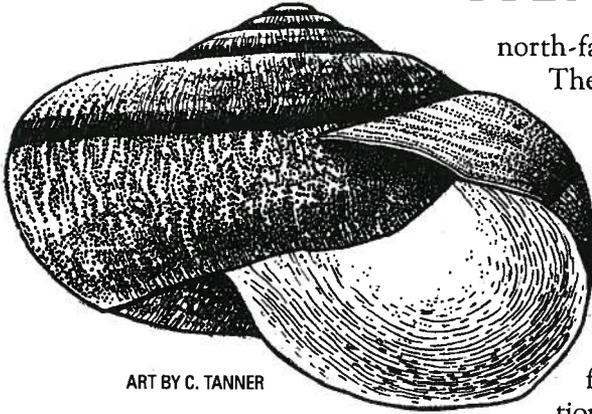




WET CANYON TALUSSNAIL



ART BY C. TANNER

SCIENTIFIC NAME: *Sonorella macrophallus* (Fairbanks and Reeder 1980). *Sonorella* refers to the Sonoran Desert region from which this landsnail was first described. The specific epithet describes the anatomical features that distinguish this species from other talussnails in this genus.

DESCRIPTION: The Wet Canyon talussnails have globular, right-hand spiral shells with about 4.5 whorls. Shells are olive to tan tinted and have a chestnut-brown shoulder band with indistinct pale borders. Adults are approximately 3/4 inch in diameter. Positive species identification requires examination of the soft body parts, particularly the reproductive organs.

DISTRIBUTION: This species is only found on the northeast slope of Wet Canyon in the Pinaleno Mountains, Graham County, between 6,050 and 6,900 feet elevation. It is a relic of the Pleistocene Epoch, the last major ice age 10,000 years ago, when it probably had a wider distribution. Wet Canyon is within the Coronado National Forest, under the U.S. Forest Service (USFS) administration.

HABITAT: Wet Canyon talussnails inhabit wet mountain slopes above 6,050 feet elevation, specifically in

north-facing, limestone rock slides. These talus slopes are typically shaded by trees and shrubs protecting them from summer sun exposure. Also, the rock slides have a depth of at least 4 feet and are not choked with soil or humus. The rock slide depth protects the talussnails from winter freezing and summer desiccation. Calcium carbonate from the limestone aids in shell deposition and buffers carbonic acid produced by buildup of respiratory carbon dioxide during hibernation.

BIOLOGY: The Wet Canyon talussnail is a pulmonate (i.e., air-breathing) landsnail. Individuals are hermaphroditic and capable of self-fertilization. Talussnails reach maturity in two to three years and have a life span of approximately six years. Wet Canyon talussnails are active only for brief periods following summer rains; during the remainder of the year they hibernate deep in the talus slope, attached to rocks.

They feed primarily on fungus and decaying plant matter, supplemented with young green shoots when available. Wet Canyon talussnails have no known significant predators, although birds and rodents probably feed on them occasionally.

STATUS: Included on the Department's list of *Wildlife of Special Concern in Arizona* (AGFD in prep.), and is presently a candidate species under the Endangered Species Act (ESA). Candidates are taxa for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information on biological vulnerability and threats to support a proposal to list them as threatened or endangered.

Wet Canyon talussnails are vulnerable to habitat disturbances from user-built hiking trails and forest fires. Trails through the talus slopes can increase soil deposition, open forest canopy, and fragment talussnail habitat. Talussnails could also be affected by changes in moisture conditions caused by local wildfires or diversion of water from Wet Canyon. Existing forest management practices have allowed a large accumulation of debris on the forest floor, thus increasing the potential for catastrophic crown fires. Increased levels of recreation use on Mt. Graham have resulted in greater demands for water, some of which may be drawn from Wet Canyon. Based on the last survey by J.E. Hoffman in 1990, the Wet Canyon talussnail population appears stable.

MANAGEMENT NEEDS: An inter-agency conservation agreement among the USFS, USFWS, and Arizona Game and Fish Department is being developed to preclude the need for listing the Wet Canyon talussnail under the ESA. This agreement would provide for a long-term monitoring program and implement conservation measures to protect the Wet Canyon talussnail population and its habitat. Conservation measures would continue present USFS management which emphasizes dispersed recreation. A proposed alternative would establish a special management area for the talussnail, providing long-term protection but limited recreational activities. A sufficient watershed needs to be maintained when future water right applications are approved. Years of fire suppression have left dead brush and other fuels near talus slopes. This material needs to be removed or dispersed to reduce the chance of wildfires that would affect local moisture conditions. 🐌