Conservation massacre
Ariocarpus bravoanus driven near extinction

Ted Anderson and I were cautious not to disclose the locality of Ariocarpus bravoanus at the time of its original description, and I now believe that it was a mistake to bring to its home a group of surely well-intentioned people: members of the CITES-financed Mexican cactus monitoring project (1993–1994). Clearly, some of the participants of this group could not resist sharing the locality with their closest friends, and that was the beginning of the dissemination process that resulted in an increasing number of people knowing of and visiting the location of this rare plant, and (why not?) collecting a few specimens.

Anderson did not report evidence of threats to A. bravoanus in his book Threatened Cacti of Mexico, but by 1996 an increasing number of collectors knew the location of the species, and signs of poaching were already evident. Field-collected plants were being consigned in Europe, and accounts of plants being sold on the black market were already common. The population at the type locality soon became almost totally decimated. In the meantime, two more small populations were discovered near the original site. One was destroyed by agricultural development, and the second, containing only a few plants, unfortunately appears to be known to plant poachers.

Recently I went with my colleagues Rolando Bárcenas and Carlos Gómez-Hinojosa to visit the type locality of A. bravoanus in San Luis Potosí. The goal was to collect small samples of tissue for a project lead by Julie Hawkins and Rolando, who are trying to develop a DNA-based certification scheme aimed at reducing trade of wild-collected cacti.

We were shocked by what we found: virtually all plants (about 160 individuals) in the population were “marked” with permanent enamel paint.

The perpetrators of this terrible mistake will be a negative example in the history of plant conservation. It is hard to figure out why they did this in the way they did it. Maybe, they simply wanted to mark the plants for monitoring purposes, or perhaps they wanted to discourage collectors, in the same way that activists paint Canadian harp seals. In any case, the people who carried out this irrational act probably were not aware of the poten-
Ariocarpus brownii at the type locality damaged by well-intentioned conservationists. The thick coating of paint reduces photosynthesis and impedes gas interchange through the stomata. The paint covering the woolly area at the central part of the stem also creates an impenetrable barrier for flower and fruit development. These plants no longer have any commercial value, but now no longer can they reproduce. Photos by Carlos Gómez-Hinostroza.

tial health effects of covering a significant part of the plant's body with toxic paint. They were obviously unaware that the thick enamel coating reduces the photosynthetic function of the plants and impedes gas interchange through the stomata. And what about the potential absorption of the paint solvents into the plant's body? In many cases the paint covers virtually all of the woolly area in the central part of the stem, creating an impenetrable barrier for flower and fruit development. These plants will no longer be able to reproduce.

When we discuss the most common threats to biodiversity, especially those affecting cacti and other succulent plants, we immediately think of habitat destruction and illegal collecting. But poorly trained biologists and would-be conservationists can also be destructive. The very presence of people in some desert habitats can disturb the stability of fragile soils and the plants they harbor. Many of the species are so cryptic that damage from trampling underfoot is a real risk. The degree of endangerment for many Mexican cacti is so high that access to their natural populations should be prohibited by law, unless there is a way to guarantee that the organisms and their habitat will remain unaffected. What we have seen in San Luis Potosí is a sad testament to our appreciation for these plants.

References