology and paleontology of the late Miocene Wilson Grove Formation at Bloomfield Quarry, Sonoma County, California. *U.S. Geological Survey Scientific Investigations Report* 2019-5021, 77 p., <https://doi.org/10.3133/sir20195021>.
- Quah, E. S.H., Perry L. Wood Jr., **L. Lee Grismer**, Shahrlul Anuar Mohd Sah 2018. On the taxonomy and phylogeny of the rare Selangor Mud Snake (*Raclinia indica*) Gray (Serpentes, Homaloptidae) from Peninsular Malaysia. *Zootaxa* 4514:053-064.
- Quah, E. S.H., **L. L. Grismer**, T. Jetten, P. L. Wood Jr., A. M. S. A. M. Sah, Kurt H. P. Guek, M. L. Brady 2018. The rediscovery of Schaefer's Spine-jawed Snake (*Xenophidion schaeferi* Gunther & Manthey, 1995) (Serpentes, Xenophidiidae) from Peninsular Malaysia with notes on its variation and the first record of the genus from Sumatra, Indonesia. *Zootaxa* 4441: 366-378.
- Razowski, J., and **J. W. Brown**. 2018. A new genus for *Olethreutes strablopa* Meyrick, 1936 (Lepidoptera: Tortricidae: Olethreutinae). *Tropical Lepidoptera Research* 28: 61-65.
- Rebman, J.P., Vanderplank, S. and Harper, A.B.** 2018. A suite of new plant records from the Sierra de San Pedro Mártir, Baja California, Mexico. *Journal of the Botanical Research Institute of Texas* 12(1): 229-238.
- Reynolds, R. E.**, 2019. Late Pleistocene to early Holocene cave faunas from the eastern Mojave Desert. *Desert Symposium Incorporated*, Volume: 63-72.
- Riojas-López, M.E., I.A. Díaz-Herrera, H.E. Fierros-López y **E. Mellink**. 2019. The effect of adjacent habitat on native bee assemblages in a perennial low-input agroecosystem in a semi-arid anthropized landscape. *Agriculture, Ecosystems and Environment* 272: 199-205. DOI: 10.1016/j.agee.2018.11.019.
- Riojas-López, M.E., **E. Mellink** y D.H. Almanzor-Rojas. 2019. Estado del conocimiento de los carnívoros nativos (Mammalia) en un paisaje antropizado del Altiplano Mexicano: el caso de Los Llanos de Ojuelos. *Revista Mexicana de Biodiversidad* 90: e902669. DOI: 10.22201/ib.20078706e.2019.90.2669.
- Riojas-López, M.E., **E. Mellink** y N.A. Muñoz-Padilla. 2019. Secondary shrubby communities provide nesting habitat for birds in a semi-arid agricultural landscape. *Ardea* 107:29-32.
- Riojas-López, M.E., **E. Mellink** y J. Luévano. 2018. A semi-arid fruit agroecosystem: a conservation-friendly option for small mammals in an anthropized landscape in Mexico. *Ecological Applications* 28:495-507. DOI: 10.1002/eap.1663
- Rojas-Bracho, L., R.C. Brusca, S. Álvarez-Borrego, R.L. Brownell Jr., V. Camacho-Ibar, G. Ceballos, **H. de la Cueva**, J. García-Hernández, P.A. Hastings, G. Cárdenas-Hinojosa, A.M. Jaramillo-Legorreta, R. Medellín, S.L. Mesnick, E. Nieto-García, J. Urbán, **E. Velarde**, O. Vidal, L.T. Findley, and B.L. Taylor. 2019. Unsubstantiated Claims Can Lead to Tragic Conservation Outcomes. *Bioscience* 69:12-14.
- Rosler, H., **L. L. Grismer**, I. Ineich, H. Kaiser 2019. The purportedly Indo-Australian gecko species *Cnemaspis timoriensis* (Dumeril & Bibron, 1836) is actually the first named species of the neotropical genus *Gonatodes* Fitzinger, 1843 (Squamata: Gekkonidae) *Zootaxa* 4576: 483-509.
- Ruiz-Campos, G.**, A. Tapia, A. Guevara, and G. De León-Girón. 2018. Fauna. In: E. Garduño and E. Nieblas (eds.). *Semeel Jak: historia natural y cultural de la sierra de San Pedro Mártir*. Tirant lo Blanch, Ciudad de México. pp. 77-108.
- Ruiz-Campos, G.** 2018. Fauna ribereña. In: E. Garduño and E. Nieblas (eds.). *Semeel Jak: historia natural y cultural de la sierra de San Pedro Mártir*. Tirant lo Blanch, Ciudad de México. pp. 109-114.
- Ruiz-Campos, G.**, and G. De León-Girón. 2018. Aves. In: E. Garduño and E. Nieblas (eds.). *Semeel Jak: historia natural y cultural de la sierra de San Pedro Mártir*. Tirant lo Blanch, Ciudad de México. pp. 78-115-136.
- Sasson, A.**, and **M. Roeder**, 2019 Prehistoric Tuna Fisheries in Villa De La Valle, Del Mar: The Fish Remains from CA-SDI-16695, CA-SDI-16696 and CA-SDI-14791. In Results of the Data Recovery Excavations of CA-SDI-14971, CA-SDI-16695, and CA-SDI-16696 for the Via De La Valle Road Widening Project San Diego, California, edited by Harry Price. Report on File at RECON Environmental, Inc., San Diego, CA.
- Scotton, R., R. Bigazzi, S. Casati, G. D'Amore, S. Di Marco, L.M. Foresi, E. Koenig, L. Ragaini, J. Tabolli, M. Tarantini, G. Tartarelli, **M. Bisconti**. 2018. The "Brunella" project: preparation and study of a mysticete from the Early Pliocene of Tuscany. Primo Congresso di Paleontologia dei Vertebrati per Giovani Ricercatori, Abstract booklet. *Firenze*, 14 Sept. 2018, pp. 59-61.
- Scotton, R., R. Bigazzi, S. Casati, G. D'Amore, S. Di Marco, L.M. Foresi, E. Koenig, L. Ragaini, J. Tabolli, M. Tarantini, G. Tartarelli, **M. Bisconti**. 2018. The "Brunella" Project: preparation and study of a mysticete from the Early Pliocene of Tuscany. *Fossilia*. Volume 2018: 61-63.
