

# New Mexico's Little Known Treasures

by Antonia Nevarez

Many of the 27 plants and 13 animals in New Mexico that are listed nationally as endangered or threatened species can be considered desert natives. The types of challenges facing these species are illustrated by two of our state's lesser known creatures, the Pecos sunflower and Socorro isopod.

## Pecos Sunflower

The Pecos sunflower (*Helianthus paradoxus*) is an annual that looks much like the common sunflower seen along roadsides and other disturbed areas throughout North America. This plant is also called the puzzle sunflower or paradox sunflower. It flowers from July to October, generally later in the year than the common sunflower.

Pecos sunflower is the only sunflower in the Southwest that requires permanent wetlands for its survival. It grows around the outflow of springs, in marshes, or sometimes at the edges of lakes or streams in soils that are usually somewhat saline. The abundance of plants at each location depends on the availability of water; the sunflowers will disappear if a site dries out.

The Pecos sunflower is found at 25 sites within five areas in New Mexico and Texas. In New Mexico, it grows near

the town of Grants, along the Rio San Jose, in and around the town of Santa Rosa, and near the Pecos River from just north of Roswell to just north of Dexter. In Texas, it is found just north of Fort Stockton and in Balmorhea. Most sites contain only a few acres of wetland habitat, but several are more extensive. The number of plants at each site varies from only a few to many thousands.

Much of the wetland habitat on which Pecos sunflower depends has been lost or degraded. Many springs, particularly in Texas, are now dry due to ground water pumping for irrigation. The free flow of many remaining springs has

been captured for domestic uses, reducing the size of wetlands. Nonnative tamarisk or saltcedar (*Tamarix* spp.) has invaded many wetlands, and others have been drained and filled. Wetland losses, although probably slower than in the past, still continue. Livestock also will eat the Pecos sunflower and can eliminate a population if grazing is continuous.

Sites where the Pecos sunflower occurs are owned and managed by a variety of federal, state, tribal, municipal, and private interests. Six sites are on lands managed by the U.S. Fish and Wildlife Service, Bureau of Land Management, or National Park Service; one site



**Pecos sunflower**  
USFWS photo

is on a state park; four sites are managed by the town of Santa Rosa; one site is managed by the Pueblo of Laguna Tribe; and 12 sites are managed by private individuals or organizations. Some other sites are within state or federal highway rights-of-way. New Mexico lists the Pecos sunflower as endangered under the state's own Endangered Plant Species Act.

Significant populations of the Pecos sunflower occur on Bitter Lake National Wildlife Refuge near Roswell, New Mexico, and at The Nature Conservancy's Diamond Y Preserve near Fort Stockton, Texas. Both areas are being managed as natural ecosystems to benefit native wildlife, including endangered species.

As part of the recovery effort for the Pecos sunflower, the State Land Office and the New Mexico Energy, Minerals and Natural Resources Department are teaming up to plant seeds near Roswell and Fort Sumner, with support from a \$5,000 federal grant. Grazing lease holders on state trust land have volunteered to set aside several small areas for the project.

### **Socorro Isopod**

The Socorro isopod (*Thermosphaeroma thermophilus*) is one of only seven freshwater species in the Sphaeromidae, an otherwise marine family of isopods. This small crustacean is similar to the terrestrial pill bug but is aquatic and is found in only one thermal spring near Socorro, New Mexico. Temperatures in the spring range from 88 to 90 degrees F (31 to 32 degrees C). In the late 1970s, the water flowing from the thermal spring was diverted for the development of a spa. The spa has since gone out of business; however, the diversion confined the animal to two small concrete-lined troughs, where it appears to be persisting. This is the only site in the wild where Socorro isopods can be found. A refugium population is being maintained at a facility near Socorro, New Mexico, to provide stock for reintroduction into the wild in the event that the wild population is lost due to drought, contaminants, or habitat degradation.



**Socorro isopod, shown next to a pencil point for scale**

Photo by Brian Lang/New Mexico Department of Game and Fish

The Socorro isopod is a member of the order Isopoda, which is distinguished from other orders of the class Crustacea by its flattened body and seven pairs of legs. It differs from other isopods in New Mexico by being aquatic and having two pairs of oar-like appendages (uropods) attached to the abdomen. Socorro isopods are grayish-brown, marked with black spots on the dorsal surface, and are bone colored beneath. In some individuals, the exposed edges of the body can be tinged with orange.

The primary food sources for the Socorro isopod are bacteria, algae, detritus, and aquatic worms. The Socorro isopod is primarily crepuscular (active at dawn and dusk), swimming as well as crawling. During the day, it burrows into the substrate and seeks shaded cover.

This species is ovoviviparous, meaning that the eggs develop within the female and the young are born alive. The gestation period is approximately 30 days. Females are able to produce broods every 2 months, depending on food and temperature. The number of gravid females peaks in April and once again in late summer, but reproduction occurs year round.

The survival of the isopod depends on an uninterrupted flow of thermal water. This species is known to occupy only one spring system, but in the past it may have occurred in others in the vicinity of Socorro, New Mexico, including two that have been capped. The current population in Sedillo Spring is extremely limited by the extent of habitat. Even with a continuing flow of

thermal water in its native habitat, the Socorro isopod is in a very precarious situation. As a precaution, as well as for research purposes, a population of the Socorro isopod is also being housed at the Albuquerque Biological Park.

Conservation measures prescribed under the Socorro Isopod Recovery Plan include: 1) maintenance and enhancement of the Sedillo Spring habitat; 2) reintroduction into suitable former habitat; 3) captive propagation; 4) continued legal protection; 5) public education; and 6) continuing reviews of the isopod's status. During the past 20 years, conservation efforts have for the species focused on these tasks with varying degrees of success.

The biggest problem for both the Socorro isopod and the Pecos sunflower, as well as New Mexico's other 38 listed species, has been habitat loss. Conserving enough quality habitat for these plants and animals to regain a secure future will be our greatest challenge.

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