Saguaros anchor a sunset view of monsoon lightning and a rainbow at the Tucson area's Saguaro National Park.
JACK DYKINGA

totaled 1,000 pounds. The oddest event occurred in 2017, when Tucson, hoping to win a large Amazon facility, tried to gift a 21-foot saguaro to Amazon CEO Jeff Bezos in Seattle — not a notably auspicious saguaro habitat. (Amazon rejected the gift, along with Tucson, and donated the saguaro to the Arizona-Sonora Desert Museum.)

Saguaros fit themselves to the Sonoran Desert with amazing precision. They visibly fatten with water storage during the summer monsoon or winter rains, then conserve it for sustenance through the seasonal droughts, with their skin expanding and contracting in folds, like an accordion. The spines not only repel hungry herbivores, but also provide the plant with filigreed shade for cooling in summer. The trumpet-like architecture of the saguaro flower is ideally proportioned for the long tongue of the lesser long-nosed bat, one of the cactus' principal pollinators. For all our smarts, we humans have not designed anything that functions as agreeably in the desert as a saguaro.

We modern humans have capitalized on the saguaro for entertainment, but our predecessors in the Sonoran Desert had a more vital relationship with it. Traditional Tohono O'odham families had a winter home, a summer home and a cactus camp — the latter an early-summer migration to a saguaro forest to harvest its fruit. A ritual on the first day of camp illustrated the central importance of the saguaro to the culture: Each picker would open the first ripe fruit, rub its pulp over her heart and say a prayer of thanks for having lived another year. The harvested fruit would go on to yield jam, wine, vinegar, syrup and even seeds for chicken feed.

The saguaro might seem an unlikely building material, but the woody ribs are lightweight, rot-resistant and remarkably strong. Tohono O'odhams have used them for shade ramadas for centuries, and when Mexican and Anglo settlers began building adobe houses in Tucson, saguaro ribs were used as ceiling material to fill in the spaces between the support beams. They were strong enough to support the insulating layer of dirt above them.

People drifted into Southern Arizona before saguaros. Projectile points in a woolly mammoth kill site date to 13,000 years ago, late in the most recent ice age. Saguaros colonized Arizona only after the long cold snap ended about 8,000 years ago. For enthusiasts of our own species, this is reassuring: It suggests that we adapt to changing environments more easily. But what if our adaptations are threatening the saguaro?

First came the cattle: Starting in the late 19th century, cattle grazing on Southern Arizona ranch and federal lands erased a lot of the native grass that sheltered young saguaro seedlings from the sun, which later caused a decline in the census of mature saguaros. In the 20th century came poachers, capitalizing on the cactus' popularity as a landscaping trophy. The apparent greatest threat here in the 21st century is a botanical invader, African buffelgrass, introduced for livestock forage. It competes with native plants for water and fuels grass fires that burn hot enough to kill saguaros. The warming climate can also directly affect saguaros, reducing the enzyme efficiency that powers their photosynthesis. Looking at the underlying architecture of all the saguaros' problems, it's apparent that the most problematic invasive species is … us.

Is the saguaro in real danger of retreat, or even extinction? Predictions of its doom, imminent or eventual, have circulated periodically since the 1940s and have so far been proved wrong. The only answer at this point is: It's uncertain. In some study areas, seedlings and young plants have been in decline since the 1990s. The fire situation is unquestionably becoming more critical. On the positive side, botanists are beginning to see saguaros thriving on north-facing mountain slopes as an adaptation to climate change. And conservation efforts, now nearly a century old, have made a real difference. The saguaros' best hope is the same as their greatest threat. Again, it's … us.