

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract

Element Code: IMGASC9270  
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**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Sonorella galiurensis* Pilsbry and Ferriss, 1919

**COMMON NAME:** Galiuro talussnail

**SYNONYMS:** *Sonorella galiurensis superioris* Pilsbry, 1939

**FAMILY:** Helminthoglyptidae

**AUTHOR, PLACE OF PUBLICATION:** Pilsbry and Ferriss, 1919, Proc. Acad. Nat. Sci. Philadelphia 70 (for 1918):314.

**TYPE LOCALITY:** According to Bequaert and Miller (1973), the type locality is in the Galiuro Mts, S of Copper Creek Mining Camp, Pinal Co. (not Graham Co.). The elevation was not given, but it was collected there at 4,200 ft.

**TYPE SPECIMEN:**

**TAXONOMIC UNIQUENESS:** Based on an unpublished revision by W.B. Miller (1968a, in Bequaert and Miller 1973), he recognized 68 valid species of *Sonorella* (with 19 subspecies), 57 of them in Arizona (three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 galiurensis* is 1 of 26 species in the *S. hachitana* Complex.

**DESCRIPTION:** Snails in the genus *Sonorella* have a “depressed globose, helicoids shell, 12 to 30 mm in diameter, umbilicate or perforate, with a wide, unobstructed mouth and a thin, barely expanded peristome, smoothish or slightly sculptured with growth-lines, occasionally with fine oblique or spiral granulation and short hairs (mainly on the early whorls), lightly colored, and normally with a dark peripheral band. Its most characteristic features are, however, in the genitalia, which lack a dart sac and mucus glands.” (Bequaert and Miller, 1973). For species in the *S. hachitana* Complex: the penis is a usually long, slender, narrowly pointed verge; and in extreme forms, the verge is thick and club-shaped. Shells are relatively large and capacious, with a smooth, silky-lustrous periostracum; usually with apical spirally descending threads. (Bequaert and Miller, 1973). The cinnamon brown shell of *Sonorella galiurensis* is subglobose with a low conical spire, and a chestnut brown band above the periphery; paler on both sides. Heights are 16.3-16.7 mm and widths are 25.2-27.5 mm, with 5 whorls. (In <http://members.tripod.com/> accessed 2005).

**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:** Galiuro Mountains and Picket Post Hill near Superior in Pinal County, and stations in Gila and Maricopa counties including Coolidge Dam.

**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:** Based on collections (ANSP), *Sonorella galiurensis* found on cliffs along northeast slopes; on porphyry slides on trails and in rocks of creeks; and on boulders and trees. The talussnail in general is a rock snail usually found in taluses or “slides” of coarse broken rock, generally found in crevices one to several feet below the surface, sealed to stones by their mucus. (SDCP).

**ELEVATION:** Ranges from about 3,600 – 5,400 ft (1097-1646 m).

**PLANT COMMUNITY:**

**POPULATION TRENDS:** Unknown.

**SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** 2 (AZGFD, AWCS 2022)

[1C (AGFD SWAP 2012)]

**OTHER STATUS:**

None

**MANAGEMENT FACTORS:** Threats include destruction or disturbance of talus slopes.**PROTECTIVE MEASURES TAKEN:****SUGGESTED PROJECTS:** Validity of the informal *Sonorella* “species-groups” (or “complexes”) has been brought into question by Naranjo-García (1988) and Roth (1996). Further research, including the use of molecular techniques, is needed to help clarify the relationships of these informal taxa. (Gilbertson and Radke 2005). Status surveys are highly needed for this species since all known localities are historic with the last date a population was observed being 1960. Most observations are still only from the original collection dates, mainly from 1917.**LAND MANAGEMENT/OWNERSHIP:** BLM – Safford FO; USFS – Coronado and Tonto National Forests; State Land Department; TNC Aravaipa Canyon Preserve; Private.**SOURCES OF FURTHER INFORMATION****REFERENCES:**

- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Phoenix, AZ.
- Arizona Game and Fish Department. 2022. Arizona Wildlife Conservation Strategy: 2022-2032. Arizona Game and Fish Department, Phoenix, Arizona. 378 pages.
- Bequaert, J.C., and W.B. Miller. 1973. The Mollusks of the Arid Southwest. The University of Arizona Press. Tucson, Arizona. Pp. 111-113.
- <http://members.tripod.com/arnobrosi/orcohelicidae.html#sonorella>. Accessed 6/10/2005.
- <http://www.co.pima.az.us/cmo/sdcp/sdcp2/fsheets/vuln/ts.html>. Fact-sheet: Talussnail, *Sonorella*. Accessed: 11/23/2005.
- Integrated Taxonomic Information System (ITIS). Retrieved 3/19/2008 from ITIS, <http://www.itis.usda.gov>.
- NatureServe. 2008. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.0. NatureServe, Arlington, Virginia. Available <https://explorer.natureserve.org/> (Accessed: March 19, 2008).
- The Academy of Natural Sciences. ANSP Malacology Search Details. Accessed: 19 March 2008. <http://clade.ansp.org/malacology/collections/index.php>.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:****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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