SAN DIEGO NATURAL HISTORY MUSEUM

IMPACT REPORT

2019–2020


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Dear Museum friends,

This was a year of prosperity and pandemic. The emergence of COVID-19 neatly cut the year in two, and I am proud to present this impact report showing how the Museum managed to have milestone achievements on both sides of that dividing line.

The ingenuity, agility, and fiscal responsibility we fostered over the past few years helped us before and after the pandemic struck. From July 2019 through February 2020, we saw greater than anticipated admissions, aided by the opening of *Living Lab,* our new exhibition of live animals. To the delight of capacity crowds, we opened the rooftop two days a week through the summer. We continued planning for our 150th anniversary by completing a master plan for the building.

We inaugurated a new Urban Canyons initiative that will lead to closer ties with communities and organizations across San Diego County, and help preserve our unique urban habitats. Our scientific research continued on both sides of the border, and along the border itself.

Right on the dividing line between pre- and mid-pandemic, our herpetologists and a large team of colleagues from Mexico and the United States successfully re-introduced California red-legged frog eggs from Baja California to two sites in Riverside and San Diego counties. This international feat of juggling permits, timing, and weather would have been challenging in normal times. When the pandemic unfolded and the border tightened, it required herculean efforts and cooperation.

As news stories of the pandemic mounted, we assembled an Emergency Response Team to ensure we made informed decisions and communicated effectively to staff, volunteers, and our community. Thanks to a detailed pandemic plan shared by a peer museum, we had a great model, which helped us orchestrate a careful shutdown.

Everyone pitched in to get the Museum up and running from our homes. This included giving staff members access to computer equipment, implementing cloud-based solutions for file storage and video conferencing, ensuring the care of our living and preserved collections, saving energy by disconnecting devices and lighting in the building, and cross-training our front-of-house staff to help with collections, field work, and database cleanup. Every single staff member rallied, and within a week we were scattered across homes around the county, yet working together again.

Our financial strength and ability to retain staff stemmed from entering the pandemic with a projected surplus, careful stewardship of our cash, and a generous forgivable loan from the Small Business Administration Paycheck Protection Program. Not to be outdone by the staff, our Board of Directors provided expert advice, attended emergency meetings on weekends, and helped every step of the way.

I am proud of our accomplishments detailed in this report. As a group we rose to meet an unprecedented challenge, we learned and adapted rapidly, and set ourselves up for continued success. As I write, the pandemic story is nowhere near over, but we have seen adversity over our nearly 150 years—and I know we will pull through.

Sincerely,

JUDY GRADWOHL
PRESIDENT AND CEO

Return of the Frogs

Museum Biologist Frank Santana and USGS Research Zoologist Robert Fisher bring a specially adapted cooler holding California red-legged frog eggs to a reintroduction site at the Santa Rosa Plateau Ecological Reserve.

A RACE AGAINST THE CLOCK—IN THE NAME OF CONSERVATION

It was weather only a frog could love. On the day of the historic release of red-legged frog eggs in San Diego County, rain and cloud cover enveloped the landscape. This quiet overcast day marked the culmination of many years of hard work to return California red-legged frogs (*Rana draytonii*) to their historic range in southern California, where they have been absent for about 20 years.

When the eggs arrived in their humming temperature-controlled Yeti cooler, the reintroduction process was relatively quick and simple. Scientists checked the water temperature to ensure it matched the temperature of their new pond, dipped the mesh bag of eggs in clean pond water to rinse them and provide biocontrol against chytrid fungus, and carefully emptied the bag into a mesh cage floating near the edge of the pond.

The simplicity of this action belied the decades of research and planning. More than 20 people worked for years to see this happen. The project was led by the herpetology team at The Nat and the Mexican nonprofit organization, Conservación de Fauna del Noroeste (FAUNO). It involved almost unheard of binational cooperation between these organizations and the United States Fish and Wildlife Service (USFWS), the U.S. Geological Survey (USGS), and The Nature Conservancy (TNC).

A SPECIES IN DECLINE

Red-legged frogs, Mark Twain's celebrated jumping frogs of Calaveras County, once occurred along the coast of California from Point Reyes, inland to Redding, and south to northwestern Baja California, Mexico. When bullfrogs were introduced to California around 1896, they led to the decline of red-legged frogs, and populations were further decimated by other exotic species, fungal disease, drought, and urbanization. The last known red-legged frog in San Diego County was observed in 1974.

Scientists from USGS and The Nat launched a study in 2006 to look for the species south of the border. In 2016, FAUNO discovered remaining remnant populations of red-legged frogs in the mountains in northern Baja California. They worked energetically with museum staff on habitat conservation for the species, and even dug additional breeding ponds, which successfully attracted frogs. It was one of the relatively new breeding ponds that provided the source of egg masses for this historic translocation event.

EGG LAYING AND PERMITTING: A PERFECT STORM

With the discovery and nurturing of a population genetically related to the extirpated southern California frogs, it seemed like a straightforward concept: collect eggs in Mexico and reintroduce them in southern California. Of course, binational work requires permits from multiple agencies in two nations, so it is nothing short of a miracle the timing worked out.

Frogs wait for the late winter rains to begin breeding in Baja California's Sierra San Pedro Martir. Once the rains start—and frogs need the correct amount of rain—there is a period of weeks for egg laying.

January brought a dry spell that continued through much of February, followed by an abundance of rain that washed away some of the egg masses. With a gestation period of about 14 days from egg to tadpole, the scientists monitored for perfect conditions. Meanwhile, there was a race to obtain permits—to collect and transport eggs, and export them from Mexico, and to import and release them in the U.S. and particularly in the state of California.

RACE AGAINST THE WEATHER—AND CORONAVIRUS

It was a nail-biter of a week waiting to hear about field conditions, permits, transportation options, and weather forecasts. It was also a race against the spread of the coronavirus.

On March 12, when it was determined that the project was a "go," there were 1,276 reported cases of the coronavirus in the United States. On March 13, the same day we made the difficult decision to close the Museum to the public, the frog team was doing last-minute prep for the translocation. Rumors of an imminent border closure and possible bans on international travel by government employees further complicated the situation.

No one knew what the next few days held, and it felt like things were playing out on a split screen—business closures and minute-by-minute changes in San Diego, while an exciting environmental milestone played out in the wilderness of Baja California.

With a team of experienced problem-solvers, every potential roadblock was met with a calm move to Plan B, C, or D. In the end, the eggs were driven across the border at Tecate, Mexico in the lone car lane. By the time the cooler was transferred to the last vehicle for its ride to the release site, a few of the eggs had already hatched into tiny wriggling tadpoles. The installation of the eggs and tadpoles into their new ponds went smoothly. Years of planning, preparation, and clockwork timing floated into fruition.

BLINKING OUT/BLINKING ON

When the last of a species is extirpated—or goes locally extinct—scientists say it has "blinked out." The seemingly simple act of gently emptying the mesh bag with about 500 eggs and tadpoles was a rare and amazingly moving sight, a "blinking on."

Follow-up reports indicate the tadpoles are growing and thriving. Our fervent hope is that in spring 2021 when frogs are hopping around the release site, we will also have been released from confinement, and the team can gather again to witness the remarkable vision of red-legged frogs restored to southern California.

Adult male and female California red-legged frogs from the source population in Baja California, Mexico. Breeding takes place in the spring, and a female can lay more than 1,000 eggs each year.

Saving our canyons through community science

A COMMUNITY-BASED INITIATIVE FOR CONSERVING SAN DIEGO'S CANYONS

San Diego's urban and suburban coastal canyons are an unrivaled natural treasure woven through a metropolitan area with more than 3 million residents—a treasure in need of care and conservation.

Comprising well over 50,000 acres and home to more than 80 threatened species, San Diego canyons thread through neighborhoods throughout the County. Their presence is one of the reasons why 81 percent of San Diegans live within a 10-minute walk of a park or green space.

While proximity to green spaces can improve the physical and psychological health of San Diegans by providing areas for exercise and mental escape, that same proximity threatens the continued existence of canyons through pollution, invasive species, and more. It poses the question of how we can broaden the restorative power of canyons to more San Diegans, while maintaining healthy ecosystems for the canyons' native plants and animals.

That is why The Nat launched an exciting initiative to work with our communities to study and conserve San Diego's urban and suburban coastal canyons.

For a project of this broad scope, no organization could tackle it alone and expect to make a meaningful impact. Together with the Caster Family Center for Nonprofit and Philanthropic Research at the University of San Diego, we began by determining where The Nat's skills and expertise fit into an already robust ecosystem of organizations concerned about regional canyons.

Through surveys, interviews, and convening 39 different agencies, nonprofits, and universities, we were able to define a common agenda, and goals for a collective impact initiative addressing regional canyon conservation. The process also revealed that The Nat's strengths in science and environmental education, along with our reputation in the community, make sense for us to serve as a trusted leader and convener.

Cities across the world face similar challenges in increasing access while bolstering ecological integrity of greenspaces. By carefully documenting our community building, our successes, and our challenges, we hope to serve as a model for other cities looking to reconnect people with nature and science in their backyards and neighborhoods.

Near the end of the fiscal year, we were delighted to learn that the Gordon and Betty Moore Foundation shared our vision of a broader impact, and supplied the seed funding to kick off our efforts.

The process is just beginning, but we look forward to what the future brings as we organize a collective to conserve San Diego canyons.

Dr. Ashley Poust examines the features of a fossil bird at Dalian Natural History Museum in Liaoning, China. At right, an artist rendering of the newly described dinosaur *Wulong bohaiensis.* Wulong is Chinese for "the dancing dragon." Illustration by Erick Toussaint.

Introducing Dr. Ashley Poust, the Inaugural Colclough Postdoctoral Fellow

Our scientists conduct research that is no different from a biology department or museum at a university. The only thing missing is students. Young energetic scientists bring new thinking, outside connections, and innovative ideas for research collaboration and creativity. For years, our scientists have worked to connect with active post-doctoral researchers, and have lacked the resources to compete with universities, laboratories, and other research groups to attract rising scientific stars.

This year, we made this dream a reality thanks to the generosity of long-time paleontology volunteer Jim Colclough, who endowed a post-doctoral position in the Paleontology Department. Jim Colclough was a 25 year volunteer who began working in the Paleontology Department in 1989 alongside Curator of Paleontology Dr. Tom Deméré, now completing his 40th year at the Museum.