- Siler, C. D., B. B. Heitz, D. R. Davis, E. S. Freitas, A. Aowphol, K. Tempoyoon, **L. L. Grismer** 2018. New Supple Skink, Genus *Lygosoma* (Reptilia: Squamata: Scincidae), from Indochina and Redescription of *Lygosoma quadrupes*. *Journal of Herpetology*, 52:332-347.
- Skellej, P. E. and **R. H. McPeak**. 2018. New species of *Stenotothorax* Schmidt from the northwestern United States (Coleoptera: Scarabaeidae: Aphodiinae). *Insecta Mundi* 0681: 1-31.
- Solis-Carlos, F., **G. Ruiz-Campos**, M.L. Lozano-Vilano, y C. Leyva-Aguilera. 2019. Fish fauna and its environmental relation in an endorheic basin of Zacatecas, Mexico. *Revista Mexicana de Biodiversidad* 90 (2019): e902393.
- Swarth, C.W.** 2018. The Bumblebee Hummingbirds of Ramsey Canyon Revisited. *Western Birds* 49: 270-276; doi 10.21199/WB49.4.3.
- Swarth, C.W.** 2018. An expedition to Ramsey Canyon: The 1896 Field Journal of Ornithologist Harry S. Swarth. Yaqui Gulch Press, Mariposa, California. ISBN 978-1724410382.
- Swarth, C.W.** 2018. Northern Red-bellied Cooter (*Pseudemys rubriventris*). In: H. Cunningham and N. Nazdrowicz (eds.). *The Maryland Reptile and Amphibian Atlas*. Johns Hopkins University Press, Baltimore, Maryland. pp. 156-157.
- Swarth, C.W.** 2018. Eastern Box Turtle (*Terrapene carolina*). In: H. Cunningham and N. Nazdrowicz (eds.). *The Maryland Reptile and Amphibian Atlas*. Johns Hopkins University Press, Baltimore, Maryland. pp. 158-159.
- Swarth, C.W.** 2018. Eastern Mud Turtle (*Kinosternon subrubrum*). In: H. Cunningham and N. Nazdrowicz (eds.). *The Maryland Reptile and Amphibian Atlas*. Johns Hopkins University Press, Baltimore, Maryland. pp. 162-163.
- Swarth, C.W.** 2018. Eastern Musk Turtle (*Sternotherus odoratus*). In: H. Cunningham and N. Nazdrowicz (eds.). *The Maryland Reptile and Amphibian Atlas*. Johns Hopkins University Press, Baltimore, Maryland. pp. 164-165.
- Swarth, C.W.** 2018. Eastern Ratsnake (*Pantherophis alleghaniensis*). In: H. Cunningham and N. Nazdrowicz (eds.). *The Maryland Reptile and Amphibian Atlas*. Johns Hopkins University Press, Baltimore, Maryland. pp. 192-193.
- Therriault, Sam., and *Beth Redmond-Jones*. 2018. Constructing Knowledge Together: Collaborating with and Understanding Young Adults with Autism. *Journal of Museum Education*, 43:4, 365-374, DOI: 10.1080/10598650.2018.1525657
- Tracey JA, Rochester CJ, Hathaway SA, Preston KL, Syphard AD, Vandergast AG, **Diffendorfer JE**, Franklin J, MacKenzie JB, Oberbauer TA.
- Tremor S*, Winchell C, Fisher R. (2018). Prioritizing conserved areas threatened by wildfire and fragmentation for monitoring and management. *PLoS ONE* 13(9): e0200203 <https://doi.org/10.1371/journal.pone.0200203>
- Tremor, S.B., S.E. Vanderplank and E. Mellink.* (2019). The San Quintin Kangaroo Rat is Not Extinct. *Bulletin of the Southern California Academy of Sciences*, 118(1), 71-75.
- Uribe-Rivera, M.A., Aldo A. Guevara-Carrizales, y **G. Ruiz-Campos**. 2019. Mortalidad incidental de aves paseriformes en un parque eólico del noroeste de México. *Huitzil*, Revista Mexicana de Ornitología, doi: <https://doi.org/10.28947/hrmo.2019.20.1377>.
- Vanderplank, S.E., J.P. Rebman, and E. Ezcurra.** 2018. Where to conserve? Plant biodiversity and endemism in Mediterranean Mexico. *Biodiversity and Conservation* 27(1): 109-122. DOI 10.1007/s10531-017-1424-7
- Velarde, E., D.W. Anderson, and E. Ezcurra.** 2019. Seabird clues to ecosystem health. *Science* 365(6449): 116-117. DOI: 10.1126/science.aaw9999
- Velarde, E., and E. Ezcurra.** 2018. Are seabirds' life history traits maladaptive under present oceanographic variability? The case of Heermann's Gull (*Larus heermanni*). *The Condor* 120: 388-401. doi: 10.1650/CONDOR-17-51
- Vidan, E., U. Roll, A. Bauer, **L. Grismer**, P. Guo, E. Maza, M. Novosolov, R. Sindaco, P. Wagner, J. Belmaker, S. Meiri 2018. The Eurasian nocturnal lizard: Environmental forces associated with nocturnality in lizards. *Global Ecology and Biogeography* 26: 1316-1325.
- Villanueva-Almanza, L., **P.P. Garcillán**, E. Ávila-lovera, V. Pérez, C. Silva-Bejarano, E. Focht, and **E. Ezcurra**. 2018. A Hollywood palm icon unmasked: clinal variation in *Washingtonia* (Arecaceae) of Peninsular California. *Botanical Journal of the Linnean Society* doi: 10.1093/botlinnean/boy066/5136435
- Wehncke, E. V.**, and J. Reyes-Amaya. 2019. Seed Dispersal and Conservation. In: J.C., Choe (Ed.). *Encyclopedia of Animal Behavior*, 2nd ed. vol. 1. Elsevier, Academic Press. pp. 283-290.
- Wilder B.T., R.S. Felger, and **E. Ezcurra**. 2019. Controls of plant diversity and composition on a desert archipelago. *PeerJ* 7: e7286 <https://doi.org/10.7717/peerj.7286>
- Zonana, DM, **JM Gee**, ES Bridge, MD Breed, DF Doak. 2019. Assessing behavioral associations in a hybrid zone through social network analysis: Complex assortative behaviors structure associations along the edge of a quail hybrid zone. *The American Naturalist* 193:6, 852-865.

