Thanks to the dedicated animal care team, every single animal resident—from mountain lions and black bears to scorpions and spiders—receives environmental enrichment that allows them to express themselves and use their problem-solving skills as they would in the wild. Allowing animals to make decisions and flex their muscles—both physically and cognitively—prevents frustration and boredom and helps the animals have more control in their lives.

**Practice Makes Perfect**

The primary goal of enrichment is to create novel psychological experiences. Just like humans, each individual animal has a different skillset and proficiency level, and thus necessitates unique enrichment activities for each. As you can imagine, with more than 230 different species at the Desert Museum, a great deal of trial and error goes into finding effective ways to create engaging experiences. Zookeepers and volunteers are continuously thinking of new ideas, always with a consideration for an animal’s natural history and safety. Zookeepers think about what the animal has evolved to do over time and then think of ways to evoke those same actions. For example, we know that wolves heavily depend on their advanced sense of smell for hunting. Our wolves do not “hunt” as they would in the wild, but we can replicate aspects of the experience for them by introducing deer scent into their habitats.
This encourages the wolves to sniff around for prey and is one of many ways to keep them stimulated in their environment.

There are multiple classifications of enrichment, each intended to illicit different behaviors, often targeting the different senses such as smell, sound, taste and touch. All enrichment sessions are recorded, reviewed, and rated by zookeepers and veterinarians. This allows us to not only keep track of what type of enrichment is done and when, but also allows us to note the animals' reactions. The ratings represent whether the reaction is positive, negative, or neutral. It should be noted that an adverse reaction isn’t necessarily bad; the goal is for animals to experience the same emotional variations that they would in the wild. For instance, snake shed might be placed in the packrats’ environment. Interactions with a predator’s scent may not be pleasant for the packrats, but it is certainly something they would encounter in the wild. That said, not all enrichment activities are meant to replicate experiences animals would have in their natural environments.

**New Twists on Old Behaviors**

Javelina are, surprisingly, quite the “artists.” If you can believe it, the animals enjoy pressing their noses against canvases covered in non-toxic paint to create their own artistic masterpieces! Painting enrichment is designed to mimic the act of rooting in the ground with their noses for food. This is just one example of enrichment that encourages inherit behavior from an animal in a method that is totally unique to anything they would experience in the wild.

Likewise, if you’ve ever spotted empty cardboard boxes in an exhibit, have no fear—we haven’t lost track of the recycling! Our trash truly is like treasure to many of the small mammals, reptiles, and birds at the Desert Museum. Rattlesnakes love exploring boxes, slithering around until they find just the perfect napping spot, and it’s not uncommon to see a parrot nibbling away at a phone book. The animals wouldn’t encounter these objects in the wild, but adding them to their habitats provides hours of enrichment.

**Change of Scenery**

While some animals benefit most from having different objects introduced into their habitats, others enjoy a little change of scenery. Parrots in our Interpretive Animal Collection get excited when they get to go on walks through the grounds with zookeepers and trained volunteers to get the opportunity to interact with different people. Even the more introverted species benefit from going out and about. Reptiles, for instance, are given access to their very own enrichment courtyard that’s loaded with different textures, materials, and spots to hide. Some reptiles are content to explore the courtyard on their own, but others, such as tortoises and Gila monsters, sometimes prefer interacting with each other in their home away from home.

Mountain lions and bobcats, for instance, can be trained to follow “targets,” which are long sticks with a small ball at the tip. The cats are taught to move according to where the stick is pointed, thus helping zookeepers transfer them from one area to another or into a crate if necessary. Anyone who has ever tried getting a housecat into a carrier will appreciate the time, energy, and frustration the zookeepers must save themselves—and the animals—with target training!

Many people are shocked to learn that fish are also target trained. This is especially helpful at feeding time in mixed-species habitats where slow feeders co-mingle with voracious eaters. In this case, certain fish are conditioned to move to a specific area in their habitat when a target is presented. The fish’s behavior is reinforced with a food reward and, before you know it, the fish have been trained to feed in a specific location so that everyone is guaranteed a full belly at the end of mealtime.