In September 2019, we were thrilled to welcome Dr. Ashley Poust, our first official James R. Colclough Postdoctoral Researcher to the Paleontology Department. Having recently earned his Ph.D. at the University of California, Berkeley in Integrative Biology, Ash was the first choice for the search committee, selected from candidates from across the U.S. and Europe.

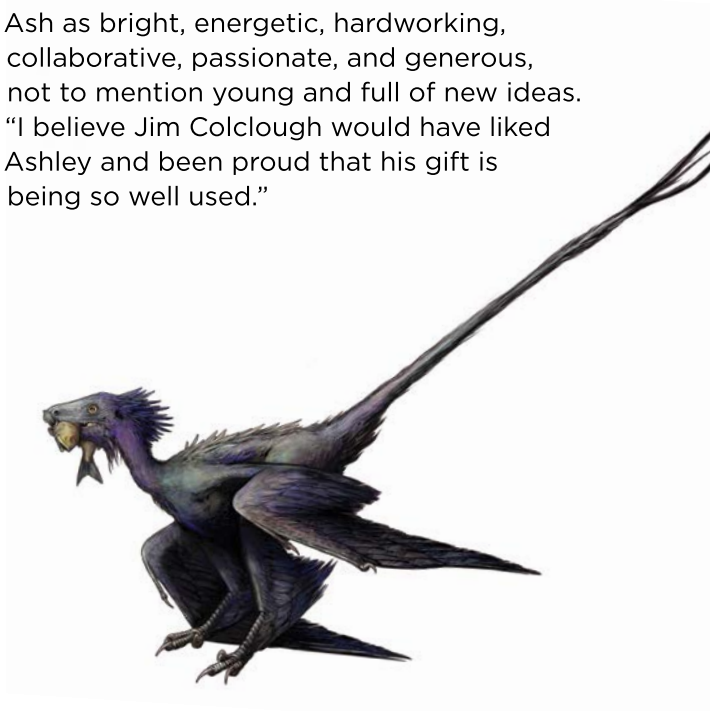
Upon his arrival in San Diego, Ash hit the ground running. Ash has already published two important research papers, one of which made headlines all over the world. His paper in *The Anatomical Record* documented the exciting discovery of a new species of feathered dinosaur in China, named *Wulong bohaiensis.* Wulong is Chinese for "the dancing dragon." This discovery offers a window into what the earth was like 120 million years ago and provides new information about how dinosaurs grew and how they differed from birds.

Another paper in the *Journal of Vertebrate Paleontology* describes a dinosaur fossil with eggs still held inside the skeleton—ready to lay when it died. Because of this unique association, we were able to learn a lot about the life of oviraptorosaurs, a group of feathered dinosaurs from the Cretaceous Period, from reproduction and birth, to death and decay.

Ash analyzed the specimens while he was an undergraduate at Montana State University, working in China alongside his advisor who had a professional relationship with The Dalian Natural History Museum in Liaoning, a northeastern Chinese province. He used osteohistology, which involved carefully cutting thin slices of fossil bones to study the microscopic structure, chemical composition, and function of bone.

In addition to his passionate interest in paleo biological research, Ash has a knack for engaging the public about biology and translating some of the more arcane aspects of his research topics for the layperson. Dinosaurs are eternally fascinating to many people, so this a natural jumping off point for conversation. He received awards for his excellent teaching skills in graduate school, and his seminars and public programs are always a treat.

Despite his 40 years of efforts in the department, Tom has lost none of his own enthusiasm and commitment. He describes Ash as bright, energetic, hardworking, collaborative, passionate, and generous, not to mention young and full of new ideas. "I believe Jim Colclough would have liked Ashley and been proud that his gift is being so well used."



Creepy, Crawly, Cool—and Up Close

Until recently, The Nat's living collection—live animals used for education programs and occasionally in exhibitions—has been a well-kept secret. We rotated a few animals on display in *Coast to Cactus,* and most of the collection resided in a Vivarium, off view to the public.

We knew people loved meeting our animal ambassadors. So when we decided to retire *Water: A California Story,* moving the Vivarium to public view seemed like a great use for that gallery. It became clear an exhibition highlighting the living animals of the region would be a welcome addition to the museum experience.

Of course, our living collection has a regional focus, and many of the herps and invertebrates are not what one thinks of as typical crowd-pleasers.

Undaunted by the lack of obvious charisma in centipedes, rattlesnakes, spiders, and their kin, The Nat's talented exhibit developers created *Living Lab,* which debuted in November 2019. The exhibition was an immediate hit with visitors of all ages and backgrounds. It brings them eye to eye with animals that are common to our region, but sometimes rarely seen because of their seasonality, reclusive nature, or nocturnal lifestyle habits.

The exhibition skillfully fosters empathy for animals that lack a cute-and-cuddly look—helping guests overcome 'eco-phobias' and better understand why these animals are worth protecting.

Visitors can see everything from commonly observed scorpions, black widow spiders, and stink beetles, to elusive and nocturnal animals such as a lyresnake and Western banded geckos. Two of the four rattlesnake species that occur in San Diego County are on display: the Western rattlesnake and a red diamond rattlesnake.

An observation beehive invites guests to watch honey bees come and go as they pollinate Balboa Park plants and sustain their hive.

The exhibition's unique blend of science, storytelling, and live animals gives visitors the opportunity to learn about regional fauna. In keeping with bringing back-of-house functions to public space, an animal care specialist works in the exhibition during open hours so people can have their questions answered and see the animals being fed and cared for.

Living Lab is one of several strategic shifts in the way we're doing business, a result of our 2017 strategy roadmap that identified several priorities, chief among them an increased focus on science and conservation and more visitor engagement.

We're fulfilling our mission in a way that's approachable, fun, and educational. Over the past several years, we shifted our concentration from large traveling exhibitions to those featuring our own collections, scientific expertise, and talented staff.

In-house development means creating experiences that are unique to The Nat, and allows us to bring the "back of house" to the forefront. *Living Lab, Unshelved, Hidden Gems,* and the recently updated Demonstration Lab highlight our unparalleled collections and give visitors a rare peek of behind-the-scenes activity.

Moving forward, our exhibitions will continue to engage and amaze while emphasizing ongoing research, leveraging our collections, and providing a binational perspective. They will also promote sustainability—literally and figuratively. Not only are we using more earth-friendly materials in the building of these exhibitions, but future shows like *California Blooming* will promote how to be a good environmental steward. We're also becoming more financially sustainable by developing these shows in-house, offering a better return on investment than renting short-term travelling exhibits.

In the meantime, we know that when The Nat reopens, *Living Lab* is one exhibition people can't wait to see.

Living Lab brings visitors eye to eye with animals common to our region, including (clockwise from top) a Western shovel-nosed snake (*Chionactis occipitalis*), California ebony tarantula (*Aphonopelma eutylenum*), Western toad (*Anaxyrus boreas*), and Western banded gecko (*Coleonyx variegatus*).

Blueprint for the future

WE ARE STEWARDS OF THE NATURAL WORLD—AND THE BUILDING ITSELF

There is no other building that houses so much knowledge about the natural history of our region.

It holds 70 million years of history, millions of specimens, and invaluable clues to our past. All of which inform the future.

Can our building do a better job of supporting our long-term mission? This is a question we posed throughout our comprehensive master planning process, which was completed last year in consultation with Ewing Cole, a leading architecture, engineering, and design firm. Our master plan is our strategy in action, and it outlines how that vision plays out in the building itself.

We thoroughly examined the current state of our facilities and identified areas for improvement. While some public spaces will be renovated, much of the work will be behind the scenes.

This plan is designed to lay the groundwork for the next 20+ years. In the near future, we're focusing on three key goals:

REDUCE OUR CARBON FOOTPRINT.

Being energy efficient is critical to the protection of our natural world, which is why reducing our energy use is a primary goal. This includes a major update of our lighting, heating, and air conditioning systems to help save precious resources. See story at right to learn more about how we're tackling this issue.

IMPROVE COLLECTIONS CARE.

Our collections grow in size and value every year, and the need to properly care for them becomes more critical and complex. Our priorities include better climate control in storage areas to protect specimens from light and heat, improvements to the loading dock for ease in handling large specimens, and reorganizing our collections to maximize access for our scientists, students, and visiting researchers.

ENHANCE THE VISITOR EXPERIENCE.

The Museum is a vibrant and inspiring place. We will work to make it even more so—from the entrance to the rooftop.

This includes opening spaces not currently on view to the public, including a brand-new exhibition gallery on our fourth floor and the possibility of a visible collections area on the lower level.

We're also working on a landscape master plan for the area immediately outside the Museum. This has the potential to result in interpretive gardens so visitors can immerse themselves in the natural world even before they walk in the doors, and our education programs can feature nature in action.