# Thank You

July 1, 2018–June 30, 2019

We are deeply grateful to the many donors who supported the Museum this year through new gifts and pledge payments.

## \$100,000 AND ABOVE

City of San Diego Commission  
for Arts and Culture  
The Estate of Christine Tratnyek  
J. W. Sefton Foundation  
Mrs. Christy Walton  
Alumbra Innovations Foundation  
Zoological Society of San Diego

## \$50,000 - \$99,999

Mr. and Mrs. Gregory Bullard  
Mona Baumgartel  
and John DeBeer  
Mr. and Mrs. John Downing  
Downing Family Foundation  
JiJi Foundation Fund at the  
International Community  
Foundation  
David B. Jones Foundation  
The Gilbert J. Martin Foundation  
Estate of Daniel Frances McGrath  
The Family of Chrysa Mineo  
and Mark Stephenson  
Eleanor and Jerome Navarra 🌱  
Patrons of the Prado  
Price Philanthropies  
Subaru of America, Inc.  
University of California-Riverside  
Dennis and Carol Wilson

## \$10,000 - \$49,999

Estate of Marianne K. Adams  
Mrs. Alice E. Anda  
and Mr. James P. Ward  
Stephen and Mary Birch  
Foundation  
Carolyn and Steven Conner  
The Conner Family Fund 🌱  
County of San Diego  
Mr. and Mrs. James M. Dort  
H. Glenn Dunham  
Bernard J. Eggertsen  
and Florence Nemkov  
Dr. and Mrs. Laurence D. Favrot  
The Favrot Fund

First Republic Bank  
Dr Seuss Fund 🌱 at the request  
of Audrey Geisel  
Robert & Helen E. Grant  
Foundation  
The Barbara and David Groce  
Fund 🌱  
Hervey Family Non-endowment  
Fund 🌱  
The Carol & Henry F. Hunte  
Fund 🌱  
Institute for Law and Systems  
Research  
The James Hervey Johnson  
Charitable Educational Trust II 🌱  
Estate of Spencer Luke  
Mandell Weiss Charitable Trust  
Marisla Fund of the Orange  
County Community Foundation  
Margaret D. Mercieca  
National Science Foundation  
The Kenneth T. and Eileen L. Norris  
Foundation  
Qualcomm Foundation  
ResMed  
The Rice Family Foundation  
San Diego Gas & Electric  
Anne Schwartz  
Ellen Browning Scripps Foundation  
Mr. and Mrs. Harley K. Sefton  
Estate of Mrs. Margaret Stevenson  
Dr. Ann McGowan-Tuskes  
and Dr. Paul Tuskes

## \$5,000-\$9,999

Bank of America  
The J.F. Beyster Fund 🌱  
SBC Fund of the American  
Education Endowment, in  
Memory of Suzanne Bond, from  
Laura Bond and Patrick Sewall  
Ms. Anita Busquets  
and Dr. William A. Ladd  
Dr. and Mrs. Roberto A. Cueva  
Mr. and Mrs. James Dawe

Ms. Janie DeCelles  
Ms. Marion M. Eggertsen  
The Hattie Ettinger Conservation  
Fund at the request of  
Janie DeCelles  
Mr. and Mrs. Andrew Garman  
Mr. Steven Garsson  
Judy Gradwohl  
Heller Foundation of San Diego  
Ms. Allison Henderson  
and Dr. Jay Miles  
Institute of Museum  
and Library Services  
Charles Kennel and Ellen Lehman  
Ann Laddon and Adrian Jaffer  
John C. La Grange  
and Dawn Lawson  
Mike and Carolyn Lee  
Alan G. Lehman and Jane A.  
Lehman Foundation  
Nordson Corporation Foundation  
Jean and Bill O'Daniel  
Allison and Robert Price Family  
Foundation  
Rancho La Puerta  
Dr. Rebecca Papendick  
and Dr. Jay Savage  
Ms. Millie Basden  
and Dr. Peter Thomas  
VWR International, LLC

## \$2,500-\$4,999

Patrick Abbott, Ph.D.  
Mrs. Karen Berger  
M.A. Beyster Fund II 🌱  
Mr. and Mrs. Thomas A. Blackman  
Jeff Block and Michele Gerus  
Ms. Debbie Fritsch  
and Mr. Pat Boyce  
Vickie and Ron Cady  
Mr. and Mrs. Jeffrey Cavnac  
Carolyn Doherty  
Richard & Arlene Esgate Charitable  
Gift Fund at Fidelity  
Anne L. Evans

Mr. and Mrs. William Ferguson  
Samuel I. & John Henry Fox  
Foundation  
Dr. and Mrs. Frank J. Goicoechea  
Mr. and Mrs. Jerry Goodwin  
Ms. Carol Baird  
and Dr. Alan Harper  
Mr. and Mrs. Ron Hebdon  
Hologic Charitable Fund  
Martha and Gary Jacobson  
Mr. and Mrs. James Jett  
Mr. and Mrs. Webster B. Kinnaird  
Patric Knoll  
Diana and Lowell Lindsay  
Lions Club of San Diego  
Ms. Sheila Moss  
Ms. Amelia Wood  
and Dr. Eric Mustonen  
Mrs. Valerie Quate  
and Mr. Jim Myers  
Ms. Nancy Nenow  
and Mr. David Dolan  
Netterblad Family  
Mr. and Mrs. Thomas A. Oberbauer  
Mrs. Pamela Palisoul  
Paul Bechtner Foundation  
Rudolph and Carla Rehm  
Nancy Robertson  
and Mark Cookingham  
Mr. and Mrs. Eberhard H. Rohm  
Ms. Callie Mack  
and Mr. Phillip Roullard  
Richard C. Schwenkmeyer  
Tracy and Steve South  
Mr. and Mrs. Gaylord Stickney  
Strauss Family Foundation

