

## Heritage Rank Status Factors

**Elcode** IMGASA4070  
**Gname** VESPERICOLA SHASTA  
**Gcomname** SHASTA HESPERIAN

### Number of Occurrences

B = 6 - 20

**Comments** As of August 1998, this small land snail was known from only 7 locations, all within the watershed of the upper Sacramento River and all in Shasta County, California (Burke et al., 1999).

### Number of Occurrences with Good Viability

C = Few (4-12) occurrences with good viability

**Comments** Moderate numbers of this species seem to inhabit seemingly isolated situations, and there is no indication of a continuous distribution, either in the relatively dry uplands or along the major rivers. Although this species may have had its distribution already fragmented by climatic change, the reservoirs, gold mining, and livestock grazing of recent centuries may have increased this fragmentation. Habitat notes with the available records are as follows: The type series of 25 specimens was collected near Lamoine almost in the water, under sticks and stones. The adjacent land was very dry and no other land snails were found there (Berry, 1921). A series of paratypes (CAS 80857) were found in a small rivulet to west of a State Highway. At Flume Creek a small number of these snails was found under rocks and logs at the edge of the creek, just upstream from Interstate 5 freeway. Along the shore of Burney Creek, just below Burney Falls, moderate numbers were found under stones. At O'Brien Creek at least 12 snails were found under rocks close to the creek. Near Brock Creek 2 snails were found on a slope with a stream, below a ridge labeled Gray Rocks (a local term for limestone). *Vespericola shasta* seems to be scarce to moderately common where it does occur, but the known locations are few and widely scattered (Burke et al., 1999). To better define the type locality, Cordero and Miller (1995) visited Lamoine and found only 3 snails along Slate Creek, which had steep banks, swift water, and offered little shelter at the water's edge, but they collected 20 along Little Slate Creek, which they decided was probably the stream from which the type series had been collected (Burke et al., 1999).

### Population Size

U = Unknown

**Comments**

### Range Extent

B = 100-250 km<sup>2</sup> (about 40-100 square miles)

**Comments** Endemic to the Klamath Province, primarily in the vicinity of Shasta Lake, up to 915 meters elevation (Kelley et al., 1999). As of August 1998, this small land snail was known from only 7 locations, all within the watershed of the upper Sacramento River and all in Shasta County, California (Burke et al., 1999).

### Area of Occupancy

A = <0.4 km<sup>2</sup> (less than about 100 acres)

B = 0.4-4 km<sup>2</sup> (about 100-1,000 acres)

LA = <4 km (less than about 2.5 miles)

LB = 4-40 km (about 2.5-25 miles)

**Comments** *Vespericola shasta* seems to be scarce to moderately common where it does occur, but the known locations are few and widely scattered (Burke et al., 1999).

## Long-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

U = Unknown. Long-term trend in population, range, area occupied, or number or condition of occurrences unknown

**Comments**

## Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

B = Very Rapidly Declining. Decline of 50-70% in population, range, area occupied, and/or number or condition of occurrences

C = Rapidly Declining. Decline of 30-50% in population, range, area occupied, and/or number or condition of occurrences

**Comments** Moderate numbers of this species seem to inhabit seemingly isolated situations, and there is no indication of a continuous distribution, either in the relatively dry uplands or along the major rivers. Although this species may have had its distribution already fragmented by climatic change, the reservoirs, gold mining, and livestock grazing of recent centuries may have increased this fragmentation. Habitat notes with the available records are as follows: The type series of 25 specimens was collected near Lamoine almost in the water, under sticks and stones. The adjacent land was very dry and no other land snails were found there (Berry, 1921). A series of paratypes (CAS 80857) were found in a small rivulet to west of a State Highway. At Flume Creek a small number of these snails was found under rocks and logs at the edge of the creek, just upstream from Interstate 5 freeway. Along the shore of Burney Creek, just below Burney Falls, moderate numbers were found under stones. At O'Brien Creek at least 12 snails were found under rocks close to the creek. Near Brock Creek 2 snails were found on a slope with a stream, below a ridge labeled Gray Rocks (a local term for limestone). *Vespericola shasta* seems to be scarce to moderately common where it does occur, but the known locations are few and widely scattered (Burke et al., 1999). To better define the type locality, Cordero and Miller (1995) visited Lamoine and found only 3 snails along Slate Creek, which had steep banks, swift water, and offered little shelter at the water's edge, but they collected 20 along Little Slate Creek, which they decided was probably the stream from which the type series had been collected (Burke et al., 1999).

