

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract

Element Code: IMGASC9250  
Data Sensitivity: No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Sonorella ferrissi* Pilsbry, 1915

**COMMON NAME:** Dragoon talussnail

**SYNONYMS:**

**FAMILY:** Helminthoglyptidae

**AUTHOR, PLACE OF PUBLICATION:** Pilsbry in Pilsbry and Ferris, 1915, Proc. Acad. Nat. Sci. of Philadelphia 67:368; Pl. 8, Figs. 3, 3a, 3b; Pl. 11, Figs. 3, 3a.

**TYPE LOCALITY:** Per Bequaert and Miller (1973), "Dragoon Mts, N side of N ridge of Tweed Canyon [Stronghold Canyon West of present map], in amphitheater, 0.25 mi W of Signal Peak [present Mt Glenn], Cochise Co.; elevation not given, but found there recently at 7,000 ft."

**TYPE SPECIMEN:** Type: ANSP 103097. H.A. Pilsbry, J.H. Ferriss and L.E. Daniels, 22 October 1910 (Station 38). IT: FMNH 146249. Paratype: CAS IZ 64144, H.A. Pilsbry. Acc. Num. TYX 42610, 6 dry specimens.

**TAXONOMIC UNIQUENESS:** Based on an unpublished revision by W.B. Miller (1968a, in Bequaert and Miller 1973), he recognized 68 valid species of *Sonorella* (with 19 subspecies), 57 of them in Arizona (three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 ferrissi* is 1 of 23 species in the *S. granulatissima* 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. granulatissima* Complex: The verge of the penis is usually stout and truncate, reaching extremes of diminution in some species or gigantism in others. Snails in the complex have minutely granulose or wrinkly-granulose shells, with a readily peeling periostracum; mostly without apical spirally descending threads. (Bequaert and Miller, 1973). According to Pilsbry (in Pilsbry and Ferris, 1915) *S. ferrissi* has a diameter of 14.2 mm and 4 1/2 whorls. The somewhat slender penis is slightly shorter than the vagina, and a bit longer than the epiphallus. It contains a cylindrical papilla nearly as long itself, transversely wrinkled

in the distal third and rounded at the end. There is no flagellum. The penis length is 4 mm; penis-papilla 3+ mm; penis retractor 6 mm; epiphallus 3+ mm; and vagina 5.5 mm.

**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 Dragoon Mountains of Cochise 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 favourable 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:** The talussnail 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). However, according to Pilsbry (in Pilsbry and Ferriss, 1915) he rarely found *Sonorella ferrissi* sealed to stones. Most living ones were seen loose under stones or in the earth, with the aperture up, and sealed with a somewhat convex white epiphragm. He also observed that it exclusively belongs to the limestone “terrain.” *Sonorella ferrissi* inhabits talus slopes of N and NW canyons (Bequaert and Miller, 1973).

**ELEVATION:** Reported in Bequaert and Miller (1973) from 4,800 – 7,000 feet (1464-2135 m).

**PLANT COMMUNITY:**

**POPULATION TRENDS:** Unknown.

**SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** 3 (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).

**LAND MANAGEMENT/OWNERSHIP:** USFS – Coronado National Forest.

**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, 124.
- California Academy of Sciences. Invertebrate Collection Catalog. Accessed: 3/28/2008. [http://research.calacademy.org/research/izg/iz\\_coll\\_db/index.asp](http://research.calacademy.org/research/izg/iz_coll_db/index.asp).
- [Http://www.co.pima.az.us/cmo/sdcp/sdcp2/fsheets/vuln/ts.html](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).
- Pilsbry, H.A., in H.A. Pilsbry and J.H. Ferriss. 1915. Proceedings of the Academy of Natural Sciences of Philadelphia. Pp. 368-369.

The Academy of Natural Sciences. ANSP Malacology Search Details. Accessed: 19 March 2008. <http://clade.ansp.org/malacology/collections/index.php>.

The American Museum of Natural History. 2002-2005. IZ Type Specimens Database. [http://research.amnh.org/invertzoo/types\\_db/details.php](http://research.amnh.org/invertzoo/types_db/details.php). Accessed: 3/19/2008.

The Field Museum. 2007. Department of Zoology Invertebrates Collections. Accessed 3/19/2008. <http://emuweb.fieldmuseum.org/iz/MolluscDisplay.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).

**Revised:** 2008-03-28 (SMS)  
2023-02-08 (MBL)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.