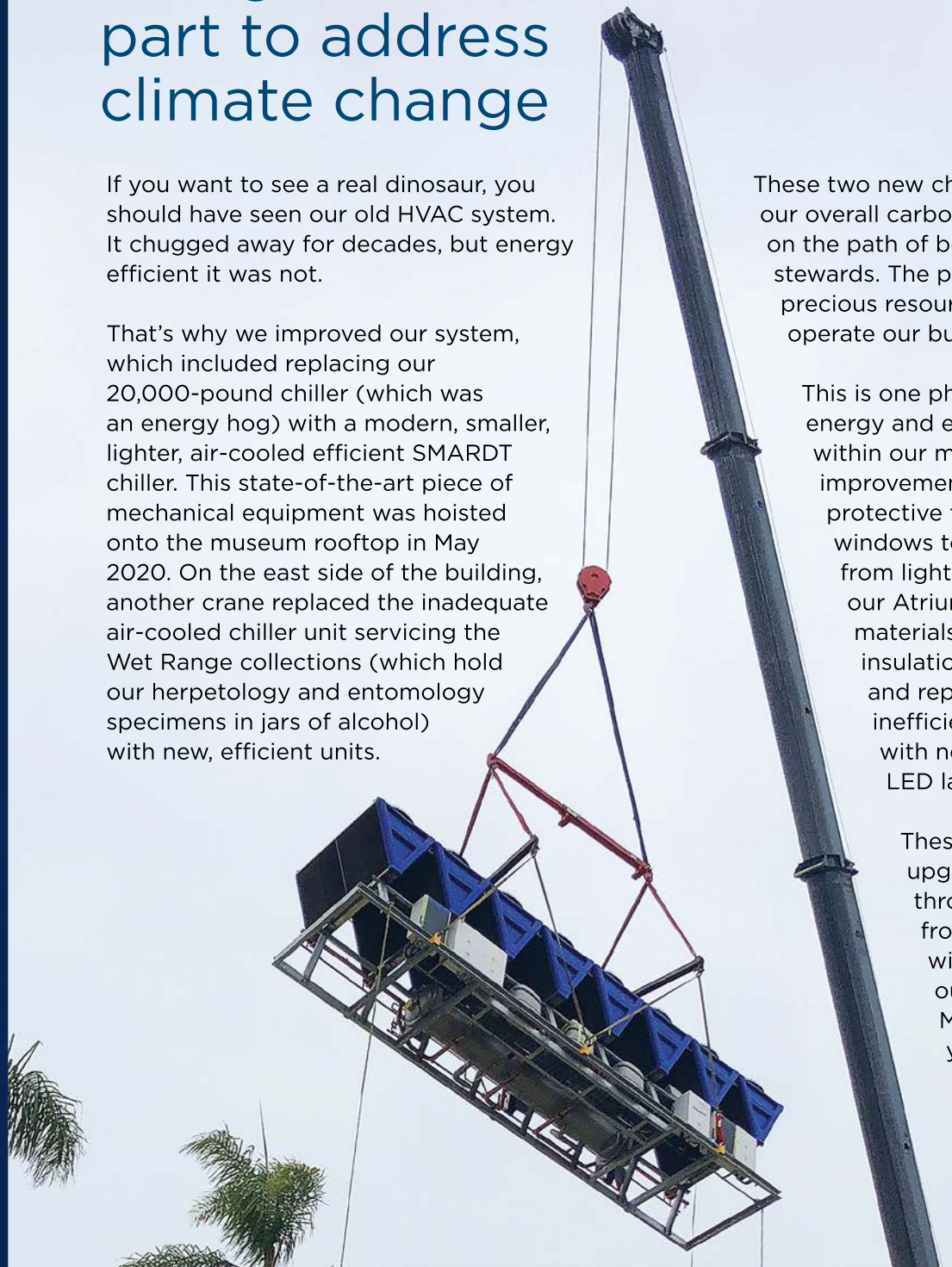
Never in our nearly 150-year history has it been so important to think about the future, so that generations to come can continue to enjoy this special place, and this amazing region we call home.

Background image taken from historic building blueprints from the Museum's early years. At right, a state-of-the-art chiller is hoisted onto the rooftop as part of our master plan improvements, which include reducing our carbon footprint.

Doing our part to address climate change

If you want to see a real dinosaur, you should have seen our old HVAC system. It chugged away for decades, but energy efficient it was not.

That's why we improved our system, which included replacing our 20,000-pound chiller (which was an energy hog) with a modern, smaller, lighter, air-cooled efficient SMARDT chiller. This state-of-the-art piece of mechanical equipment was hoisted onto the museum rooftop in May 2020. On the east side of the building, another crane replaced the inadequate air-cooled chiller unit servicing the Wet Range collections (which hold our herpetology and entomology specimens in jars of alcohol) with new, efficient units.



These two new chillers will help us reduce our overall carbon footprint and keep us on the path of being good environmental stewards. The project will help save precious resources and allow us to operate our building more efficiently.

This is one phase of a bigger energy and equipment overhaul within our master plan. Additional improvements will include adding protective films and inserts to windows to protect collections from light and heat, replacing our Atrium skylights with new materials that offer better insulation and UV protection, and replacing thousands of inefficient fluorescent lights with new, energy efficient LED lamps.

These infrastructure upgrades, made possible through contributions from generous donors, will significantly modernize our historic building. The Museum houses 70 million years of history. We're making sure it has a good future.

A Time for New IDEAs

Our hopes for a sustainable approach to the natural world rely on a society that consciously makes unbiased choices and values mutual respect. And that includes the culture at our own organization.

In September 2019, Museum leadership created a staff working group dedicated to removing barriers for inclusion, diversity, equity, and accessibility (IDEA). While our mission-driven work is to highlight regional biodiversity, we believe that including and valuing diverse voices strengthens our organization and our vibrant San Diego community.

Data-informed decision making is one of the Museum's strengths, and it is also a best practice for our efforts to address challenges relating to inclusion, diversity, equity and accessibility for our staff and community. We are learning from the American Alliance of Museums' Diversity and Inclusion Policy, and from the Association of Science and Technology Centers' Cultural Competence Learning Institute. These two industry organizations offer a national, research-based perspective on inclusion and diversity practices in museums, and the resources are helping us define our institutional perspective.

The research, resource gathering, and training completed during the fiscal year have laid the groundwork for our team to develop more inclusive and equitable policies and procedures for The Nat. Next, we plan to gather community input as we draft an IDEA statement that uniquely incorporates our commitment to biodiversity. Once adopted, we envision it will inform institutional policy, training for managers, and related learning opportunities for staff.

We aim for authentic expression as we pursue this work, and we are committed to creating meaningful change across the organization. This will involve auditing all factors of how the Museum operates through the IDEA lens, including the external environment that affects our work, the organizational policies, the departmental procedures, the management practices, and our expectations of individual staff members. We will document everything we are doing well—such as providing cultural competence training for new staff—and prioritize the challenges we identify so that we can take action.

This first phase is focused internally as we design communications, programs, and experiences that model our inclusive, diverse, equitable, and accessible values. Future phases will be more community focused, and we invite you to join us in this long-term process.

Taking the Natural World Digital

Nature never stops, so we knew we needed to fling open our digital doors when the Museum closed to our public. Digital communication has always been an important way for us to engage with our communities. Closure meant that going digital was the way in which we would continue connecting people with nature.

We turned to our well-established audiences on our social media platforms and e-newsletter communities with a survey, and we found three primary needs:

- Learning resources for students
- Science and behind-the-scenes news
- Community building, and the need for human connection

Our education and communications teams worked together to reorganize our resources, launching The Nat @ Home, a website portal containing DIY activities, scavenger hunts, and lesson plans organized for parents and teachers alike. We also developed new resources that featured nature around peoples' homes.

Meanwhile, our scientific research never slowed down. We shared research discoveries through behind-the-scenes photos and video, and launched social media campaigns inspired by field observations.

When our popular evening Nat Talk series went online, our scientists and other experts were projected into homes in San Diego and beyond via Zoom. Participants logged in from as far away as Canada, Argentina, and the United Kingdom. With proximity and transportation to Balboa Park no longer a barrier, we saw an attendance boom that far exceeded the number of seats available in our theater.

A weekly Nature & Me Storytime broadcast from Education Specialist Rosie Bell's living room across our digital platforms quickly became another popular offering. Even adults were listening in with the children for a moment of calm. Nat at Night Trivia on Facebook Live developed into a hilarious, supportive group, cementing friendships and community.

Hard-hitting science, information, and education about our natural world are always a priority, but we also learned that we can't take ourselves too seriously, and humor and lightness make us real. Case in point: two posts—one featuring our Allosaurus wearing a giant mask and another an April Fool's prank about discovering a "unihorn lizard" with rainbow scales—went viral, and quickly became our most popular posts of the year.

These efforts epitomize digital media at its best and use social media as it is intended—to create community through a different medium, versus simply serving as a megaphone for promotion.

While our staff can't wait to see everyone in person again—including each other—we're taking full advantage of the opportunity to grow our digital offerings to meet community needs. It is also allowing us to connect with new audiences, a pandemic silver lining that's turning platinum. We are continuously learning and refining ways to bridge the natural and digital worlds. This will serve our region's nature well—now and into the future.

Science Never Stops

We were closed for almost four months this fiscal year, but we never stopped working. The pandemic changed our ability to welcome visitors to our building and it opened up new avenues to connect with our community—locally, nationally, and internationally.

Our staff quickly stepped up to meet the challenges of closure, and adapted to situations that might have been inconceivable a few months earlier. They mobilized and set up workspaces in 100 homes throughout the County—paleontologists processed fossils in bathtubs, scientists prepped specimens in garages, and educators led digital programs from their living rooms.

In some ways, museum coworkers were more connected than ever before, meeting regularly via Zoom and Microsoft Teams, often getting a glimpse into our homes or a peek at children and pets.

It is not every day the entire Museum staff can take a field trip to a PaleoServices job site, but that's just what happened during a staff meeting on Zoom when Paleontological Specialist Christopher Plouffe called in from the site of an exciting fossil discovery. During construction of a new toll road and border crossing near Otay Mesa, our paleontologists found a rich fossil deposit containing the bones of oreodonts (a now-extinct species of ancient pig-dog the size of a goat), ancient camels, and other small mammal and plant fossils.

Wearing a hardhat and orange vest, Chris participated in the video call from the field as Nat staff witnessed the exciting excavation unfolding behind him. Fossils from this site are particularly notable as evidence of the 14- to 16-million-year-old Rosarito Beach Formation's reach across the border into southern California.

Our PaleoServices team regularly salvages, conserves, and documents important fossils exposed by bulldozers—and with construction projects throughout the county remaining on schedule, our work continued (safely) at full force through the pandemic.

Our biologists were also hard at work at home and in the field.

BioServices staff conducted surveys for Least Bell's Vireo and Quino Checkerspot Butterfly and began statistical analysis for various monitoring and resurvey projects. The Birds and Mammals Department prepared to monitor Stephens' kangaroo rat and the invasive brown-headed cowbird. Our Botany and Entomology teams continued georeferencing specimens and databasing while at home.

While our doors remained closed to the public, our Visitor Services team worked on special projects, including assisting scientists in our research collections and supporting our Facilities team to clean, dust, and disinfect areas throughout the building. Membership launched digital membership cards, allowing us to reduce the use of paper cards and mailings while offering a contactless check-in experience for reopening.

The Exhibits team prepared the Museum for reopening by removing some high-touch interactives and addressing physical distancing requirements. Our Education team launched virtual programs and worked in *Living Lab,* caring for our beloved live specimens and performing regularly scheduled maintenance on the observation beehive, including an expansion of their living area as the hive grew.

Although the pandemic shifted the world under our feet, our commitment to our region and the importance of environmental stewardship never faltered. The work completed during the closures represents our continuing commitment to delivering on our mission despite our dispersed set up. We continue to reimagine how we can best serve our community through science, education, and conservation. Science is our passion and legacy to the future.