### **\$1,000-\$2,499**

Anonymous (3)  
Mr. K. A. Achterkirchen  
Walter and Jody Andersen  
Ms. Christine A. Baltuth  
Mr. Bill Barbour  
Ms. Danielle Barger  
Eowyn Bates


and Christopher Croom  
Carl and Judy Bell  
Mr. and Mrs. Jeremy Berg  
Beyster Family Foundation  
Fund IV 🌱  
Richard and Susan Breisch  
Charitable Fund at Fidelity  
Mr. and Mrs. William Buchanan  
Mr. Joseph Busch  
The Canyoneers  
Dr. Margaret E. Carl  
Mr. and Mrs. Scott E. Carl  
Ms. Rebecca Vesterfelt  
and Mr. Louis Cohen  
Carolyn and Cliff Colwell  
The Covey  
Mrs. Maryruth M. Cox  
Mrs. Julia Croom  
Dr. and Mrs. L. David Engel  
Dr. Iris Engstrand  
Mr. and Mrs. Craig Evanco  
Mr. and Mrs. Harold W. Fuson  
Dr. and Mrs. Robert T. Gordon  
Mr. Alan Gradwohl  
Denise and Michael Hager  
Robin Halford  
Tom and Jo Hazard  
Mary Limoges and Jack Heilbron  
Mr. and Mrs. Stephen Hill  
Mr. and Mrs. Michael B. Hoctor  
Dr. Barbara Hoenecke  
and Dr. Heinz Hoenecke  
Joel and Rosanne Holliday  
Jackie Hollywood  
Nancy and William Homeyer  
Mrs. Chinyeh Hostler  
Gary and Carrie Huckell  
Ms. Karen Owens  
and Mr. George Huling  
Dr. Donna Perdue  
and Dr. Calvin Johnson  
Martin Kantor  
Ms. Mary Kathryn Kelley  
and Mr. Ham Southworth  
Ali and Linda Kiran Fund 🌱

Peter La Dow  
Ms. Vicki Lindblade  
Ms. DeEtte L. Loeffler  
and Mr. Steven Loeffler  
Ms. Barbara J. Lohne  
Mr. and Mrs. Clark R. Mahrdr  
Mr. and Mrs. Martin Marugg, Jr.  
Mr. and Mrs. Donald L. Maxted  
Mrs. Geraldine E. McAllister  
Mr. and Mrs. Robert B. McCommins  
Mrs. Elizabeth B. Meyer  
Dr. Judith T. Muñoz  
and Dr. Daniel G. Muñoz  
Mr. and Mrs. Brys Myers  
Dr. James W. Neel  
Ms. Elizabeth H. Oliver  
and Mr. Morgan D. Oliver  
Dr. and Mrs. Rodney D. Orth  
Mrs. James B. Orwig  
Ms. Patricia K. Pastore  
and Mr. Thomas Pastore  
Dr. and Mrs. Frank Pavel, Jr.  
Beverly Pecunia  
Nuri and John Pierce  
Arthur P. and Jeanette G. Pratt  
Memorial Fund  
Jim and Claudia Prescott  
Mr. James S. Riley  
Mr. and Mrs. James J. Rocks  
Rocks Biological Consulting  
Ms. Janet Rusnell  
Dr. and Mrs. Peter Sadori  
The Sahar Daywi Foundation  
at the California Community  
Foundation at the request of  
Christopher and Mila Conlan  
Ms. Anne Schafer  
Mr. and Mrs. Jon Schmid  
Mr. and Mrs. John Schmid  
Warren and Anna Gale  
Schmidtman  
Mr. and Mrs. Robert W. Schulze  
Mrs. Jeanne G. Shenkman  
Mr. and Mrs. Tom Sparrow  
Mr. and Mrs. Richard W. Spehn

The Takahashi Family Fund 🌱  
Dr. Robert C. Vinton  
Warren-Neely Foundation  
Mrs. Betty Jo Williams  
Mr. and Mrs. Jeff Witt  
Mr. and Mrs. Alvin Wood

### **\$500-\$999**

Anonymous (2)  
Ms. Jo Ellen Anderson  
BD Biosciences  
Mrs. Sharon Beamer  
Benevity Community Impact  
Fund - Calgary  
Dr. J. David Bukry  
Carol and Jeff Chang  
Margaret Dykens  
Dr. Joyce M. Gattas  
Ms. Charlene Glacy  
Gyselbrecht Trust at Fidelity  
recommended by Steve  
Gyselbrecht  
Julie and Kern Kenyon  
Mr. and Mrs. Anthony A. Kinninger  
Peter and Marilee Kovacs  
Team Leininger Trust Fund  
Mr. Robert Levy  
Jeffrey and Sheila Lipinsky Family  
Foundation  
Mauro Family Fund at Fidelity  
directed by Kathleen  
and Andrew Mauro  
Christa McReynolds Fund 🌱  
Mr. Jim Melli and Ms. Janet Klauber  
Dr. Margaret Meyer  
and Mr. Paul Meyer  
Ms. Shari Lawson  
and Mr. Larry Remer  
The Honorable M. Margaret  
McKeown and Dr. Peter Cowhey  
Ms. Margaret R. Mulligan  
and Ms. Cheryl Hall  
Mr. Kevin Patrick  
James Richardson  
Demi and Frank Rogozienski

Carrie Schneider and Bob Laymon  
Ms. Julia Serences  
and Mr. John Serences Mrs.  
Carol A. Sheehan  
Ms. Marilyn Z. Smith  
and Dr. Brian J. Smith  
Dr. and Mrs. Charles J. Stewart  
Mrs. Edna K. Tipton  
Dr. Michael Wall  
and Ms. Allison Teem  
Charles and Randi Wax Fund   
Mr. and Mrs. John H. Wilson, III  
Annette L. and Wade W.  
Winner, Jr.