**Eye on the Target**

Some enrichment is better classified as behavioral rather than environmental. Many activities are designed to help zookeepers and veterinarians better and more easily care for the animals. Target training is a perfect example of this type of enrichment.

**Meal Time**

Many other food related activities can be used as enrichment. In the wild, animals...
are not presented with perfectly prepared meals and that’s not necessarily best when in human care either. It’s both physically and mentally stimulating for an animal to have the opportunity to make an effort to get their meal. Food puzzles similar to those available for domestic dogs and cats are a great tool. Food is sometimes hidden around the animals’ habitats so they have the opportunity to forage. Zookeepers and volunteers can also make paper mache items with food inside giving the animals the chance to tear it open. It is often observed that when in human care, if an animal is given the choice between needing to use their skills to access food, such as with a food puzzle, and that same food item is readily available, they will choose the option that requires an effort.

Helping Us Help Them
Cats and other mammals are “crate” trained, parrots are “t-perch” trained, and birds of prey are “glove” trained. Teaching birds and mammals these behaviors is not only mentally stimulating for them, but it is extremely helpful when zookeepers or veterinarians need to examine an animal or move it from one habitat to another. Luca, one of our military macaws has even been trained to spread his wings on command. While this display is certainly beautiful and elicits plenty of oohs and ahhs, the behavior actually serves a practical purpose as it allows us to see the condition of his feathers. Along the same line, Strawberry the black bear is learning how to present her forearm for a blood draw, and the mountain lion, Cruz, has learned to navigate to a specific spot in his night holding area to present his tail for the same purpose. The goal of this type of training is twofold: the animals benefit from mental stimulation and treatment is far less invasive than if veterinarians needed to use anesthesia to perform these checkups.
There was lively entertainment, nocturnal animal ambassadors, delicious food and drink, stargazing, and hundreds of exciting auction items. Underlying all of this exciting activity was something else: a true sense of Tucson-area philanthropy.

Philanthropy can be described in many ways; helping, giving, fundraising, or charity. It is ultimately an activity that promotes the welfare of something other than yourself, expressed by generous donations to various causes. We all know there are thousands of deserving organizations that benefit from the support of philanthropic businesses and individuals. The Desert Museum is proud to be one of these deserving recipients in the local Tucson community for philanthropists.

Even though the Desert Museum is a world-renowned and widely respected institution, it should not be forgotten that it is also classified as a 501 c(3) nonprofit organization. Unlike many other organizations, the Desert Museum does not receive significant federal or state government funding. The Museum depends on the support of many generous donors in order to continue providing top-quality Sonoran desert education and experiences for all.

During the Desert Gala, philanthropy was present in the generosity and excitement of the Gala guests, in the bold precedent of event sponsors and underwriters, the strong support of the donors, and in the participation of the Gala volunteers and staff. The work of many dedicated individuals orchestrated the largest annual fundraising event for the organization, and helped to raise over $250,000 in support of the Arizona-Sonora Desert Museum. Of this, almost $30,000 was raised to specifically support animal care and vet care for some of our most special Museum residents! Tucson, your generosity goes a long way, and the Arizona-Sonora Desert Museum thanks you for your support.

Visit desertmuseum.org/donate or contact Philanthropy Director Dave Eshbaugh at deshbaugh@desertmuseum.org to learn more!
ClaSSes

Prickly Pear Harvest
August 17 or 25
August is the season that the beautiful red fruit of the prickly pear cactus ripens. This plant is ubiquitous and edible! Learn how to collect and process the fruit, as well as how it can be used in different dishes. You will also prepare the tender green pad for “nopalitos”. Includes lunch. $65

Natural History of the Sonoran Desert
October 26 & 27
Would you like to be more knowledgeable about the animals, plants and landscape of our desert? This two-day survey course covers desert ecology, climate, mammals, birds, reptiles, botany and geology. We will take a plant hike, get a behind-the-scenes tour through the herpetology building, and maybe even be treated to a personal Raptor Free Flight experience! $130

