

A Snail's Pace Achieves Recovery



by Chris Davidson

Magazine Mountain shagreen. Photo Credit: Ron Caldwell, Lincoln Memorial University

Hidden atop the highest point in Arkansas, a tiny, secretive terrestrial snail – Magazine Mountain shagreen (*Inflectarius magazinensis*) – inhabits sloping masses of loose rock with vegetation and leaf litter that occur at elevations above 2,200 feet (671 meters). Unique habitat characteristics on the north and west slopes near the summit of Magazine Mountain rarely reveal this hidden jewel, which is restricted to a small area of just 22 acres (9 hectares). The snail's life among the rocks, nocturnal nature, and sensitivity to temperature and humidity leaves little chance for sighting this elusive animal.

Isolated like an island in the clouds, Magazine Mountain stands high

above the Arkansas and Petit Jean River Valleys—its height imposing, terrain challenging, and cool climate desirable. History is etched in the mountain's geology, a history that attracts the interests of like-minded conservationists. Magazine Mountain shagreen reflects the spirit of Magazine Mountain—one of survival.

In the late 1980s, the fate of this dusky brown snail was more than uncertain. The U.S. Fish and Wildlife Service (Service) listed the species as threatened under the Endangered Species Act (ESA) in 1989, when its habitat was threatened by a military proposal to conduct troop and heavy equipment movements and artillery operations on Magazine Mountain,

development of a new state park on the summit, and U.S. Forest Service use of land.

The military retracted their proposal to use the mountain for training after the snail was listed, eliminating a potential threat to the snail and its habitat. Additionally, the Forest Service designated Magazine Mountain as a Special Interest Area to protect the species and its habitat.

“The Ozark-St. Francis National Forest designation of Magazine Mountain as a Special Interest Area prohibits timber harvest, limits prescribed burns, and eliminates road construction and recreational development on rocky slopes inhabited by the snail,” says

Rhea Whalen, Acting Forest Wildlife Biologist with the Ozark-St. Francis National Forest.

Less than one percent of the mountain's 2,234 acres (904 ha) has been developed for Mount Magazine State Park—a tribute to the collaborative partnership between the Ozark-St. Francis National Forest and Arkansas Department of Parks and Tourism. The restricted area inhabited by the snail remains pristine and intact.

A collaborative partnership between the Service, Arkansas Game and Fish Commission, Ozark-St. Francis National Forest, and Lincoln Memorial University has also increased knowledge of important life history requirements of the Magazine Mountain shagreen, such as feeding, reproduction, and climatic and geological conditions unique to the snail and its habitat.

“Until a few years ago, we knew nothing about the life history of Magazine Mountain shagreen,” says Bill Posey, a malacologist with the Arkansas Game and Fish Commission. The partnership was essential to our recovery efforts.”

Each year, Mount Magazine State Park's Visitor Center welcomes thousands of travelers, with exhibits and information on the mountain's unique fauna, flora, and history. While Magazine Mountain shagreen continues to elude park visitors, there is growing interest in the species. By no stretch of the imagination is Magazine Mountain shagreen a charismatic species, but many are happy to know that another ESA success story is nearing completion.

The Ozark-St. Francis National Forest has conducted annual surveys of the snail population since 1996, and according to Whalen, the snail population has remained stable.



Magazine Mountain shagreen critical habitat. Photo Credit: Ron Caldwell, Lincoln Memorial University

The outstanding cooperative recovery efforts, coupled with adequate regulatory protection, has eliminated or reduced threats to the snail, which may soon secure its place in history. Twenty-three years after listing, the Service is proposing to remove the Magazine Mountain shagreen from the Federal List of Endangered and Threatened Wildlife and Plants and implement a five-year post-delisting monitoring plan.

“If this rule is finalized, this snail will be the first invertebrate determined to have met its recovery goals for the Service,” says Nikki Lamp, a recovery biologist in the Service's Southeast Regional Office.

Nationally, the Service is working to recover about 600 endangered or threatened animals. More than a third of these are invertebrates.

“This inconspicuous snail will soon take its place alongside the bald eagle, gray whale, American alligator, and western Great Lakes population of the gray

wolf,” says Michael Bean, counselor to the Assistant Secretary for Fish, Wildlife and Parks.

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