**\$100-\$499**

Anonymous (2)  
Ms. Jane Sherwood  
and Mr. Donald Albright  
Mrs. Feroza Ardeshir  
Jayne and D. Scott Atkinson  
Mr. and Mrs. Charles T. Baird  
Dr. Thomas Beers  
Linda Bethel  
Ann Clark and Robert Blanton  
Mr. and Mrs. Kip A. Blickem  
Ms. Janise Bond  
Miles and Patricia Bowler  
Joyce and Paul Brooks  
Ms. Sandy Callahan  
Mr. Paul Chad  
Ms. Yee-Ching Chang  
Ms. Christina Chase  
The Sahan Daywi Foundation  
at the California Community  
Foundation at the request of  
Heidi Conlan  
Michael and Takako Conner  
Mr. and Mrs. Tim Considine  
Richard and Stephanie Coutts  
Mr. Edward Cramp  
Deanne and Tom Deméré  
Bill Disher  
Ms. Penny Borax  
and Mr. John Donald

Mr. and Mrs. Bill Eastwood  
Blackbaud Institute  
Joan and Ken Elkington  
Norman Ernst  
Ms. Debra Ernst  
and Ms. Sandra Ernst  
Enid Farrell  
Mr. and Mrs. J. R. Fenton  
The Field Family  
Mr. and Mrs. Walker Fillius  
Mrs. Yasuko Fosket  
and Dr. Donald E. Fosket  
Ms. Lynda Fox  
Linda and Reginald Frank  
Ms. Kimverly Garcia  
Paul T. Gaughen  
Mr. and Mrs. John W. Giebink  
Gwendolyn and Philip Gildred  
Mrs. Jacqueline M. Gillman  
Hal and Sharon Goforth  
Mr. and Mrs. Ramon L. Hackworth  
Ms. Kate Harper  
Mr. and Mrs. Richard K. Harris  
Dr. and Mrs. Jerome L. Heard  
Mr. Ray Henderson  
Diana and William Herron  
Mr. and Mrs. Arlie Hill  
Jeffrey Hirsch  
Maggie Reinbold  
and Bradford Hollingsworth  
Dr. and Mrs. Matt Hom  
Carolyn B. Houghton  
Borden E. Hughes  
Mr. and Mrs. Tom Karlo  
Mr. and Mrs. Michael Kim  
Katrice and Vince Lee  
John Leighton  
Prof. Thomas E. Levy  
Mrs. Russell Litchfield  
Judy Lobred


Capt. Wilbert Lowe, II  
and Dr. M. Kimberly Lowe  
Mr. and Mrs. Charles S. Luby  
Dr. and Mrs. Stanley Maloy  
Dr. Monte Marshall  
Harry Martz  
Judith L. Mathews  
Mr. and Mrs. David McNair  
Christina and Paul Miller  
Ms. Kathleen Mitchell  
and Mr. Scott Landis  
Ms. Lali Moheno  
and Mr. Victor Moheno  
Kathy Cusick  
and C. Dennis Morgan  
Cdr. J. Mark Morgan, USN RET  
Mr. Jim Mulvaney, Jr.  
Mrs. Ruth Mulvaney  
Elaine and Rand Newman  
Ms. Teresa A. Norris  
and Dr. Richard D. Norris  
Ms. Marianne Pfister  
Pfizer Foundation Matching Gifts  
Program  
Sandra and David Polster  
Rojelio Ramos  
Jon Rebman, Ph.D.  
and Michael Rood  
Mr. Bill Jones  
and Ms. Beth Redmond-Jones  
Ms. Michelene Rich  
Ms. Mary F. Platter-Rieger  
and Mr. John P. Rieger  
Mr. Fred Roberts  
Mr. and Mrs. Stephen Rodecker  
Mr. and Mrs. Robert Rood  
Stacy and Donald Rosenberg  
Betsy and Lea Rudee  
Mrs. Carey Sandland  
Edward Schreck  
Mrs. Connie Schroeder  
Georgina and Lu Sham

Dr. Katharine Sheehan  
and Dr. Frederick Walker  
Alice and Lewis Silverberg  
Ms. Linda Simpson  
Ms. Carol J. Stadum  
Gwen Stoughton  
Ty Summerlin  
Ms. Melissa L. Swann-Bloom  
and Mr. Michael S. Bloom  
Melvin and Ellen Sweet  
Ms. Mitzi K. Swift  
Dr. Catherine A. Tauber in  
memory of Maurice Tauber  
Mrs. Carol Telle\*  
David and Wendy Thomas  
Ms. Eloise F. Thomas  
Mr. Albert G. Verna  
Dr. Jennifer Vogel  
Mr. Gabriel Vogeli  
Mr. and Mrs. Thomas N. Volle  
Jim and Penny Ward  
Dr. and Mrs. Tom M. Warschauer  
Marian Warwick

Sharon Watson  
Ms. Mary Anne Wentink  
Mr. and Mrs. Howard Wiggins  
Mr. and Mrs. Stanley G. Williamson  
Mr. and Mrs. Charles Yash  
YourCause, LLC Trustee for  
Sempra Employee  
Giving Network  
Deborah Zildjian

\* Deceased

 The San Diego Foundation

 The Jewish Community Foundation

If we have omitted your name or made an error, please accept our apologies and help us correct our records by contacting Brittany Handler at 619.255.0359 or [bhandler@sdnhm.org](mailto:bhandler@sdnhm.org).

## Gifts-in-kind

Pamela M. Bruder  
OMG Ocdamia Music Group, LLC  
Tony Roush  
Elizabeth R. Schlappi



## Sustainability Spotlight: Installation of 800 LED Lights Saves Energy

How many naturalists does it take to screw in a lightbulb?

A recent installation of 800 LED retrofit lamps throughout the Museum is one of the many things we are doing at The Nat to reduce our energy use. The Museum worked with a company that offers retrofit lighting installation to replace more than half of the fluorescent lamps with LED lamps in both the public and private areas of the building.

These new LED lamps are high quality, with frosted glass tubes and a natural appearing color.

As they moved through the building, the team also made note of other non-working lights to consider replacing during a future phase. The Museum will be working with SDG&E to receive rebates and incentives on these sustainability upgrades which will also reduce our annual electricity costs.





## In Memoriam Margaret Stevenson

We were sorry to lose Margaret Stevenson, who passed away on October 15, 2018. She was a Museum Docent for many years, starting in 1975. Margaret enjoyed sharing her love of nature as an outreach Docent to schools throughout San Diego County. For many years, she even drove the Docent van filled with specimens to share with the children. The Docents appreciated her wonderful sense of humor and playful spirit.