During the pandemic, staff quickly adapted their homes into workspaces. In an elegant blend of old and new, Paleontological Specialist Christopher Plouffe examines specimens in his living room, channeling the Victorian fondness for microscopic studies at home. Here, he examines the fossil bones of *Leptoreodon golzi,* a small mammal that evolved during the middle Eocene, which was discovered during a freeway repair project last fall.

Evolve and Adapt: The New Nat

OUR MANIFESTO FOR RADICALLY RETHINKING THE MUSEUM

By President and CEO Judy Gradwohl

As a lifelong optimist, I had to believe that some good could result from an otherwise horrific pandemic. Museums across the world were struggling, seeing flaws in their business models and realizing that survival might hinge on re-thinking how they accomplished their missions. Could this time of distress also be a period of rapid learning and improvement?

As the world started to crumble with the spread of coronavirus, a mentor told me "Never let a good crisis go to waste." Not wanting to waste the largest crisis of my career, and hoping to find the pony in the pile of manure, I started writing a Manifesto for Radically Rethinking the Museum. It calls on our staff, Board, and volunteers to re-imagine how we accomplish our mission. Although we must hold fast to our goals and values, we need to alter our methods, and strive for a new blended museum model combining onsite, online, and in-nature activities.

The manifesto calls for combining the best aspects of pre- and mid-pandemic activities in a new approach that will carry us through and beyond the pandemic.

Instead of attempting to re-create what we did before, it challenges us to focus on new possibilities, and emerge from this crisis a stronger organization.

This is the time to halt activities whose benefits have faded over time, and launch new initiatives to connect peoples of the Californias to this amazing place we call home.

We are fortunate to have talented and dedicated staff, and a wonderfully supportive community. Shortly after we closed and began working from our homes, we were able to continue our research, outreach, and education through digital formats. Within weeks we managed to host more attendees at a virtual Nat Talk than we could possibly fit in our theater space. Our talented educators redesigned School in the Park for remote instruction. As San Diegans started paying more attention to the nature around them, we were ready with interesting and helpful tools and information shared on social media. It confirmed what we already knew—we are far larger than our building.

We were ready to tackle this massive undertaking. We have a strong strategy and purpose. Our staff have been focusing on innovation and smart risk taking through our nationally recognized Evolutionary Venture Fund projects. We entered the pandemic with a strong financial base, and we have been working hard to keep our work relevant to the communities we serve, and ensure it is valued by our stakeholders.

Although the manifesto is only a starting point, it provides suggestions to stoke our creativity. We have the ability to accomplish projects that will help us meet our mission and reduce our baseline operating costs. They include a proposal to vacate our rented warehouse space and develop a visible collections area inside our building. This is a good juncture to consider the future of our retail, by developing e-commerce and investigating a combined store and café space. We are developing a master plan for interpretive gardens around the outside of the building. We need to rise to the challenges presented by school systems turning to remote education by revamping our school visit program and educational resources. We plan to experiment with new ways to connect with our community digitally, and increase our program offerings and interactions.

The manifesto, issued from my dining room, was intended to be a catalyst for new thinking, and it has been exciting to see how readily and creatively staff developed innovative responses. The real test will be implementation over the next year or two.

Ultimately, we are deciding who and what we want to be when we pull out of the pandemic, and how to help us chart a path to get there. Our learning and thinking will continue and evolve, and I can't wait to see where it takes us.

Biodiversity Research Center of the Californias Associates

BIRDS AND MAMMALS RESEARCH ASSOCIATES
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In Service to Science (From Home)

The pandemic did not stop our incredible volunteers from contributing. While sheltering at home, many were eager to help remotely.

LepNet, a research effort funded by the National Science Foundation, was the perfect project for many. The Lepidoptera of North America Network is a collaboration of 28 institutions aiming to digitize nearly 3 million butterfly and moth specimens. Nine volunteers, including some from out of state, contributed nearly 5,000 entries.

Judith Carlstom, Pat Don Vito, and William Huntly searched for shells, bones, or teeth in material from recent paleontology projects.

Gabriel Vogeli is using his home camera station and computer to photograph fossils and compile 3D digital models, which are presented on our website so they can be accessed by anyone, from anywhere.

Botany volunteers have not been idle. Parabotanists have been collecting specimens, and other volunteers have contributed to Notes for Nature, transcribing herbarium labels from collaborating herbaria throughout California.

In Birds and Mammals, Jenny Johnson numbered bird skeletons from home, and Maria Gonzales met staff members Lea Squires and Phil Unitt at Phil's house to help skin birds. He set up two safe outdoor workstations in his garage and driveway, and they got to work.

Dick Schwenkmeyer in Herpetology has been working on content for *Living Lab,* explaining the unique relationship between king snakes and rattlesnakes. He is also producing a DVD that shows museum tours from historic times. Some of the photos date back to 1960 when the Museum established the Vermillion Sea Field Station at Los Angeles Bay in Baja California.

Thank you, volunteers, for your valuable contributions.

Volunteer Milestones

JOIN US IN HONORING VOLUNTEERS WHO HAVE REACHED SIGNIFICANT MILESTONES.

35 YEARS+

Rosie Stogner, Whaler and C4U

Ellen Bevier, Canyoneer

Bill Howell, Canyoneer

---

30 YEARS

Uli Burgin, Entomology and Whaler

25 YEARS

Theresa Acerro, Canyoneer

Joan Dowd, Canyoneer

20 YEARS

Bill Barbour, Ambassador, Interpreter, Cookie Man

Larry Hendrickson, Parabotanist

Becky Keller, Canyoneer

15 YEARS

Jack Berdy, Whaler
Debbie Bushong, Docent
Diane Cullins, Whaler
Wendy Esterly, Canyoneer
Sheri Gilkerson, NATuralist
Michael Guberek, Paleontology
Rosemary Kelley, Docent
Linda King, Birds and Mammals
Walter Konopka, Canyoneer
Alina Levy, Botany
Victoria Marshall, Botany
Karen Marshall, Whaler
Carol Norman, Botany
Patti Pastore, Whaler
Beverly Pecunia, Botany and Paleontology
Valerie Quate, Botany
Leslie Rapp, Whaler
Michael Simpson, Parabotanist

10 YEARS

Janet Anderson, Docent
Terry Baird, Paleontology and Whaler
Fran Bookheim, Entomology
Yee-Ching Chang, Botany
Bill Edwards, Canyoneer
Maggie Holloway, Canyoneer
Bob McCurdy, Docent
Marilyn Miles, Docent
Teresa Norris, Docent
Jack Ohmstede, Docent
Peter Vroom, Botany
Maritza Witmer, Canyoneer

5 YEARS

Roberto Arjona, Board of Directors
Nicole Besler, Entomology
Deborah Buffington, Whaler
Anne Bullard, Board of Directors
Marlin Burke, Canyoneer
Chris Caponelli, Education
John Carrington, Canyoneer
Stefanie Curtis, Whaler
Sally Davis, Canyoneer
John DeBeer, Board of Directors
Helene Deisher, Whaler
Leigh Anne Gibbons, Whaler
Colton Holloman, Entomology
George Huling, Docent
Jerry Jacobs, Canyoneer
Daniel Keddy, Canyoneer
Dee Keyes, Whaler
Kathryn Kim, Board of Directors
Maureen Lewis, Docent
Larry Lewis, Whaler
Dale Noonkester, Canyoneer
Karen Owens, Docent
Jenn Picha, Whaler
Jeremiah Psiropoulos, Birds and Mammals
Jason Shidler, Board of Directors
Della Snyder-Velto, Paleontology
Nickie Stary, NATuralist
Jim Stary, NATuralist
Marilyn Thoman, Paleontology
Jerry Wilson, Whaler

MORE THAN 400 HOURS

(July 1, 2019-June 30, 2020)

Bill Barbour
Richard Campbell
Pat Don Vito
Vryce Hough
Pam Stahlak
Terri Varnell
James Varnell
Gabriel Vogeli

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.

John Atcheson
Margaret E. Carl
Richard Cerutti
Jose Del Pozo
Tina C. DiStefano
Richard J. Esgate
Faiya Fredman
Paul Globerson
Charles Kakos
Tim Means
Jim F. Prescott
Richard J. Roncaglia
David G. Smith
Melvin M. Sweet
Humberto Yznaga

Richard Cerutti

We said goodbye to our dear friend and colleague Richard Cerutti on November 3, 2019. Richard's more than 30-year association with the Museum runs deep. He leaves behind an incredible legacy represented by the thousands of fossils he collected and prepared as a museum paleontologist—many of them on view in the exhibition *Fossil Mysteries.* These range from tiny marine foraminifers, spiny marine snails, and beautiful estuarine clams, to sharp-toothed river dolphins, tusked walruses, massive baleen whales and sea cows, hulking terrestrial brontotheres, and diminutive arboreal primates.

Many species new to science were named in Richard's honor, including the Pliocene surf scoter, *Melanitta ceruttii;* the enigmatic Pliocene porpoise, *Semirostrum cerutti;* the tiny omomyid Eocene primate, *Brontomomys cerutti;* and the Eocene early carnivore, *Ceruttia sandiegoensis*. Of course, Richard's most dramatic and far-reaching contribution is his discovery and study of the Cerutti Mastodon Site, which we contend represents the oldest archaeological site in the Americas.

Those who had the good fortune to work with Richard know what a kind, generous, talented, and tireless person he was. Some also remember Richard's several months spent as a "living exhibit" on the second floor of the original building, where he artistically and accurately assembled the Allosaurus skeleton that greets visitors entering the Museum's north entrance.

Richard was a lifelong explorer of the natural world, an insightful scientist, an enthusiastic teacher, a devoted family man, and an amazing and generous human being.

Collections

~8 million
total number of specimens

BIRDS
218
New specimens collected
51,556
Total specimens

MAMMALS
41
New specimens collected
25,400
Total specimens

ENTOMOLOGY
27,000
New specimens collected
1,169,729
Total specimens

PALEONTOLOGY
17,230
New specimens collected
1,504,974
Total specimens

RESEARCH LIBRARY
56,000
Volumes

MARINE INVERTEBRATES
5 million
Total specimens

HERPETOLOGY
120
New specimens collected
76,571
Total specimens

BOTANY
4,913
New specimens collected
277,654
Total specimens

MINERALOGY
15,000
Total specimens

Visitation*

222,329
people visited the museum

370,177
website visits (63% from mobile devices)

Public Programs

NATURE TO YOU LOAN LIBRARY
560 loans reaching 109,470 people

SCHOOL PROGRAMS
315 programs reaching 10,600 people

FAMILY AND PUBLIC PROGRAMS
47 programs serving 5,118 participants

MUSEUM ACCESS FUNDS
3,978 students from Title 1 schools served

MUSEUMS FOR ALL
3,887 recieved free admission when presenting an EBT card

Social Media

45,246
likes

9,729
followers

6,519
followers

470
subsribers

*Some numbers are lower than previous years because the Museum was closed on March 16, 2020 due to the pandemic.