Hohokam of the Tucson Basin
November 16
The Tucson Basin holds a storied past beginning over 10,000 years ago. Persistent connections remain today, held by the Tohono O’odham and the Pasqua Yaqui descendant communities, through songs and oral tradition about the places of their origins and their ancestors. Los Morteros, Honey Bee Village, Tumamoc Hill, the Valencia Site, and Mission Gardens represent only the most recent 1,500 years of human history. We invite you to a guided tour of these archaeological preserves with Pima County and Arizona State Museum experts. $65

TRIPS

Biodiversity & Animal Behavior of the Chiricahua Mountains: a Summer Field Camp
July 7-13
LAST CHANCE TO SIGN UP
Cool off in the mountains! Southeastern Arizona contains some of the richest reservoirs of plant and animal life on earth. In addition to our own projects with Mexican jays, lizards and slave-making ants, we will have the opportunity to interact with other scientists, attend their seminars, and accompany them into the field. Our base is The Southwestern Research Station of the American Museum of Natural History. Includes instruction, all meals and lodging for one week. $1,150

Río Sonora Heritage Tour
October 26 – 28
This agrarian region is still very much as it was a hundred years ago, with farmers, ranchers and mission communities thriving in the fertile Río Sonora Valley. Backyard gardens are planted with the same Mediterranean species, pomegranate, quince and fig, which were introduced in the 17th and 18th centuries by the Spanish. We’ll follow in the footsteps of legendary Jesuit missionary, explorer, cartographer, and agriculturist Father Eusebio Francisco Kino and explore the mission districts of the Pimería Alta (northern Sonora) where we’ll spend three adventurous days visiting the missions in the region, enjoying local cuisine and spending quality time with wonderful people that share gracious hospitality. Highlights include visits to the missions of San Ignacio, Magdalena de Kino, Banámichi, Huépac, Aconchi, Baviácora, Ures and Arizpe. $895

Río Sonora Heritage Tour
October 26 – 28

Copper Canyon
December 7 – 15
Take an enchanted journey to the jewel of the Sierra Madre: Mexico’s Copper Canyon. Enjoy rolling lectures on the historical, cultural, & biotic communities we visit with experienced guides Jesús García and Doug McLaurin. We’ll ride the “El Chepe” Train from sea level to 8000 ft. in an awe-inspiring ride to the Barranca del Cobre. Encounter the mysterious Tarahumara Indians, widely regarded as the most culturally intact native peoples in North America. And, we’ll be there during the Virgin of Guadalupe Feast day to partake in the celebrations. At the close of the day you’ll gaze upon stunning vistas of the canyon below from your rim-side hotel balcony. $2,990

Black Lava and White Sand
February 9-12
The volcanic landscape of the Pinacates includes huge maar craters, two varieties of lava flows, cinder cones, and majestic shifting dunes hosting their own specialized ecosystems. This young volcanic field is adjacent to the Sea of Cortez which, because of extreme low tides, allows viewing of its marvelous intertidal marine life. For a special cultural experience, we visit the Sonoran Tohono O’odham village of Quitovac, an oasis along the ancient salt pilgrimage trail to the sea. $1,075
COOL SUMMER NIGHTS
Open until 10:00 PM Saturdays
Join us every Saturday night through August 31 to beat the summer heat while learning something neat! The desert comes alive at night as nocturnal animals awake. Bats perform aerial acrobatics in pursuit of dinner, beavers splash around in their pond, and scorpions glow green under black light. Bring your flashlight and explore, grab a local beer and wander, experience a live animal encounter, scampers Packrat Playhouse, feel the touch of a stingray, or participate in special nightly activities. See the schedule below for weekly themes.