Margaret was born in 1933 in Los Angeles, graduated from Pomona College, and obtained her Master's degree and teaching credential from UC Berkeley. She and her husband, John, moved to San Diego after John completed his medical residency. While raising four children, the couple traveled extensively by themselves and took regular family houseboat trips on Lake Powell. Margaret was quite the adventurer, boogie boarding well into her 70s. She also volunteered for the League of Women Voters and the Girl Scouts, sharing her love of the outdoors.

## Special Events Partners

The Museum offers a unique and memorable event venue for many throughout the year. To ensure the success for all events the Museum partners with a group of exclusive preferred vendors who are familiar with the Museum and offer a complete range of services.

### AUDIO VISUAL | LIGHTING

Event Technologies Services

### CATERING

Abbey Catering & Event Design  
Coast Catering  
Continental Catering  
Creative Catering & Events  
Crown Point Catering  
Culinary Concepts  
Feast On This  
Personal Touch Dining  
Root Cellar Catering Co  
Terra Catering  
The French Gourmet  
The Wild Thyme Company  
TOAST Catering  
Urban Kitchen Group

### ENTERTAINMENT & EVENT PRODUCTION

To Be Designed  
Pacific Event Productions Creative

### FLORAL DESIGN

Green Fresh Florals + Plants

### PARKING SERVICES

Ace Parking

### PHOTOGRAPHY

Picture Bakery  
Eder Photo

### RENTAL EQUIPMENT

Bright Event Rentals  
Patty's Linen Rentals  
Raphael's Party Rentals  
Patty's Linen Rentals



# Botany Bash

## **BOTANY BASH EVENT COMMITTEE CO-CHAIRS**

Danielle Barger  
Anne Bullard  
Andrea Goicoechea

## **THE MORETON BAY FIG TABLE**

Rancho La Puerta/  
Deborah Szekely,  
Tombi and Roberto Arjona

## **THE TORREY PINE TABLE**

Mona Baumgartel and  
John DeBeer  
Cavignac & Associates  
Jim and Mary Dawe  
Eleanor and Jerry Navarra  
Jessica and Eberhard Rohm

## **THE JOSHUA TREE COUPLES TICKET**

Debbie Fritsch and Pat Boyce  
Roberto and Kathleen Cueva  
Dr. Iris Engstrand  
Georganne and Mike Hctor  
Tom and Julie Karlo/KPBS  
Ann Laddon and Adrian Jaffer  
Diana and Lowell Lindsay  
Anne and Andy McCammon  
Dr. Judith Muñoz and  
Dr. Daniel Muñoz

## **THE WESTERN REDBUD INDIVIDUAL TICKET**

Pat Abbott  
Danielle Barger  
Anne and Greg Bullard  
Ms. Anita Busquets and  
Dr. William A. Ladd  
Courtney Coyle and  
Steve McDonald  
Char Glacy  
Frank and Andrea Goicoechea  
Denise and Mick Hager  
Allison Henderson and Jay Miles  
Jeffrey Hirsch  
The Hom Family  
Chinyeh Hostler  
Steven and DeEtte Loeffler  
Monte Marshall  
Dennis Morgan  
Nancy Nenow and David Dolan  
Rand and Elaine Newman  
Thomas and Irene Oberbauer  
Mrs. James Orwig  
Beverly Pecunia  
Dr. Donna Perdue and  
Dr. Calvin Johnson  
Jim and Claudia Prescott  
Nancy J. Robertson and  
Mark N. Cookingham  
Paula and Jon Schmid  
Sue and Tom Sparrow  
Sarah and Jeff Witt

## **THE MANZANITA INDIVIDUAL TICKET**

Anonymous  
Lisa and Stan Maloy  
Jeanne C. Rosenberg  
Carrie Schneider and  
Bob Laymon  
Richard Schwenkmeyer  
Bob Vinton

## **WISH LIST SPONSORSHIP**

Ms. Anita Busquets and  
Dr. William A. Ladd  
Roberto and Kathleen Cueva  
Allison Henderson and Jay Miles  
Drs. Heinz and Barbara Hoenecke  
Carla and Rudy Rehm  
Nancy J. Robertson and  
Mark N. Cookingham  
Maryanne and Harley Sefton

## **CONTRIBUTIONS**

William and Terri Buchanan  
William Disher  
James and Janet Dort  
Charles Kennel and  
Ellen Lehman  
Victoria R. Marshall  
Thomas and Irene Oberbauer  
Richard Schwenkmeyer  
Jeanne G. Shenkman  
Carol and Dennis Wilson

## **AUCTION SPONSORS**

Anza-Borrego Foundation  
Anne and Greg Bullard  
Continental Catering  
Char Glacy and Angie Brenner  
Andrea and Frank Goicoechea  
Golden Door Spa  
La Casa del Zorro Resort and Spa  
Ann Laddon and Adrian Jaffer  
Rancho Las Cruces  
Rancho La Puerta Spa and Resort  
Urban Kitchen Catering



## Endowments

Administrative Endowment  
Ambassadors Circle Endowment  
Joshua L. Baily Endowment for Marine  
Invertebrates and Paleontology  
Biodiversity Research Center of  
the Californias Director's Endowment  
Mary and Dallas Clark Chair of Botany  
James R. Colclough Paleontology Endowment  
Ruth G. Comstock Entomology Endowment  
Danziger Ornithology Endowment  
Dorothy Elliott Museum Access  
Fund Endowment  
Endowed Chair for the President & CEO  
Groce Natural History Endowment Fund  
at the San Diego Foundation  
William Randolph Hearst Endowed Fund  
for Education Programs  
Hill Endowment for Ornithology Research  
Klauber Family Library Endowment  
Grace and Laurence Klauber  
Herpetology Endowment  
Trust of Hallam J. Koons, in memory  
of his father, Hallam T. Koons  
Herbert N. Lowe Conchological Collection  
Mildred Meeder Endowment Fund  
at the San Diego Foundation  
Member Science Endowment  
San Diego Society of Natural History General  
Endowment at the San Diego Foundation  
Topper Thomas Youth Education Endowment  
The Stephen L. Walsh Vertebrate  
Paleontology Endowment  
W.W. Whitney Library Endowment  
Dennis and Carol Wilson Endowed  
Chair of Ornithology

## Natural Partners

Natural Partners are corporate supporters of the Museum who gave \$1,250 or more in cash, event or product and services support over the course of the year. We are proud to be associates with these organizations and are most appreciative of their generosity.

