

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Sonorella sitiens* Pilsbry and Ferriss, 1915

COMMON NAME: Las Guijas talussnail

SYNONYMS: *Sonorella sitiens comobabiensis* Pilsbry and Ferriss, 1915; *S. sitiens montezuma* Pilsbry and Ferriss, 1919

FAMILY: Helminthoglyptidae

AUTHOR, PLACE OF PUBLICATION: Pilsbry and Ferriss, 1915, Proc. Acad. Nat. Sci. Philadelphia 67: 363-418; Pls. 8-15.

TYPE LOCALITY: Las Guijas Mountains, NW end of Range, above Las Guijas Mine, Pima County, Arizona; elevation not given, but collected there at 4,000 ft. (Bequaert & Miller, 1973).

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TAXONOMIC UNIQUENESS: Based on an unpublished revision by W.B. Miller (1968a, in Bequaert and Miller 1973), he recognized 68 valid species of *Sonorella* (with 19 subspecies), 57 of them in Arizona (three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 sitiens* is 1 of 15 species in the *S. binneyi* 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. binneyi* Complex: the usually short penis is more or less thick, with a bluntly rounded verge. The shell is relatively small and globose, occasionally depressed, 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: In Arizona, *Sonorella sitiens* ranges from the Las Guijas, Quijotoa, Comobabi, Cababi (= Ko Vaya Hills on USGS map), and Baboquivari mountains in Pima County. They are also known from the Pajaritos and Patagonia mountains in Santa Cruz County, and the Huachuca Mountains in Cochise County. In Mexico, found in Sonora at Sierra Pajaritos, the southern-most locality known for the genus. (Bequaert & Miller, 1973).

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: 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, 2005). Based on collections from FMNH (accessed 4/23/2008), they have been found in deep slides (deep in rock of a slide) in canyons. Commonly collected from slides in northerly facing canyons (SBMNH, accessed 2008).

ELEVATION: Collected around 5,300 feet (1617 m) (SBMNH 35249).

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: BIA – Tohono O’odham Nation; BLM – Tucson Field Office; NPS – Coronado and Tumacacori National Monuments; USFS – Coronado National Forest; State Land Department; 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, 121.
- California Academy of Science. Invertebrate Collection Catalog. Accessed: 4/2/2008. http://research.calacademy.org/research/izg/iz_coll_db/index.asp.
- <http://www.co.pima.az.us/cmo/sdcp/sdcp2/fsheets/vuln/ts.html>. Fact-sheet: Talusnail, *Sonorella*. Accessed: 11/23/2005.
- Integrated Taxonomic Information System (ITIS). Retrieved 4/2/2008 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: April 2, 2008).
- Santa Barbara Museum of Natural History. 2008. SBMNH: Invertebrate Zoology Online Database Collection. <http://www.sbcollections.org/iz/recordview.php>. Accessed: 4/2/2008.
- The Academy of Natural Sciences. ANSP Malacology Search Details. Accessed: 2 April 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. Accessed: 4/2/2008.
- The Field Museum. 2007. Department of Zoology Invertebrates Collections. Accessed 4/2/2008. <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).

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