

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Sonorella virilis* Pilsbry, 1905
COMMON NAME: Chiricahua talussnail
SYNONYMS: *Sonora virilis circumstriata* Pilsbry, 1905; *S. virilis leucura* Pilsbry and Ferriss, 1910
FAMILY: Helminthoglyptidae

AUTHOR, PLACE OF PUBLICATION: H.A. Pilsbry, 1905, Proc. Acad. Nat. Sci. Philadelphia 57: 211-290; Pls. 11-27 (reviewed by T.D.A. Cockrell, 1905b:68-71).

TYPE LOCALITY: Bequaert & Miller (1973) report Type Locality as “Chiricahua Mts, at 7,500 ft,” Cochise Co.; specified by Pilsbry (1938:380) as Rucker Canyon, on W side of Range, at 5,900 to 6,000 ft.” They also report *S. virilis* elsewhere over much of the same Range at 5,400 ft to around 8,400 ft (Barfoot and Buena Vista Peaks).

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TAXONOMIC UNIQUENESS: Based on an unpublished revision by W.B. Miller (1968a, in Bequaert and Miller 1973), he recognized 68 valid species of *Sonorella* (with 19 subspecies), 57 of them in Arizona (three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

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 Chiricahua 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 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 virilis* was collected on N side of cliff and below cliffs (ANSP accessed 2008); under rocks in creek, in deep rock piles of canyon, on slides of south slope under bushes, and under single rocks of mine in canyon (FMNH accessed 2008). Also collected from under rocks in wooded ravine, in rockslides, and in limestone rockpiles (SBMNH accessed 2008). As a group, 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).

ELEVATION: Reported in Bequaert and Miller (1973) from 5,400 – 8,400 feet (1646-2560 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).**LAND MANAGEMENT/OWNERSHIP:** NPS - Chiricahua National Monument; USFS – Coronado National Forest; Private – Southwest Natural Research Station.**SOURCES OF FURTHER INFORMATION****REFERENCES:**

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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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