Volunteers*

769
total volunteers

36,054
total volunteer hours

$1,022,505
Dollar value of volunteer hours (per Bureau of Labor Statistics)

CANYONEERS
led 46 hikes for 1,253 people
led 7 school hikes for 208 students

DOCENTS
reached 2,220 students and chaperones with 83 programs

WHALERS
reached 22,700 passengers on 280 cruises through Hornblower Cruises and Events

SCIENCE VOLUNTEERS
logged 12,045 hours

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

30 high school students
volunteered for summer camps

8 high school and college students
completed internships

Financials

We are pleased to report The Nat delivered a year of healthy growth and fiscal performance, having adapted well to both the circumstances we anticipated and those that were less expected. Our results between July 1, 2019-June 30, 2020 reflect an organization that was fit for purpose and resilient with a strategy and structure that focused on sound financial management, disciplined investment, and thoughtful planning. In order to remain in a competitive position, our fiscal year began by analyzing many of our public programs and business operations in order to ensure their efficiency, effectiveness, and financial sustainability.

Philanthropic support from our donors and the broader community has been essential to securing The Nat's future. During FY 2020, the Museum raised a total of $4.57 million, an increase of more than 36% when compared to FY 2019. With these gifts, we continued to balance our operating budget, developed public program offerings, and made improvements to our facility. Over $700,000 of FY 2020 giving was earmarked for capital projects. The Museum's investments in building renewal, maintenance, and information technology upgrades are based on a comprehensive master plan for preserving and enhancing the facility in the long term. We especially want to acknowledge our patrons who play a vital role in helping us respond to the recent growing financial crisis. Whether you are supporting our conservation efforts, online learning programs, critical infrastructure projects, or our general operations, you have our sincerest gratitude.

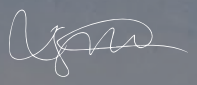
In addition to donor support, The Nat welcomed more than 200,000 visitors in FY 2020. As a result, admissions and membership revenue of $2.15 million constituted an important source of our unrestricted operating funds, as did contract income, which contributed over 24% (or $2.58 million) to the Museum's revenue compared to 19% in the prior fiscal year. Taken in total, The Nat posted a very strong FY 2020 in terms of its unrestricted financial performance. Total revenue increased by 3.5% from the prior year, while our operating expenses dropped by over 4.8%. As a result, the Museum's total operating surplus was $1.11 million before depreciation expense.

Our financial performance allowed the Museum to post a strong balance sheet for the year. Cash from operations—the Museum's operating surplus—increased more than 33.7%, from $1.17 million to $1.57 million, while an additional $1.38 million was achieved through financing activities. Overall, cash and cash equivalents increased by $2.45 million, while net assets decreased slightly by 1.09% or $534,193 in FY 2020. The value of the Museum's endowment dropped slightly by $559,371 to $20.45 million.

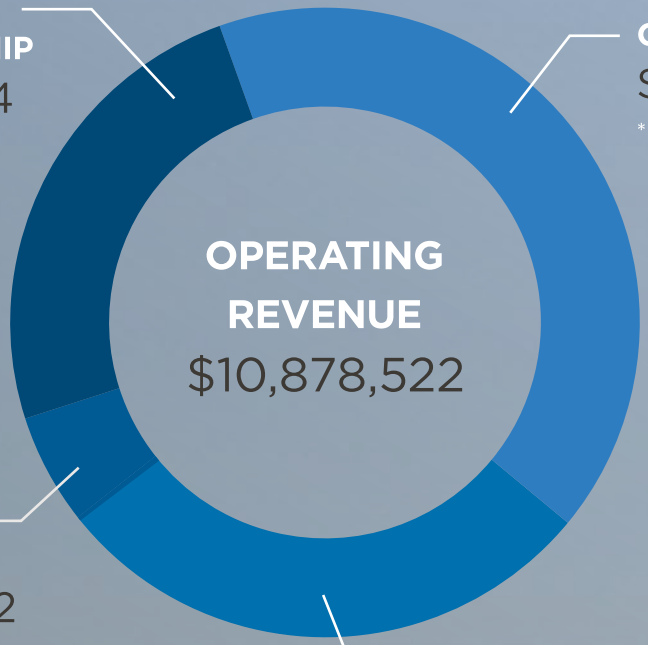
Given our accomplishments during the first three quarters of FY 2020, we could never have imagined the challenges we would face as a result of COVID-19. The Nat closed its doors in mid-March, and admissions and auxiliary revenue disappeared overnight. During the last quarter of the fiscal year, with a modest budget surplus and working capital reserve, we took decisive actions in response to the pandemic that allowed us to preserve cash and weather the storm through the conclusion of FY 2020 and into FY 2021. These actions included:

- Reduction of discretionary spending
- Adjustments to our expense structure, which included streamlining our operations
- Reduction of compensation expenses
- Cancelation or deferral of unrestricted capital spending
- Renegotiation of contracts and repayment terms with vendors
- Early withdrawal of our annual payment from the endowment
- Success in securing $1.22 million from the federal Paycheck Protection Program

The Museum's most important asset is its dedicated workforce. Due to our rapid financial response to the pandemic, the support of the Payroll Protection Program, and generous bridge grants from our donors, we were able to preserve as many jobs as possible. Looking ahead to FY 2021, The Nat will be buoyed by its healthy results this past year, but cognizant of the challenges COVID-19 will continue to present. Finally, transparency is imperative to a well-run organization. To that end, our FY 2020 financial results are reported on the facing page, and our full audit is available online at sdnat.org.



Mark Orozco
Vice President, CFO, and COO



20%
ADMISSIONS & MEMBERSHIP
$2,146,664

16% Admissions
$1,773,419

4% Membership
$373,245

42%
CONTRIBUTIONS*
$4,568,865

* Includes a portion of net assets released from restrictions of $2,709,473

10%
AUXILIARY ACTIVITIES
$1,095,532

4% Food & Beverage
$450,474

3% Facility Rentals for Special Events
$323,402

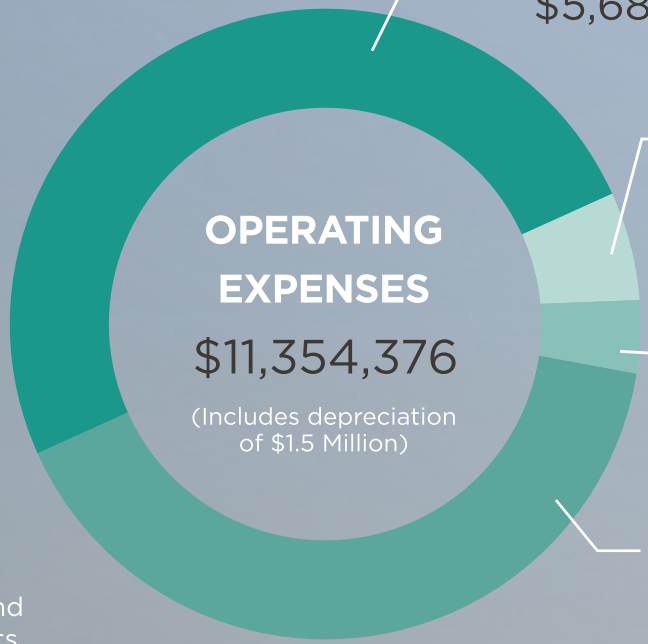
1% Other
$150,737

2% Education
$170,919

28%
CONTRACTS & GRANTS
$3,067,461

24% Paleontology and BioServices Contracts
$2,576,255

4% Grants
$491,206



50%
VISITOR EXPERIENCE
$5,687,711

9%
MANAGEMENT & GENERAL
$1,001,343

7%
FUNDRAISING
$784,722

34%
SCIENCE & RESEARCH
$3,880,600

Read the full FY2020 audited financial report at sdnat.org/about-us.

Publications

Research publications are at the core of the scientific process.

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.

Bold indicates Museum research associates.

Italics indicates Museum staff members.

Aguilera-Miller, E. F., and **S. T. Álvarez-Castañeda.** 2019. Review of philopatry and its strategy in xeric environments. *Therya* 10: 39-44. 10.12933/therya-19-754.

Albores Barajas, Y. V., **H. de la Cueva**, C. Soldatini, R. Carmona, V. Ayala Pérez, J. E. Martínez-Gómez, and **E. Velarde.** 2020. Challenges in priorities for seabird conservation in northwestern Mexico. *Waterbirds* 43(1): 1-16.

Álvarez-Castañeda, S. T., and L. A. Nájera-Cortazar. 2020. Do island populations change in size and form in relation to mainland counterparts? *Journal of Mammalogy* 101:373-385. DOI:10.1093/jmammal/gyz193.

Álvarez-Castañeda, S. T., C. A. Segura-Trujillo, and W. Z. Lidicker. 2019. The Impact of the American Society of Mammalogists on the Internationalization of Mammalogy. *Journal of Mammalogy* 100: 751-762. 10.1093/jmammal/gyz001.

Álvarez-Castañeda, S. T., C. Lorenzo, C. Segura-Trujillo, and S. G. Pérez-Consuegra. 2019. Two New Species of Peromyscus from Chiapas and Guatemala. From Field to Laboratory: A Memorial Volume in Honor of Robert J. Baker (Bradley, R. D., H. H. Genoways, D. J. Schmidly, and L. C. Bradley). Texas Tech University. Lubbock, Texas. ISSN 0149-1768.

Ávila-Lovera E., R. Haro, **E. Ezcurra**, L.S. Santiago. 2018. Costs and benefits of photosynthetic stems in desert species from southern California. *Functional Plant Biology* 46: 175–186. DOI: https://doi.org/10.1071/FP18203.

Baker, M. A., M. Cloud-Hughes, *J. Rebman*, & L. Majure. 2019. Nomenclatural Changes in *Cylindropuntia* (Cactaceae). Madroño 66: 92-96.