## Threats

B = Moderate and imminent threat. Threat is moderate to severe and imminent for a significant proportion (20-60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a moderate area, either causing irreversible damage or requiring a long-term recovery.

**Scope** Moderate      **Severity** Moderate      **Immediacy** Moderate

**Comments** Although this species is sometimes moderately common where it occurs, it is known from few sites and seems to have a small geographic range, so this species seems to be truly rare and vulnerable to extinction if there were adverse modifications of inhabited locations. Possible threats to the local survival of *Vespericola shasta* include loss of favorable microclimate through reduction or removal of riparian trees, the mechanical disruption of inhabited sites (by motor vehicles and earth-moving machinery), chemical pollution, invasion of the local ecosystem by nonnative plants and animals, and extensive removal of vegetation from watersheds that results in destructive floods and the loss of surface flow (Burke et al., 1999).

## Number of Appropriately Protected and Managed Occurrences

A = None. No occurrences appropriately protected and managed

**Comments** There are no known protected occurrences. Six of the historic locations for this species are within the administrative boundaries of Shasta National Forest (administered as Shasta-Trinity National Forests), but only one current location is known to be on Federal land. The 6 non-Federal locations are all within 1.6 km (1 mile) of Federal lands (Burke et al., 1999).

## Intrinsic Vulnerability

U = Unknown

**Comments** For this species, there seem to be no reports on potential longevity, generation time, season of reproductive activity, number and appearance of the eggs, or situations used for oviposition (Burke et al., 1999).

## Environmental Specificity

C = Moderate. Generalist or community with some key requirements scarce.

**Comments** Has been found in moist bottom lands, such as riparian zones, springs, seeps, marshes, and in the mouths of caves (Kelley et al., 1999). The available records are in the elevational range of 244-853 meters (800-2800 feet), but this species could occur in both higher and lower elevations. *Vespericola shasta* seems to be restricted to isolated locations along the margins of streams where perennial dampness and cover can be found. Limestone in the alluvium of the streams of the upper Sacramento River system may contribute to habitat quality for this species. The relatively polished appearance of the shell of this species could be consistent with life in a stony environment--in contrast to other species of *Vespericola* that have a "furry" appearance and live on the soft surfaces of leaves and rotten wood on damp forest floors (Burke et al., 1999).

## Other Considerations

NRANK: N1

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## Reasons

Range slightly restrictive, but sites scattered.

## BCD Sources

## New Sources

Berry, S.S. 1921. Some land snails of Shasta County, California. *The Nautilus*, 35(2): 35-39.

Burke, T.E., J.S. Applegarth, and T.R. Weasma. 1999. Management recommendations of survey and manage terrestrial mollusks. Ver. 2.0. Report submitted to USDI Bureau of Land Management, Salem, Oregon, October 1999. Unpaginated.

Cordero, A.M. and W.M. Miller. 1995. Reproductive anatomy of *Vespericola shasta* (Berry, 1921) (Gastropoda: Pulmonata: Polygyridae), and descriptions of two new species of *Vespericola* from northern California. *The Veliger*, 38: 304-311.

Kelley, R., S. Dowlan, N. Duncan, and T. Burks. 1999. Field Guide to Survey and Manage Terrestrial Mollusk Species from the Northwest Forest Plan. Bureau of Land Management, Oregon State Office, Portland, Oregon. 114 pp.