### BIODIVERSITY CHAMPION NATURAL PARTNER

Subaru of America Foundation, Inc.  
Troutman Sanders LLP\*\*

### DESERT NATURAL PARTNER

CalPacific Marketing Group, Inc.  
CerasoliStafford Media Management LLC\*\*  
KPBS-TV Public Broadcasting\*\*  
Simpler & Simpler\*\*

### MOUNTAIN NATURAL PARTNER

ResMed  
San Diego Gas & Electric

### CHAPARRAL NATURAL PARTNER

Bank of America  
Bender Dean Engineering\*\*  
Cavignac & Associates  
Coast Catering\*\*  
Cook + Schmid, LLC\*\*  
Feast On This\*\*  
First Republic Bank\*\*  
Qualcomm Foundation  
Rancho La Puerta  
San Diego Family Housing LLC\*\*  
Scott Dunn USA Inc\*\*  
Terra Catering\*\*  
The French Gourmet\*\*  
The Irvine Company\*\*  
The San Diego Foundation  
Turpin & Rattan Engineering, Inc.\*\*  
VWR International, LLC  
Zagrodnik and Thomas Architects LLP\*\*  
Zenith Insurance Co.

### COAST NATURAL PARTNER

La Casa Del Zorro Resort & Spa\*\*  
Nordson Corporation Foundation  
Rely Environmental\*\*  
Select Mailing Service, Inc.\*\*  
Wright Management and Development\*\*

\*\* In-kind donation

## In Memoriam

The following individuals represent members, donors, and volunteers who have passed away this fiscal year. We are thankful for their commitment to the Museum and wish to honor their memories.

Marianne K. Adams	Aline G. Hornaday
Larry Banegas	Gerry Kwiat
Kenneth L. Bowles	James U. Lemke
Donald Breitenberg	James D. Nauman
Richard S. Bundy	Jorge A. Orozco
Michael Burch	Larry D. Rhodes
John C. Carson	Abelardo L. Rodriguez
Ramona D. Court	Mark Roeder
Tim Elsmore	Jerry Sams
Milt Evangelou	Margaret Stevenson
Samuel Franks	Carol Telle
Audrey S. Geisel	Christine E. Tratnyek
Mary M. Grandell	L. Susan Van Acker
Lois L. Harris	Barbara Zepf
Jim Hervey	
Dorothy Hester	
Judy Hollis	

## Live Oaks Society

**The Live Oaks Society is comprised of supporters who have made gifts to the Museum through their estate plans.**

Anonymous (11)  
Marianne K. Adams\*  
Dr. Janet A. Anderson and  
Dr. Victor Van Lint  
Francoise D. Baker  
Eowyn Bates and  
Christopher Croom  
Dr. Annalisa Berta  
Thomas A. Blackman  
Susan and Richard Breisch  
George Brooks-Gonyer  
Mr. and Mrs. Gregory Bullard  
Mrs. Ramona Bush  
Ms. Anita Busquets  
and Dr. William A. Ladd  
Margaret E. Carl  
Dale Hollis Clark  
Jerry Clarkson

Karen and Dr. James F.\* Clements  
Mr. David R. Crawford  
Jose de la Torre-Bueno  
Mona Baumgartel  
and John DeBeer  
Ms. Janie DeCelles  
Tom and Deanne Deméré  
Bill & Camille Doane  
Mr. and Mrs. James M. Dort  
Glenn and Jeanne\* Dunham  
Bernard J. Eggertsen  
Iris and Paul\* Engstrand  
Meryl Faulkner  
Ms. Michele Fergoda  
Charlene Glacy  
Robert and Linda Gordon  
Judy Gradwohl  
Dr. David E. and Barbara Groce  
Dr. and Mrs. Michael Hager  
Mr. and Mrs. Enrique Hambleton  
Ed and Janelle Harris  
Lois and John Harris  
Ms. Susan Heller  
Ms. Allison Henderson  
and Dr. Jay Miles  
Dorothy Hester\*

Mr. and Mrs. Michael Hoctor  
Melanie Howe  
Kathleen Howell  
Mr. and Mrs. Gary C. Jacobson  
Adrian Jaffer  
Mr. and Mrs. J. Edwin Jenkins  
Jim and Lynne Jett  
Dr. Donna Perdue  
and Dr. Calvin Johnson  
Linda D. King  
Janet Klauber and Jim Melli  
Ms. Sheri Knox  
H. William Kuni  
Ann Laddon  
Diana E. Lindsay  
Dr. Jack L. Littlepage  
Ms. Barbara J. Lohne  
Dr. Monte Marshall  
Mr. Jack T. McCord  
Mr. and Mrs. Anthony\* Mercieca  
Dennis Morgan and Kathy Cusick  
Judith T. Muñoz  
Nancy Nenow  
Mrs. Carol Netterblad  
Dr. and Mrs. Fred Orton  
Walter and Anne\* Pagels

Mrs. Joseph R. Parker  
James and Barbara Peugh  
Rudy\* and Marilyn Regalado  
James K. Richardson  
Rich and Harleen Roncaglia  
Arthur Rossiter  
Peter Sadori  
Vicki Sadori  
Ms. Bonnie Sanchez  
Ms. Ronnie Schneider  
Richard C. Schwenkmeyer  
Jeanne and Henry\* Shenkman  
David Dwyer Smith  
Mr. and Mrs. Gaylord Stickney  
Phyllis and Frank Tabor  
Drs. Paul and Ann Tuskes  
Phil Unitt  
Dr. Robert C. Vinton  
Dr. Michael Wall  
& Ms. Allison Teem  
Marian Warwick  
Mrs. Gloria Wilkes Van Norman  
Jerry and Shana Wilson  
Mrs. Mary M. Yount

\* Deceased



### In Memoriam Carol Telle

The museum lost a great friend. Carol Telle, a dedicated Docent for 25 years, passed away on July 2, 2019. She served as president, vice president, training co-chair, and Docent League representative. The Docents were her second family and she enjoyed the continual learning and personal support she received from the Docents and museum staff. Carol shared her love of the Museum, encouraging her grandchildren and great-grandchildren to visit as often as they could.