Ballesteros-Córdova, C. A., **G. Ruiz-Campos**, S. Sánchez-Gonzáles, and A. Varela Romero. 2020. Morphometric and meristic characterization of populations of the *Gila minacae* complex (Teleostei: Cyprinidae) from the Sierra Madre Occidental, Mexico. *Ichthyological Exploration of Freshwaters*. DOI: https://doi.org/10.23788/IEF-1121.

Benavides, E., J. R. Kuethe, A. Ortiz Alcaraz, and **J. L. León de la Luz**. 2019. *Oenothera resicum* (Onagraceae), a new species and the first record of the family from the Revillagigedo Archipelago, Mexico. *Phytotaxa* 416(1): 58-66.

Benet-Pierce, N. and **M. G. Simpson**. 2019. The taxonomy of *Chenopodium hians, C. incognitum*, and ten new taxa within the narrow-leaved *Chenopodium* group in western North America, with special attention to California. *Madroño* 66: 56–75.

Bernardo, P. H., S. Sánchez-Ramírez, S. J. Sánchez-Pacheco, **S. T. Álvarez-Castañeda**, E. F. Aguilera-Miller, F. R. Mendez-de la Cruz, and R. W. Murphy. 2019. Extreme mito-nuclear discordance in a peninsular lizard: the role of drift, selection and climate. *Heredity On line*. 10.1038/s41437-019-0204-4.

Bisconti, M., Munsterman, D.K., Fraaje, R.H.B., Bosselaers, M., Post, K. 2020. A new species of rorqual whale (Cetacea, Mysticeti, Balaenopteridae) from the Late Miocene of the Southern North Sea Basin and the role of the North Atlantic in the paleobiogeography of *Archaebalaenoptera. PeerJ* 8:e8315 http://doi.org/10.7717/peerj.831.

Brown, J. W., Dyer, L. E., Villamarín-Cortez, S., and Salcido, D. 2019. New larval host records for Tortricidae (Lepidoptera) from an Ecuadorian Andean cloud forest. *Insecta Mundi* 720: 1–12.

Brown, J. W. 2019. New combinations in Sparganothini (Lepidoptera: Tortricidae: Tortricinae). *Proceedings of the Entomological Society of Washington* 121(3): 366–371.

Brown, J. W. 2019. New genera, new species, and new combinations in New World Cochylina (Lepidoptera: Tortricidae: Tortricinae). Zootaxa 4671(2): 195–222.

Brown, J. W. 2019. Descriptions of four new species of fruit-feeding tortricid moths from Panama (Lepidoptera: Tortricidae). *Tropical Lepidoptera Research* 29: 67–73.

Brown, J. W., Y. Basset, M. Panmeng, S. Putnaul, and S. E. Miller. 2019. Host records for Tortricidae (Lepidoptera) reared from seeds and fruits in a Thailand rainforest. *Proceedings of the Entomological Society of Washington* 121(4): 544–556.

Brown, J. W. 2019. Two new species and two new combinations in *Saphenista* Walsingham from western North America (Lepidoptera: Tortricidae). *Insecta Mundi* 0738: 1–8.

Brown, J. W., L. Aarvik, M. Heikkilä, R. L. Brown, and M. Mutanen. 2020. Molecular phylogeny of Cochylina, with confirmation of its relationship to Euliina (Lepidoptera: Tortricidae). *Systematic Entomology* 45: 160–174.

Brown, J. W., S. Gripenburg, Y. Basset, O. Calderón, I. Simón, C. Fernandez, M. Cedeno, and M. Rivera. 2020. Host records for Tortricidae (Lepidoptera) reared from seeds and fruits in Panama. *Proceedings of the Entomological Society of Washington* 122(1): 12–24.

Brown, J. W., J. Razowski, and A. E. Timm. 2020. Revision of New World *Cosmorrhycha* Meyrick, 1913 (Lepidoptera: Tortricidae: Olethreutinae), with descriptions of five new species. Insecta Mundi 0753: 1–21.

Brown, J. W. 2020. Male secondary features discriminate two related species of *Dichrorampha* (Lepidoptera: Tortricidae: Grapholitini). *Proceedings of the Entomological Society of Washington* 122(2): 284–290.

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.

Cab Sulub, L., and **S. T. Álvarez-Castañeda**. 2020. Analysis of the remaining habitat of an endemic species rediscovered. *Mammalian Biology* 100:307-314. DOI: 10.1007/s42991-020-00023-z.

Campetella, G., S. Chelli, C. Wellstein, E. Farris, G. Calvia, E. Simonetti, L.Borsukiewicz, **S. Vanderplank**, M. Marignani. 2019. Contrasting patterns in leaf traits of Mediterranean shrub communities along an elevation gradient: measurements matter. *Plant Ecology*. pp. 1-12.

Camargo, I., and **S. T. Álvarez-Castañeda**. 2020. A new species and three subspecies of the desert shrew (*Notiosorex*) from the Baja California peninsula and California. *Journal of Mammalogy* 101:872-886. DOI: 0.1093/jmammal/gyaa045.

Canales, A. G., **E. V. Wehncke**, and N. G. Elizondo. 2020. Review of water desalination techniques towards an energy saving approach. *Tecnologías y Ciencias del Agua,* 11(4): 279-305. doi: 10.24850/j-tyca-2020-04-09.

Cárdenas Hinojosa, G., **H. de la Cueva,** T. Gerrodette, and A. M. Jaramillo-Legorreta. 2020. Distribution of the acoustic occurrence of dolphins during the summers 2011 to 2015 in the upper gulf of California, Mexico. *PeerJ* 8e9121.

Chavez, R., P. Rivera, and **H. de la Cueva** (coordinadores). 2020. *La ciudadanía y el miedo ambiente en México. Apuntes Críticos para su análisis.* El COLEF y CICESE. 307 pp.

Clark, K. B. 2020. Wilmot W. Brown: One of the most prolific collectors of the vertebrate fauna of the New World. *Bulletin of the Museum of Comparative Zoology* 162(6): 347–378.

Clark, K. B., Rideout, B., Garrett, K. L., *Unitt, P.*, and O'Connor, B. 2019. Historical and geographical patterns in *Knemidokoptes* mite infestations in southern California birds. *Western Birds* 50: 26–36.

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.7390523.

Derkarabetian S, S. Ovchinnikov, S. Castillo, P. K. Koo, **M. Hedin.** 2019. An empirical demonstration of unsupervised machine learning in species delimitation. *Molecular Phylogenetics & Evolution* 139, 106562.

Ezcurra, E., and B. T. Wilder. 2019. Tres siglos decolaboración científica entre México y Estados Unidos. *Ciencia* **70**(4): 8–15.

Ezcurra E., Martínez-Berdeja A., Villanueva-Almanza L. 2020. The Evolution of North American Deserts and the Uniqueness of Cuatro Ciénegas. In: Mandujano M., Pisanty I., Eguiarte L. (eds.) *Plant Diversity and Ecology in the Chihuahuan Desert.* Series: Cuatro Ciénegas Basin: An Endangered Hyperdiverse Oasis. Springer, Cham. DOI: /10.1007/978-3-030-44963-6_3.

Ezcurra, E., Barrios, E., Ezcurra, P., Ezcurra, A., **Vanderplank, S.**, Vidal, O., Villanueva-Almanza, L.and Aburto-Oropeza, O., 2019. A natural experiment reveals the impact of hydroelectric dams on the estuaries of tropical rivers. *Science Advances,* 5(3), p. eaau9875.

Erickson, R. A., and S.C. Rottenborn. 2020. Two photographed American Coot x Common Gallinule hybrids. *Western Birds* 51:150-156.

Erickson, R. A., and **G. Ruiz-Campos**. 2019. The Virginia Opossum (*Didelphis virginiana*) in BajaCalifornia. *Southwestern Naturalist* 65: 137-139.

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

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

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: 135-138.

Estrada Castillon, E., *J. Rebman,* and J. A. Villarreal-Quintanilla. 2019. *Astragalus comonduensis and Calliandra pilocarpa* (Fabaceae), two new species from Baja California Sur, Mexico. *Phytotaxa* 391(1): 57-67.

Falcón-Brindis, A., R. Rodríguez-Estrella and **M. L. Jiménez.** 2019. Disentangling the coexistence strategies of mud-daubing wasp species through trophic analysis in oases of Baja California peninsula. PLOS ONE 14(11):1-21. https://doi.org/10.1371/journal.pone.0225266 (doi: 10.1371/journal.pone.0225266).

Falcón-Brindis, A., **M. L. Jiménez-Jiménez** and R. Rodríguez-Estrella. 2019. Islands in the desert for cavity-nesting bees and wasps: Ecology, patterns of diversity, and conservation at oases of Baja California peninsula. *Ecology Evolution* 00:1-16 DOI:10.1002/ece3.5927.

Flores-Galván, M. A., L. W. Daeslée, E. Arellano-García, O. Torres-Bugarín, J. V. Macías-Zamora, and **G. Ruiz-Campos.** 2020. Genotoxicity in fishes environmentally exposed to As, Se, Hg, Pb, Cr and toxaphene in the lower Colorado River basin, at Mexicali valley, Baja California, México. *Ecotoxicology,* 29(4): 493-502.

Galina-Tessaro, P., S. Álvares-Cárdenas, J.H. Valdez-Villavicencio and M. Villagrán-Santa Cruz. 2020. Reproduction in *Sceloporus licki* (Reptilia: Phrynosomatidae) in the Cape Region, Baja California Sur. *Acta Zoologica.*

Gripenberg, S., Y., Basset, O. T. Lewis, J. T. D. Terry, S. J. Wright, I. Simón, D. C. Fernandez, M. Cedeño, M. Rivera, H. Barrios, **J. W. Brown**, O. Calderón, A. I. Cognato, S. Miller, G. E. Morse, S. Pinzon-Navarro, D. L. J. Quicke, R. K. Robbins, J.-P. Salminen, and E. Vesterinen. 2019. A highly-resolved food web for insect seed predators in a species-rich tropical forest. *Ecology Letters* 2019: 1–12. doi: 10.1111/ele.13359.

Hargreaves, A., Suarez, E., Mehltreter, K., Myers-Smith, I., **Vanderplank, S. E.**, Slinn, H.L., Vargas Rodriguez, Y.L., Haeussler, S., David, S., Munoz, J. and Almazan-Nunoz, R.C., 2019. Seed predation increases from the Arctic to the Equator and from high to low elevations. *Science Advances. bioRxiv,* p.304634.