July 6 – Creatures of the Night
July 13 – Creatures of the Night
July 20 – Explore Outdoors!
July 27 – Insect Insanity
August 3 – Harry Otter Night
August 10 – Creatures of the Night
August 17 – Teacher Appreciation and Gastronomy Night
August 24 – Creatures of the Night
August 31 – Bat Night

STAY COOL

Sonoran Harvest: Taste the Desert
Saturday, Nov. 16th • 6:00 – 9:30 pm
Join the Desert Museum for our second annual food and drink festival, Sonoran Harvest. Watch as local chefs compete using native ingredients and vote for your favorite to be crowned the Sonoran Harvest Queen or King! Chat with ethnobotany experts, enjoy live music, taste savory samples and delicious drinks, visit with our animated animals, stargaze, and more. Tickets start at $45 for members and include several food tastings, two drink tickets, beer tastings, and more. For more information, please visit www.desertmuseum.org/sonoranharvest.

ART EXHIBIT:
Guy Coheleach
Solo Exhibition
July 13, 2019 - September 22, 2019
Opening Reception with Artist Lecture: July 13
Ironwood Gallery
From 1991 through 2011, Guy Coheleach has displayed one-man exhibitions at major museums in 36 cities across America, from Los Angeles to New York. His work is inspired by frequent travels to our national parks, Alaska, Europe, South America, and Africa. His extensive traveling has given him unique up close and personal experiences with animals resulting in a deep understanding of nature, manifested in his artwork. Guy’s recent work reflects his years of experience observing animals in the wild. Eye To Eye, a painting of a leopard in a tree looking directly at the observer is typical of the experiences that Coheleach has witnessed many times.

PLEASE NOTE:
The Ironwood Gallery is open daily from 10 a.m. – 4 p.m. but is occasionally closed for special events. To confirm hours of operation call 520/883-3024.

DESERT MUSEUM
PLANT SALE! 6:30am – Noon
Sat & Sun, September 28th & 29th
Are you a purposeful planter? Join the Botany crew at the Desert Museum’s Annual Plant Sale to discover how to turn your garden into a powerful pollinator pad! Fall is the perfect time for upgrading your home landscape with new plants! Whether you’re a gardening novice or a soil specialist, this Plant Sale is for you. Not only can you buy all of the green things, you can speak with experts for the best gardening tips and tricks. Desert Museum Members: Don’t forget! You get first dibs on the best selection of plants before the public sale and 10% off your plants! For more info, visit www.desertmuseum.org.
Thank you to the following donors for their generous support of the Desert Museum's stewardship, interpretive, and conservation efforts.

(1/1/2019 – 5/31/2019)

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For information about supporting the Museum with your gift or bequest in honor of a loved one, please contact Dave Eshbaugh at 520/883-3039 or deshbaugh@desertmuseum.org.
Laura has been a quiet yet powerful leader within our Nature Art Certificate Fine Art program. She has shown dedication to pursuing new ways of sharing her creativity through 2-dimensional fine art while continuing to showcase brilliant and unique polymer clay sculpture work.

This piece originally was exhibited in the 2018 student show and acquired for the museum’s permanent collection.

When Deborah and Abraham Blattstein founded the Coati Kids Club in memory of their son Ari, they would have been thrilled to think that the club would still be going strong after a quarter century. Ari was an ardent fan of the Museum, which he dubbed “The Mazoo.” The Museum engaged his passion for animals and unquenchable curiosity for the natural world, and he loved exploring here with his family. Deborah and Abraham knew that they wanted his memory to live on in a place they had so enjoyed together, and wanted other families to experience it too. They chose coatis – curious and energetic like kids – as a mascot, and this unique child and family membership to the Museum was born.

From the start, the Coati Kids Club offered kids and their families a way to know the Museum more personally. A quarterly newsletter full of games and stories kept members in touch with Museum happenings. Members’ Day events gave them behind-the-scenes experiences, like sneak previews of new exhibits, and opportunities to help out by building enrichment for the animals.

As it grew, the club began to offer eight events a year for member families. These hand-on programs offer in-depth exploration of Sonoran Desert natural history through close up encounters with animals and plants, outdoor adventures, and art.

We would love to have your child become part of the next generation of curious naturalists as a Coati Club member. Museum members can participate for only $30! To learn more, visit us at desertmuseum.org or call guest services at (520) 883-1380.