

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Invertebrate Abstract**

**Element Code:** IMGASC9520

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Sonorella rosemontensis* Pilsbry, 1939

**COMMON NAME:** Rosemont talussnail

**SYNONYMS:**

**FAMILY:** Helminthoglyptidae

**AUTHOR, PLACE OF PUBLICATION:** H.A. Pilsbry, 1939, Acad. Nat. Sci. Philadelphia, Monograph No. 3. Vol. 1, Pt. 1 (1939): i-xvii + 1-573 + i-ix.

**TYPE LOCALITY:** Santa Rita Mountains, N end at Station 49 near Rosemont, Pima County; elevation not given, but collected later at ca 5,500 ft (Bequaert & Miller, 1973).

**TYPE SPECIMEN:** unknown.

**TAXONOMIC UNIQUENESS:** Based on an unpublished revision by W.B. Miller (1968a, in Bequaert and Miller 1973), he recognized 68 valid species of *Sonorella* (with 19 subspecies), 57 of them in Arizona (three common with Sonora), 3 in New Mexico, 1 in trans-Pecos Texas (in common with New Mexico), 8 in Sonora (3 in common with Arizona), and 3 in Chihuahua. *Sonorella rosemontensis* is 1 of 26 species in the *S. hachitana* Complex.

**DESCRIPTION:** *Sonorella rosemontensis* is a terrestrial snail of tallus slopes, with shell height of 12.7 mm (0.5 in), diameter of 21.7 mm (0.85 in), and about 4.5 whorls. Their polished shell is moderately solid, pale brown, fading around the umbilicus (belly button), with a light-bordered chestnut brown band. Examination of soft body parts, is required to positively identify the species. (USFWS, 2010).

In the genus *Sonorella*, the most characteristic features are in the genitalia, which lacks a dart sac and mucus glands. (Bequaert and Miller, 1973). For species in the *S. hachitana* Complex, which *S. rosemontensis* belongs, the penis is a usually long, slender, narrowly pointed verge; in extreme forms, the verge is thick and club-shaped. Relatively large shells are capacious, with a smooth, silky-lustrous periostracum; usually with apical spirally descending threads. (Bequaert and Miller, 1973).

**AIDS TO IDENTIFICATION:** The most characteristic features of the genus *Sonorella* are, in the genitalia, which lack a dart sac and mucus glands (Bequaert and Miller 1972).

**ILLUSTRATIONS:**

**TOTAL RANGE:** Endemic to the Santa Rita Mountains in Pima County, Arizona.

**RANGE WITHIN ARIZONA:** See "Total Range."

### **SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** Terrestrial gastropods do not move much, usually only to find food or reproduce. Olfaction is the primary sensory behavior utilized to find and move toward a food item (on the scale of centimeters to meters). A moving terrestrial gastropod lays down water-laden mucus on which it moves exposing its integument to a potentially drying atmosphere, and increasing its water losses through the pallial cavity because of the necessity for gas exchange. A roosting terrestrial gastropod deploys a variety of passive mechanisms for water conservation, including the direct protection of its wet surfaces from drying conditions, avoidance of temperature extremes, the creation of more favorable microclimates and decreases in gas exchange. (A. Cook, *in* Barker 2001).

#### **REPRODUCTION:**

**FOOD HABITS:** Probably omnivorous, feeding on plant material (including algae, mosses, lichens, and possibly roots, shoots, leaves, flowers, anthers, pollen, fruit, seeds and rotting wood), and microorganisms associated with live and decaying vegetation; followed to a lesser extent by fungi and soil. (Speiser, *in* Barker, 2001).

**HABITAT:** *Sonorella rosemontensis* occurs in talus slopes of volcanic rock and limestone, at elevations of about 5,500 feet (1676 meters). Talus is typically deep, free of excess sedimentation, and exhibits stable moisture conditions. (USFWS, 2010).

**ELEVATION:** Found at elevations of about 5,500 feet (1676 meters). (USFWS, 2010).  
Collected between 4,400 and 5,600 feet (1341-1707 m) (ANSP and SBMNH accessed 2008).

#### **PLANT COMMUNITY:**

**POPULATION TRENDS:** Unknown.

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** C (USDI, FWS 2010)  
[C USDI, FWS 2011]

**STATE STATUS:** None

**OTHER STATUS:** None

**MANAGEMENT FACTORS:** *Sonorella rosemontensis* is vulnerable to any disturbance that would remove talus, increase interstitial sedimentation, or change moisture conditions. The entire range of the species is located on rocky slopes which are also suitable for hard rock mining. With hard rock mining, blasting of hillsides and the crushing of rock is typically involved. Such activities would kill talussnails and render their habitats unsuitable. (USFWS, 2010).

**PROTECTIVE MEASURES TAKEN:**

**SUGGESTED PROJECTS:** Inventory surveys need to be conducted to determine if historic populations are still present and to look for the presence of new populations. Monitoring is in order due to probable mining activity in their range.

**LAND MANAGEMENT/OWNERSHIP:** Private patented mining claims.

**SOURCES OF FURTHER INFORMATION**

**REFERENCES:**

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- USDI, Fish and Wildlife Service, Arizona Ecological Services. 2010. Species abstract: Rosemont Talussnail, *Sonorella rosemontensis*.  
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**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

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**ADDITIONAL INFORMATION:**

The genus *Sonorella* occurs over most of Arizona (except a strip north of the Grand Canyon, an extensive northeast corner, and the small southwest *Eremarionta* area), the southwest corner of New Mexico, trans-Pecos Texas, northeast Sonora, and the northwest corner of Chihuahua, Mexico. (Bequaert and Miller, 1973).

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