Hargrove, L., P. Unitt, K. Ferree, K. Clark, and L. Squires. 2019. LeConte's Thrasher (*Toxostoma lecontei*) status and nest site requirements in the Coachella Valley. Report to the Coachella Valley Conservation Commission.

Harper, A.B., A. Peralta-García, J.H. Valdez-Villavicencio, *S. Tremor* and C.J. Conroy, 2020. Current distribution of the California vole (*Microtus californicus*) in Baja California, Mexico. *Western North American Naturalist* 80(2): 194-203.

Harper, A.B., A. Peralta-García, J. H. Valdez-Villavicencio, *S. Tremor* and C.J. Conroy, 2020. Supplementary material for current distribution of the California vole (*Microtus californicus*) in Baja California, Mexico. doi: 10.13140/RG.2.2.14358.98882.

Hedin, M., S. Foldi, B. Rajah-Boyer. 2020. Evolutionary divergences mirror Pleistocene paleodrainages in a rapidly-evolving complex of oasis-dwelling jumping spiders (Salticidae, *Habronattus tarsalis*). Molecular Phylogenetics and Evolution 144, 106696.

Hobohm, C., Janišová, M., Steinbauer, M., Landi, S., Field, R., **Vanderplank, S.**, Beierkuhnlein, C., Grytnes, J. A., Vetaas, O. R., Fidelis, A. and de Nascimento, L., 2019. Global endemics-area relationships of vascular plants. *Perspectives in Ecology and Conservation.* 17(2), 41-49.

Jiménez, M. L., Palacios-Cardiel, C. and Chávez-Lara, I.D. 2020. Las arañas (Arachnida:Araneae) de los médanos de Samalyuca, Chihuahua y nuevos registros de especies para México. Acta Zoologica Mexicana 36:1-23 https://doi.org/10.21829/azm.2020.3612205.

Jin, X., D. J. Varricchio, *A. W. Poust*, and T. He. 2020. An oviraptorosaur adult-egg association from the Cretaceous of Jiangxi Province, China, *Journal of Vertebrate Paleontology* 39(6). DOI: 10.1080/02724634.2019.1739060.

Kumagai. J. A., M. T. Costa, **E. Ezcurra**, and O. Aburto-Oropeza. 2020. Prioritizing mangrove conservation across Mexico to facilitate 2020 NDC ambition. *Ambio* (online first) https://doi.org/10.1007/s13280-020-01334-8.

Lara-Resendiz, R. A., **P. Galina-Tessaro**, A. G. Pérez-Delgadillo, **J. H. Valdez Villavicencio**, y F. R. Méndez-de la Cruz. 2019. Efectos del cambio climático en una especie de lagartija termófila de amplia distribución (*Dipsosaurus dorsalis*): un enfoque ecofisiológico. *Revista Mexicana de Biodiversidad,* 90(2019): e902888.

Leavitt, D.H., *B.D. Hollingsworth,* R.N. Fisher, and **T.W. Reeder**. 2020. Introgression obscures lineage boundaries and phylogeographic history in the Western Banded Gecko, *Coleonyx variegatus* (Squamata: Eublepharidae). *Zoological Journal of the Linnean Society.*

León-de la Luz, J. L., A. Medel Narváez, and R. Domínguez Cadena. 2019. Una nueva *Commelina* (Commelinaceae) de Baja California Sur, México. *Revista Mexicana de Biodiversidad* 90:1-7.

Lorenzo, C., T. M. Rioja, A. Carrillo-R., and **S. T. Álvarez-Castañeda.** 2019. Presence of Arenavirus in *Mus musculus*, Chiapas, Mexico. *Therya* 10: 267-269. 10.12933/therya-19-814.

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* 160(4): 1097-1107.

Madden, M. J. L., R. G. Young, **J. W. Brown**, S. E. Miller, A. J. Frewin, and R. N. Hanner. 2019. Using DNA barcoding to improve invasive pest identification at U.S. ports-of-entry. *PLoS ONE* 14(9): e0222291.

Maddison W. P., D. R. Maddison, S. Derkarabetian, **M. Hedin**. 2020. Sitticine jumping spiders: phylogeny, classification and chromosomes (Araneae: Salticidae: Sitticini). *ZooKeys* 925, 1-54. https://doi.org/10.3897/zookeys.925.39691.

Maher, P., W. Fischer, Z. Liang, D. Soriano-Castell, A. F M Pinto, *J. Rebman,* A. Currais. 2020. The value of herbarium collections to the discovery of novel treatments for Alzheimer's Disease, a case made with the genus *Eriodictyon*. Front. Pharmacol. 11:208.

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

Martínez-Berdeja, A., M. C. Stitzer, M. A. Taylor, M. Okada, **E. Ezcurra**, D.E. Runcie, and J. Schmitt. 2020. Functional variants of DOG1 control seed chilling responses and variation in seasonal life-history strategies in *Arabidopsis thaliana. Proceedings of the National Academy of Sciences* 117(5): 2526-2534. Doi.org/10.1073/pnas.1912451117.

McPeak, R. H., P. K. Lago, and G. A. Hanley. 2020. Two new sulcate species of *Dichelonyx* Harris (Coleoptera: Scarabaeidae: Melolonthinae: Dichelonychini) from southern California, USA and Baja California, Mexico. *The Coleopterists Bulletin* 74(1): 45-59.

Mellink, E. and M. E. Riojas-López. 2020. Livestock and grassland interrelationship along five centuries of ranching the semiarid grasslands on the southern highlands of the Mexican Plateau. *Elementa, Science of the Anthropocene* 8: 20. DOI: https://doi.org/10.1525/elementa.416.

Mellink, E., J. Luévano-Esparza y M. E. Riojas-López. 2019. La investigación de los vertebrados tetrápodos en la porción potosina del Altiplano mexicano. pp. 225-229 en *La biodiversidad en San Luis Potosí; Estudio de Estado. Vol. 1.* Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. Cd. de México.

Mendez, L. C., and **S. T. Álvarez-Castañeda**. 2019. Differences in metal content in liver of Heteromyids from deposits with and without previous mining operations. *Therya* 10:235-242 10.12933/therya-19-884.

Milano, E.R., **M. R. Mulligan**, *J. P. Rebman,* and A. G. Vandergast. 2019. High-throughput sequencing reveals distinct regional genetic structure among remaining populations of an endangered salt marsh plant in California. *Conservation Genetics.* DOI 10.1007/s10592-020-01269-3.

Montero-Quintana, A.N., G. Marrón, V. Scheidt, and *B.D. Hollingsworth.* 2019. Geographic Distribution: *Salvadora hexalepis* (Western Patch-nosed Snake). *Herpetological Review.* 50(3)531.

Montgomery, C.E., *B.D. Hollingsworth,* M. Kartje, and V.H. Reynoso. 2019. *Sauromalus hispidus.* The IUCN Red List of Threatened Species 2019: e.T174482A130061591

Montgomery, C.E., *B.D. Hollingsworth,* M. Kartje, and V.H. Reynoso. 2019. *Sauromalus klauberi.* The IUCN Red List of Threatened Species 2019: e.T174483A1414907

Montgomery, C.E., *B.D. Hollingsworth,* M. Kartje, and V.H. Reynoso. 2019. *Sauromalus slevini.* The IUCN Red List of Threatened Species 2019: e.T174484A1414913

Montgomery, C.E., *B.D. Hollingsworth,* M. Kartje, and V.H. Reynoso. 2019. *Sauromalus varius.* The IUCN Red List of Threatened Species 2019: e.T174485A1414919

Moreno-Higareda, H. R., E. Campos, **G. Ruiz-Campos**, and **H. de la Cueva**. 2019. Fatal interaction of Marbled Godwit with Ribbed Mussel. *Western Birds* 50(4): 262-263.

Moreno-Higareda, **H. R., G. Ruiz-Campos**, and **H. de la Cueva**. 2019. Ridgway's rails climbing shrubs at high tide. *Western Birds* 50(3): 178-179.

Moreno-Higareda, H. R., **E. Campos**, **H. de la Cueva**, M. A. García-Zarate, and L. Martínez-Rios Del Río. 2019. Is an exotic bivalve threatening the Ridgway´s Rail of Baja California? *Huitzil* 20: e351 1-9.

Moreno-Higareda, H. R., F. J. Manrriquez-Gómez, J. H. Valdez-Villavicencio, and **G. Ruiz-Campos**. 2020. Afectación incidental por red de pesca en *Masticophis fuliginosus* (Colubridae) en una zona de marisma de Baja California. *Revista Latinoamericana de Herpetología,* 3(1): 108-110.

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

Navarro-Tiznado, E. A., N. S. González-Gutiérrez y **J. H. Valdez Villavicencio**. 2020. *Sonora mosaueri* (Squamata: Colubridae) Distribución. *Revista Latinoamericana de Herpetología,* 3(1):127.

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.

Opatova V, C. A. Hamilton, **M. Hedin**, L. Montes de Oca, J. Král, C.R. Haddad, J.E. Bond. 2020. Systematics and classification of the spider infraorder Mygalomorphae using genomic scale data. *Systematic Biology* 69, 671–707.

Pathania, P., A. Das, **J. W. Brown**, and K. Chandra. 2020. Catalogue of Tortricidae Latreille, 1802 (Lepidoptera: Tortricoidea) of India. *Zootaxa* 4757: 1–95.

Phillips, A. D., J. L. Dunnum, R. C. Dowler, L. C. Bradley, H. J. Garner, K. MacDonald, B. K. Lim, M. A. Revelez, M, L. Campbell, H. L. Lutz, N. Ordoñez Garza, J. Cook, R. D. Bradley, **S. T. Álvarez-Castañeda**, J. E. Bradley, L. N. Carraway, J. P. Carrera-E., C. J. Conroy, B. S. Coyner, J. R. Demboski, C. W. Dick, K. Doyle, J. A. Esselstyn, E. Gutierrez, y Hanson. 2019. Curatorial guidelines and standards of the American Society of Mammalogists for collections of genetic resources. *Journal of Mammalogy* 100: 1690–1694.

Piacentini, V. Q., *Unitt, P.*, and Burns, K. J. 2019. Two overlooked generic synonyms in the Thraupidae (Aves: Passeriformes). *Zootaxa* 4608: 593–594.

