

Snake Hunting in the Gila

By Katie Mast

The rolling hills around Mule Creek, NM were covered in thick vegetation in late August 2011, green after the summer monsoons. Prickly poppies, sunflowers, globemallow and mullein grew in abundance, while wild sweet potatoes ran along the ground, their thick tendrils reaching up and wrapping around the stems of taller plants. The creek for which this valley is named was swollen at its banks, teeming with life and ripe with conditions that Matt Eschenbrenner and Josh Davis, ABQ BioPark herpetologists, hoped would lead to the discovery of an endangered snake that was last seen in this area in 1994.

In spring 2011, the ABQ BioPark initiated the Native Species Recovery Program to help bring six New Mexico reptile and amphibian species back from the brink of extinction. That year, herpetologists collected individuals from three of the species included in the program, including narrow-headed garter snakes from the Catwalk National Recreation Area, and northern leopard frogs and Sacramento Mountain salamanders from the Jemez Mountains. The rare Mexican garter snake, however, continued to elude them.

The Mexican garter snake is present, even abundant, in parts of Arizona and northern Mexico, but is listed as endangered by the state of New Mexico and has been a candidate for the federal Endangered Species list since 2003. Its historic range extends into the Mule Creek valley, a ranching community southwest of the Gila Mountains just five miles from the Arizona border, where persistent drought and human disturbance are two likely factors in this aquatic snake's decline. Another culprit is the American bullfrog, a non-native, invasive species that has become a menace in New Mexican waterways. "They'll eat anything," Davis commented. "They'd definitely eat a baby snake, and the larger frogs could take an adult snake. It's very alarming."

A gravel road led to the collection site on a 10-acre property along a portion of the Gila River in southwest New Mexico, the only piece of private land where researchers had access at the time. The land spans a spring-fed portion of Mule Creek, one of a few continually-flowing reaches of the creek, which draws a diversity of wildlife and is home to many small fish, the main food source of the Mexican garter. "If these snakes are in New Mexico, they will be on this land," Eschenbrenner remarked frequently throughout the week.

One of the most difficult challenges to the recovery program has been resistance from local communities. Many landowners are wary of governmental organizations. While "No Trespassing" signs are common throughout New Mexico, the fences surrounding ranches in Mule Creek are posted with a more specific "No Biologists Allowed" warning. Because of this, the team has worked carefully to build relationships and establish trust with landowners who support their work.

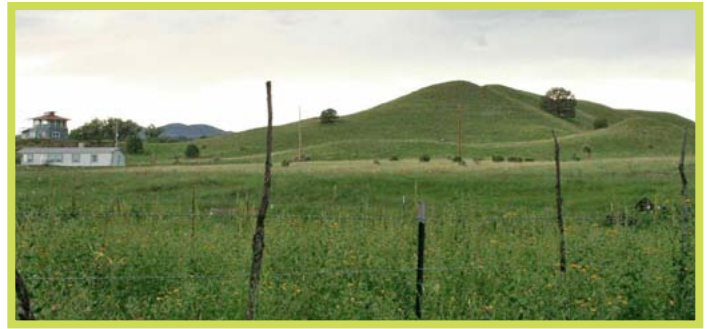


As such, the BioPark restricts its research in Mule Creek to National Forest and other public land, as well as the 10-acre tract of private property where the search is currently taking place. "You're always being watched here—you just have to assume that," Eschenbrenner mused as he and Davis set up camp, tucking their tents near a stand of tall brushy growth on flat ground just before the land dipped down into the creek's flood zone. A barbed wire fence separated the camp from a herd of grazing cattle to the south, and with a field of tall prairie grasses to the east and dense vegetation around the creek to the west, the camp felt secluded. But as dusk settled and they watched car lights travel the crest of the eastern hill, they were reminded of how conspicuous the camp really was.

They traversed the property each morning and again before dusk, monitoring 10 drift fences placed along the creek. Drift fences are a common, minimally invasive method for live collection made with panels of 50-foot-long chicken wire, often stretched parallel to the edge of the water. The bottom of the fence is buried in a trench several inches deep and boxes are placed on both sides and at both ends. Often, animals heading toward or away from the water will run into the drift fences and follow them into the boxes which have conical entry ways to prevent retreat, along with insulation and a shade structure to help keep animals cool between the morning and evening rounds. "We've caught lots of kinds of snakes, lizards and insects in here," Eschenbrenner said. "We've even had a bird."

While none of the BioPark herpetologists had ever seen a living Mexican garter snake, they knew the signs: white crescents encapsulating the eyes like parenthesis and bordering the ends of the mouth; a prominent cream-colored line marking the center of the snake's back from head to tail, standing out in contrast against its olive-colored body; and two softer cream lines running along the third and fourth row of scales on either side above the belly. As with all garter snakes, the scales along the body of Mexican garters are keeled with ridges that are obvious to the touch. Even though these elusive snakes remained at-large during that trip in August, several other snake species did make their way into the drift fence boxes, including western terrestrial garter snakes and bull snakes which are harmless, but often cause panic at first glance because their brown, diamond-shaped patterns are very similar to those of rattlesnakes.

During the week, Eschenbrenner and Davis also drove to the Catwalk National Recreation Area, 30 miles to the north, to release several narrow-headed garter snakes they had collected on the previous trip. But with each passing day, the hope for finding Mexican garters grew slimmer. "We don't know what will happen if we come back with nothing," Eschenbrenner said. "At worst, they don't fund us again and we have to shut down the project. But even if we come back with nothing, this trip won't be a failure because we've definitely learned a lot."



Epilogue

The next year, as the 2012 breeding season got underway, BioPark herpetologists began heading into the field again with renewed energy, but also with concern for the many species of southeastern New Mexico. As they prepared for their first collection trip to Mule Creek that spring, the Whitewater-Baldy fire ignited in the Gila Wilderness, quickly growing to become the largest wildfire in the state's history. While this fire posed some immediate danger to reptiles and amphibians, BioPark staff were more concerned with possible flooding and the silt and sedimentation that would fill the waterways with the summer monsoons.

Back in Mule Creek, the search continued over the next two summers, with six to eight trips per year from April to September, each lasting two to nine days. Finally, on June 1, 2013, the BioPark team was given access to a new location of private land, about 20 miles from the old 10-acre site, and within one day, they caught three Mexican garter snakes, all under a year old. Two of them were released and one male was taken to the BioPark where it was later joined by another male and two females found during a subsequent trip on June 29. These four snakes will remain at the Zoo as part of the BioPark's state-issued permit to keep up to four breeding pairs that will hopefully produce young that can be released back into the wild. "It's been a long, hard road to find them," said Doug Hotle, curator of herpetology, who was part of the search team that first found the snakes. "But we were bound and determined to go out and find something that was thought to be extinct ...and now our persistence has paid off."

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Katie Mast worked as the ABQ BioPark communications officer from 2011 to 2012. While there, she became interested in the Native Species Recovery program and asked to accompany the herpetology team during their August 2011 snake hunt in the Gila wilderness, an experience that inspired this story. Her background includes coursework in environmental studies and writing at Goshen College in Indiana which led to an interest in science writing after graduation. She is currently an editorial intern with High Country News in Paonia, Colorado.

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See "Extinction Extinguishers: Snake Rescue in the Gila," a first-hand account of the narrow-headed garter snake rescue mission taken in the wake of the Whitewater-Baldy fire. BioScape, Winter 2012.

www.bioparksociety.org/snakerescue.pdf