

Biologist Documents Rare Find in Uncommon Plants

If a rose is a rose is truly just a rose, it would be difficult to understand why anyone would spend years looking for the Grand Canyon rose anywhere but in the Grand Canyon. But Greg Goodwin, a volunteer biologist for The Nature Conservancy, has a unique drive to discover uncommon plants, learn about them and apply that knowledge for their long-term conservation.

This is why he finds great satisfaction in walking the Cataract and Espee ranches for hours and miles, in search of this particular flower, plus two other extremely rare plants. And he's found them all.

Goodwin, now retired, spent 28 years as a Forest Service wildlife biologist. His academic degrees are in biology and zoology. However, in a career aimed at caring for animals,

he soon discovered a fascination with plants.

Early in his career he learned of a rare plant, a member of the mint family, that had been found on the Coconino National Forest. His curiosity took him to the documented site only to find a building on top of it. He began to study the area where it grew and look for similar vegetative sites. His search uncovered more of these plants on the upper ledges of Walnut Canyon. Further

investigation led to the discovery that with the suppression of fire, the plant was suffocating from layers of pine needles.

"This discovery led to a whole new idea of prescribed burning," he said. "I find value in knowing that uncommon plants are out there and

then applying things to benefit them and other species."

Goodwin began taking inventory of the rare plants of the Cataract shortly after some 35,000 acres became a conservation easement held by TNC in 2000. He says he was particularly interested because he had great respect for Babbitt Ranches and the excellent condition of the ranchland.

"It is spectacular grassland. I suspected there could be certain rare or uncommon plant species out there. So in the course of my work, I looked around for the plants. It wasn't until 2006 that I found anything unusual."

It was a Northern Arizona University graduate student who pointed Goodwin to the exact location of his first rare discovery, the very tiny cactus *Pediocactus peeblesianus* ssp. *fickeiseniae*. A German botanist had actually located the plant in the 1980s and wrote about it in a little known German travel magazine.

After examining its habitat and conducting additional surveys, Goodwin found more of the plants, some 300 in all.

"It's a very small, circular cactus about the size of a quarter. It sits in the ground with about half of the body under the ground; only a small amount protrudes above the ground an inch up at the most. It is a very obscure, hard to see plant that grows in flat, limestone gravel."



One of the reasons this cactus is so hard to find is that it is the same color as the rock. In addition, it is covered in inch-long, cardboard-like spines. For a brief period in late April or early May, it can produce one or two yellow or cream-colored flowers that are as large as the whole plant.

Previously, *Pediocactus peeblesianus* ssp. *fickeiseniae* was only known to exist on the Arizona Strip and around Marble Canyon. Another subspecies, listed as endangered, can be found around Holbrook.



The Grand Canyon rose is another rare plant that Goodwin has found in five new locations along the rim of Cataract Canyon. The reddish/pinkish flower blooms in June and is about two to three inches in

diameter. The shrubs grow to about two to three feet tall in thickets on limestone ledges.

"They have very large stiff white spines on the stems. The thorns keep them extremely well protected."

The Grand Canyon rose, or *Rosa stellata* ssp. *abyssa*, was known only from the Arizona Strip, the Grand Canyon National Park and Marble Canyon.

The third rare plant finding is known as disturbed rabbitbrush or *Chrysothamnus molestus*. It's a small shrub that grows to be about a foot high. It gets its name from its ability to grow in limestone areas where there's been a disturbance such as a newly eroded hillside.

Pockets of this shrub were thought to have existed only in the north end of the Coconino National Forest, in the Tusayan area and the north end of the Kaibab National Forest. However, the Cataract Ranch represents that area in between.

The survey, the first ever in the area, reveals a significant range extension for the rare plants. The information will be used by Babbitt Ranches to establish an ecological baseline and determine the long-term management and protection of these species on easements and private land. Samples of these and 172 other plants from Babbitt Ranches and the Coconino Plateau are now part of a permanent collection of dried pressed plants in NAU's Deaver Herbarium.

"Once I got out there I was so impressed with the area, how unique it is and what good condition it's in, I got hooked on it. It's almost like an addiction. I just have to go out there every so often for the feel of it, the quietness and the surprise of what you'll see on a particular day—the pronghorn, badgers, golden eagles—everything I've expected I've found, and more."

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Article V A Land Ethic

Section 5.

A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.

The Science of Land Ethics to be Captured on Film

A team of writers, producers and videographers are engaged in discussions regarding how to capture what land stewardship and land ethics would look like on film. That big picture may include black-footed ferrets returning to grasslands, pronghorn antelope thriving in Cataract Canyon, global warming being monitored at varying elevations and NASA astronauts training on northern Arizona's lunar-like landscape.

Northern Arizona University Bilby Research Center Imaging Lab Director Dan Boone and Babbitt Ranches say that such a one-hour documentary could serve as a teaching tool, and also as a motivating device to help people rethink their relationships with the environment and empowering them to know and do more.

Boone says the documentary would reveal the significant research under way on Babbitt Ranches and the number of organizations interfacing with the historic ranching family. "It's a success story that shows flexibility in the face of change while maintaining tradition."

Meantime, an initiative of the Aldo Leopold Foundation, GreenFire, is developing a film to inspire a conservation ethic in the hearts and minds of people throughout the nation and around the world. Participating organizations include government agencies, non-profit organizations and universities.

With similar visions in mind, Babbitt Ranches and The Aldo Leopold Foundation are discussing how they can collaborate on a segment of the film demonstrating conservation efforts and ecological challenges of the 21st century.

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It is inconceivable to us that an ethical relation to the land can exist without love and a high regard for its value. By value, we of course mean something far broader than mere economic value; we mean value in the philosophical sense.