Poust, A. W., C. Gao, D. J. Varricchio, J. Wu, and F. Zhang. 2020. A new microraptorine theropod from the Jehol Biota and growth in early dromaeosaurids. *The Anatomical Record* 303(4): 963-987.

Powell, II, C. L., 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. ucmp_paleobios_44567.

Rebman, J., **S. Vanderplank**, K. O'Connor, & B. Munson. 2019. Noteworthy Collections: California (*Isoetes orcuttii* on San Clemente Island). *Madroño* 66: 85.

Riojas-López, M. *E. y* **E. Mellink**. 2019. Registros relevantes de aves en el sur del Altiplano Mexicano. *Huitzil* 20(2): e-513. DOI: https://doi.org/10.28947/hrmo.2019.20.2.457.

Riojas-López, M. E., I. A. Díaz-Herrera, H.E. Fierros-López and **E. Mellink**. 2019. The effect of adjacent habitat on native bee assemblages in a perennial low-input agroecosystem in a semiarid 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 semiarid agricultural landscape. *Ardea* 107: 29-32.

Rivera Villanueva, J. A., M. E. Riojas López y **E. Mellink**. 2019. El tunal grande y los tunales asociados: hábitat de recolectores cazadores. *Revista de El Colegio de San Luis* 19: 151-176. DOI: http://dx.doi.org/10.21696/rcsl9192019972.

Rodríguez-Estrella, R., C. G. Estrada, and **S. T. Álvarez-Castañeda**. 2019. Comparing individual raptor species and coarse taxonomic groups as biodiversity surrogates in desert ecosystems. *Biodiversity and Conservation* 28:1225-1244. 10.1007/s10531-019-01721-y.

Rojas-Bracho, L., R. C. Brusca, S. Álvarez-Borrego, R. L. Brownell Jr., V. Camacho-Ibar, G. Cárdenas-Hinojosa, G. Ceballos, **H. de la Cueva**, L. T. Findley, J. García-Hernández, P. A. Hastings, A. M. Jaramillo-Legorreta, R. Medellín, S. L. Mesnick, E. Nieto-García, J. Urbán, **E. Velarde**, O. Vidal, and B. L. Taylor. 2019. Reply to Flessa and Colleagues *Bioscience* 69(5): 322-323.

Romero-de la Mora, A., M. A. Uribe-Rivera, **J.H. Valdez Villavicencio**, V. López-Frausto y A.A. Guevara-Carrizalez. 2019. Primer registro de mortalidad incidental de *Uta stansburiana* en un parque eólico en México. *Revista Latinoamericana de Herpetología,* 2(2): 94-97.

Rogers, D. S., N. Lewis-Rogers, S. Lewis-Rogers, **S. T. Álvarez-Castañeda**, and E. A. Rickart. 2019. Mitochondrial Cytochrome-b Variation within *Peromyscus truei* Reveals Two Strongly Divergent Haplogroups. From Field to Laboratory: A Memorial Volume In Honor of Robert J. Baker (Bradley, R. D., H. H. Genoways, D. J. Schmidly, and L. C. Bradley). Texas Tech University. Lubbock, Texas. ISSN 0149-1768.

Ruiz-Campos, G., V. B. Arista-Palacios, and A. Andreu-Soler. 2019. Edad y crecimiento del pez *Fundulus lima* (Cyprinodontiformes: Fundulidae), en el río La Purísima, Baja California Sur, México. *Revista de Biología Tropical,* 67(6): 14611472.

Ruiz-Campos, G., A. Varela-Romero, D. Ceseña-Gallegos, C. A. BallesterosCórdova, and S. Sánchez-Gonzáles. 2020. Morphometry and meristics of two species of *Ictalurus* (Siluriformes: Ictaluridae), native catfishes of Sierra Madre Occidental, Mexico. *Revista de Biología Tropical,* 68(2): 479-491.

Sasson, A., and **Arter, S.** 2020. Earliest utilization of chicken in Upper California: The zooarchaeology of avian remains from the San Diego royal presidio. *American Antiquity* 85(3): 516–534.

Segura-Trujillo, C. A., N. González-Ruiz, y **S. T. Álvarez-Castañeda**. 2020. *Peromyscus mekisturus* (Rodentia: Cricetidae). *Mammalian Species,* pp. 5-26.

Semotiuk, A. J., E. F. Hernández-Romano, P. Colunga-GarcíaMarín, L. A. Salazar-Olivo, **E. Ezcurra**. 2020. The mechanisms of the myth: *Ibervillea sonorae* inhibits α-glucosidase and stimulates the secretion of insulin in vitro. *Journal of Herbal Medicine* **23**: 100354. https://doi.org/10.1016/j.hermed.2020.100354.

Simpson, M. G., M. E. Mabry, and K. Hasenstab-Lehman. 2019. Transfer of four species of *Cryptantha* to the genus *Johnstonella* (Boraginaceae). Phytotaxa 425:279–289. https://doi.org/10.11646/phytotaxa.425.5.3Mabry.

M. E. and **M. G. Simpson**. 2018. Evaluating the monophyly and biogeography of *Cryptantha* (Boraginaceae). Systematic Botany 43: 53-76.

Simpson, M. G., J. Stephens, and S. Yang. 2020. Noteworthy Collections: *Johnstonella angelica* (I.M. Johnston) Hasenstab and M.G. Simpson. Madroño 67: 5-8. https://doi.org/10.3120/0024-9637-67.1.5.

Simpson, Michael G. 2019. Plant Systematics, 3rd edition. Elsevier-Academic Press.

Sosa, J., S. Gallina, E. Martínez-Meyer, P. Cortés-Calva, C. Mac Swiney, I. Iñiguez, J. P. Gallo-Reynoso, A. G. Monroy-Gamboa, J. Servin, G. Sánchez-Rojas, J. Guerrero, E. Arellano, M. Briones-Salas, y **S. T. Álvarez-Castañeda.** 2020. COVID-19: posibles efectos en la educación mastozoológica y otras disciplinas biológicas. *Therya* 11: 157-159. DOI: 10.12933/therya-20-1027.

Tracey, J. A., C. J. Rochester, S. A. Hathaway, K. L. Preston, A. D. Syphard, A. G. Vandergast, J. E. Diffendorfer, J. Franklin, J. B. MacKenzie, T. A. Oberbauer, *S. Tremor,* C. S. Winchell, and R. N. Fisher. 2018. Prioritizing conserved areas threatened by wildfire and fragmentation for monitoring and management. PLoS One 13(9): e0200203.

Tello, J., **P. P. Garcillán**, and **E. Ezcurra**. 2020. How dietary transition changed land use in Mexico. *Ambio* (online first). https://doi.org/10.1007/s13280-020-01317-9.

Tremor, S., **S. Vanderplank** and **E. Mellink**. 2019. The San Quintin kangaroo rat is not extinct. *Bulletin of the Southern California Academy of Sciences* 118:71-75.

Unitt, P., Hargrove, L., and *Clark, K. B.* 2020. Overlap of molt and fall migration of the Western Tanager and Warbling Vireo in southern California. *Western Birds* 51(1): 59–64.

Valcarcel, P., *B. Hollingsworth*, M. Rochelle, K. Clark, M. Stepek, E. Stewart, R. Lovich, L. Piest, and F. Sirchia. 2019. Conservation of an Endemic Reptile: Creation and Potential Applications of a Rangewide Habitat Model for the Flat-tailed Horned Lizard (*Phrynosoma mcallii*). Wildlife Society, Western Section. Presented on 08 Feb 2019 in Yosemite, CA.

Valenzuela-López, D., and **G. Ruiz-Campos**. 2020. Threespine stickleback (*Gasterosteus aculeatus*) diet in El Rosario River estuary, its southernmost North American locality. *Fishes in Mediterranean Environments* 2020(1): 1-13.

Vanderplank, S., and **E. Ezcurra.** 2020. Desert Rarity, Uniqueness and Endemism. In: M.I. Goldstein and D.A. DellaSala (eds.) *Encyclopedia of the World's Biomes, Vol. 2 Deserts: Life in the Extremes*. Elsevier, Oxford, UK. pp. 47-56. DOI: /10.1016/B978-0-12-409548-9.12110-4.

Vanderplank, S., O'Connor, K., Munson, B. and D. Lawson. 2019. A Conservation Assessment for *Castilleja grisea* (San Clemente Island paintbrush, Orobanchaceae) Rancho Santa Ana BotanicGarden Occasional Publications, No. 17: vi + 34 pages. ISSN 1094-1398.

Vanderplank, S., F. Favoretto, Mascareñas, I. and O. Aburto. 2020. San Basilio: *Biodiversidad y Conservación/Biodiversity and Conservation.* ISBN: 978-0-578-71118-8. 164 pages.

Valdez Villavicencio, J. H., and **A. Peralta-García**. 2020. First record of necrophilia in the Baja California spiny lizard *Sceloporus zosteromus* (Phrynosomatidae). *Revista Latinoamericana de Herpetología,* 3(1): 116-117.

Wehncke, E. V., and Mariano N. A. (accepted). Groundwater and its role in maintaining the ecological functions of ecosystems. In: M. Alconada Magliano and J. J. Carrillo-Rivera (eds.) Intensified land and water use - a holistic perspective of local to regional integration. *Springer.*

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.

Yost, J. M., K. D. Pearson, J. Alexander, E. Gilbert, L. A. Hains, T. Barry, R. Bencie, P. Bowler, B. Carter, R. E. Crowe, E. Dean, J. Der, A. Fisher, K. Fisher, L. Flores-Renteria, C. M. Guilliams, C. Hatfield, L. Hendrickson, T. Huggins, L. Janeway, C. Lay, A. Litt, S. Markos, S. J. Mazer, D. Mccamish, L. Mcdade, M. Mesler, B. Mishler, M. Nazaire, *J. Rebman*, L. Rosengreen, P. W. Rundel, D. Potter, A. Sanders, K. C. Seltmann, **M. G. Simpson**, G. A. Wahlert, K. Waselkov, K. Williams, and P. S. Wilson. 2020. The California Phenology Collections Network: Using digital images to investigate phenological change in a biodiversity hotspot. *Madroño* 66:130-141. https://doi.org/10.3120/0024-9637-66.4.130.

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An adult California red-legged frog peers out from the safety of its pond in Baja California, Mexico, during a survey to monitor the health of the source population. Photo by Frank Santana.

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