Carol was a native of Chula Vista, her grandparents having moved to the area in 1890. She attended Chula Vista High School and San Diego State University. She later obtained her Master's in Education at a time when it was not required. Carol taught grades 4-6 in the La Mesa/Spring Valley district, and was proud that many of her students went on to successful careers. Becoming a Docent allowed Carol to continue teaching right up to the end of her life.

## Binational Advisory Committee 2018-2019

Enrique Hambleton, **Co-Chair**  
Thomas Oberbauer, **Co-Chair**  
Eric Anderson  
Roberto Arjona  
Richard Cudney  
Gustavo Danemann  
Iris Engstrand, Ph.D.  
Martin Goebel  
Alan Harper, Ph.D.  
Davida Herzl  
Richard Kiy  
Sergio Knaebel  
Laura Martínez Ríos  
Steven McDonald  
Anne McEnany  
Rodolfo Ogarrío  
James Riley  
Jaime Roberts Vildosola  
Carolina Shepard Espinoza  
Laura Silvan  
Drew Talley  
Roberto Valdes  
Sula Vanderplank  
Jim Waring  
Emily Young

## Board of Directors 2018-2019

Roberto Arjona, **Chair**  
Terri Buchanan  
Anne Bullard, **Secretary**  
Mary Dawe, **Vice Chair**  
John DeBeer  
John Downing  
Stephen Hill  
Georganne Hoctor  
Kathryn Kim, **At Large**  
DeEtte Loeffler  
Stanley Maloy, Ph.D., **At Large**  
Steve McDonald  
Judith Muñoz  
Rand Newman  
Tom Oberbauer  
Ron Ottinger  
Demi Rogozienski  
Jon Schmid, **At Large**  
Jason Shidler  
Jeff Witt, **Treasurer**

### TRUSTEES EMERITI

Pamela M. Bruder  
Dale Clark  
Mary H. Clark\*  
James Clements\*  
Joan Parker  
Norman C. Roberts., DVM\*  
Harley Sefton  
Thomas W. Sefton\*  
Christy Walton  
Carol Wilson

### HONORARY TRUSTEES

Charmaine\* and Maurice\* Kaplan  
Philip M. Klauber\*  
Donna K. Sefton\*  
Richard Schwenkmeyer  
Nita and Henk van der Werff  
Dennis Wilson

\* Deceased

## Senior Management 2018-2019

Judy Gradwohl  
President and CEO

Eowyn Bates  
Vice President, Institutional  
Advancement

Mark Orozco  
Vice President, CFO, and COO

Beth Redmond-Jones  
Vice President, Engagement  
and Education

Michael Wall, Ph.D.  
Curator of Entomology  
Vice President, Science  
and Conservation

Tom Deméré, Ph.D.  
Curator of Paleontology

Bradford Hollingsworth, Ph.D.  
Curator of Herpetology

Jon P. Rebman, Ph.D.  
Curator of Botany  
The Mary and Dallas Clark  
Endowed Chair of Botany

Philip Unitt  
Curator of Birds and Mammals  
The Dennis and Carol Wilson  
Endowed Chair of Ornithology

Margaret Dykens  
Director of the Research  
Library and Registrar

Ingrid Garcia  
Senior Director of Human  
Resources

Michael Field  
Director of  
Experience Design

Rebecca Handelsman  
Senior Director of  
Communications

Katrice Lee  
Senior Director of  
Development and Grants

Jennifer Padilla  
Senior Director of Visitor  
Experience

Ghia Santos  
Controller

Lauren Smeenge  
Senior Director of Events

## Volunteer Officers 2018-2019

### CANYONEERS

Rochelle Gaudette, **President**  
Stacey Vielma, **Vice President**

### DOCENTS

Maureen Lewis, **President**  
Karen Owens,  
**Co-Vice President**  
Anita Musser, **Co-Vice President**

### WHALERS

Stefanie Curtis, **President**  
Sue Emerson, **Vice President**

### THE COVEY

Pamela Hartwell, **Co-President**  
Julie Johnson Lavelli,  
**Co-President**

# Acknowledgements

## **ART DIRECTION AND DESIGN**

Erick Toussaint, Alonso Lopez

## **EDITOR IN CHIEF**

Rebecca Handelsman

## **EDITORIAL COMMITTEE AND CONTRIBUTORS**

Eowyn Bates

Hector Borja

Margaret Dykens

Judy Gradwohl

Katrice Lee

Janet Morris

Mark Orozco

Krista Pelayo

Robert Reed

Stephania Villar

Michael Wall, Ph.D.

## **PHOTOGRAPHY**

Alan Harper, Michael Field,  
Jon Rebman, Jonathan Talbot,  
Erick Toussaint, Kate Johnson,  
Sula Vanderplank, Bob Ross,  
Jeremy Gradwohl, Ben Aguirre,  
Stephania Villar, Jorge Valdez

## **COVER PHOTO**

White-faced Ibis take flight  
at the Sonny Bono National  
Wildlife Refuge on the shores  
of the Salton Sea in Imperial  
County. The population of the  
White-faced Ibis has surged in  
the past 30 to 35 years, and the  
flooded fields of the Imperial  
Valley are a big center of their  
winter distribution. The bird's

face features a narrow strip  
of white when in breeding  
plumage. The nonbreeding  
birds and immatures, as seen  
in the cover photo, have an  
all-dark head.

## **INSIDE BACK COVER PHOTO**

Last year, museum scientists  
and colleagues from Mexico  
launched a research expedition  
to the southern islands of  
the Gulf of California, Mexico,  
including Isla Carmen,  
shown here.

## Our 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.

### **STREET ADDRESS**

San Diego Natural History Museum  
1788 El Prado, Balboa Park  
San Diego, CA 92101

### **MAILING ADDRESS**

San Diego Natural History Museum  
P.O. Box 121390  
San Diego, CA 92112-1390

### **SDNAT.ORG**



Printed on partially recycled paper, using soy ink.

**the nat** | SAN DIEGO  
NATURAL HISTORY  
MUSEUM