

Heritage Rank Status Factors

Elcode IMGASC2630
Gname HELMINTHOGLYPTA TALMADGEI
Gcomname TRINITY SHOULDERBAND

Number of Occurrences

C = 21- 80

Comments About 25 historic localities (Burke et al., 1999).

Number of Occurrences with Good Viability

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

Comments Older records indicated *Helminthoglypta talmadgei* was a rare species with a patchy distribution. Of the 24 successful collecting efforts (prior to 1998), 20 produced only one to three specimens, and there was a total of about 62 specimens (including immature specimens and fragments). During intensive surveys for *Monadenia setosa* (Roth and Eng, 1980; Roth, 1982; Roth and Pressley, 1986), *Helminthoglypta talmadgei* was found at only 7 of 38 locations (within the range of this species), which is evidence for a patchy distribution. The new results show that this species can have colonies where this species is locally abundant (Burke et al., 1999).

Population Size

C = 250-1,000 individuals

D = 1,000-2,500 individuals

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Range Extent

B = 100-250 km² (about 40-100 square miles)

Comments Trinity and Humboldt Counties, California. Also known in Klamath National Forest (Kelley et al., 1999). *Helminthoglypta talmadgei* has a patchy distribution in the Klamath Mountains of northern California. Most sites are along the Trinity River, from Junction City to the Klamath River, plus one site at Orleans on the Klamath River, one on the South Fork of the Trinity River, six in the mountains south of the Trinity River (Trinity County), and a cluster of sites on the South Fork of the Salmon River. This species is known or suspected in Big Bar, Hayfork, Weaverville (Trinity County), and Yolla Bolla (Trinity County) Ranger Districts of Trinity National Forest, Lower Trinity and Orleans (Humboldt County) Ranger Districts of Six Rivers National Forest, Salmon River and Ukonom Ranger Districts in Siskiyou National Forest, and Bureau of Land Management lands (Trinity County) (Burke et al., 1999).

Area of Occupancy

C = 4-20 km² (about 1,000-5,000 acres)

D = 20-100 km² (about 5,000-25,000 acres)

LC = 40-200 km (about 25-125 miles)
LD = 200-1,000 km (about 125-620 miles)

Comments This snail seems to have a patchy distribution that may be influenced by the distribution of areas having supplies of herbaceous vegetation, such as talus slopes, riparian zones, and north-facing slopes. Most of the historic sites (in the Known Sites database) are along both sides of the Trinity River, from the vicinity of Junction City down to its confluence with the Klamath River, plus one record from the South Fork of the Trinity River, and scattered locations in the mountains south of the Trinity River, within Trinity County (Burke et al., 1999). Roth (1988) provided an additional record from mine tailings at Orleans (roughly 10 miles up the Klamath River). Recent surveys have discovered a local abundance of this snail on the north side of the Salmon Mountains, on forested north-facing slopes near the South Fork of the Salmon River in Siskiyou County (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

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

D = Declining. Decline of 10-30% in population, range, area occupied, and/or number or condition of occurrences

Comments This species seems to be relatively rare at most known locations. Of the 24 successful searches in the Known Sites database, 19 searches found only 1 to 3 examples (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	High
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Comments A possible threat to the generally small and isolated populations of *Helminthoglypta talmadgei* is the partial or complete removal of trees from in and around inhabited areas. Especially on south-facing slopes, trees and brush may be needed for the cooling effect of partial shading and to provide windbreaks that reduce the drying effect of wind at ground level (dehydration is a major threat to terrestrial mollusks). Woody debris may be important in the local food chain by providing nutrients to fungi and herbaceous plants. Another threat to those snails that live within rock talus is the destabilization of those slopes. This could occur if roads or trails are built across the slopes. A greater threat occurs when there is a substantial amount of rock or soil removed from the foot of the slope for use elsewhere, because that will destabilize the entire slope. Other possible threats to the local survival of this snail include application or spilling of chemicals, including pesticides, herbicides, fertilizers, and fire-fighting chemicals. Nonnative species could threaten isolated populations of this rare snail. Finally, both wild and planned fires can directly kill these snails and remove needed vegetation. However, if enough snails survive to repopulate a location, there can also be benefits to fire. Prescribed fires in adjacent areas can reduce the risk of wildfire within inhabited areas. If a snail colony survives a fire, apparently there can be a bloom in the number of snails in response to a bloom of the herbaceous vegetation after a fire. Although the forest canopy may recover and shade out most of the herbaceous plants, this post-fire broad availability of its food resource may enable this species to disperse and reach other nearby locations that can provide food and shelter on a long-term basis (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. This land snail has a limited distribution in the Klamath Mountains of northern California, where it seems to be generally rare at scattered locations, most of which are on National Forest land. Most of the known locations for *Helminthoglypta talmadgei* are on Federal land within the Siskiyou, Six Rivers, and Trinity National Forests, fewer sites are on private land, three are on the Hoopa Valley Indian Reservation, and one location may be on Bureau of Land Management land (Burke et al., 1999).

Intrinsic Vulnerability

B = Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance over a period of several years (on the order of 5-20 years or 2-5 generations); or species has moderate dispersal capability such that extirpated populations generally become reestablished through natural recolonization (unaided by humans). Ecological community occurrences may be susceptible to changes in composition and structure but tend to recover through natural processes given reasonable time (10-100 years).

Comments For *Helminthoglypta talmadgei*, there seem to be no direct observations on potential longevity, generation time, the number and appearance of the eggs, or situations used for oviposition (Burke et al., 1999). Land snails in the genus *Helminthoglypta*, the shoulderband snails of California, are a complex of many species, each of which has a relatively small range and each species is, therefore, relatively vulnerable to extinction as environmental conditions change. Because of this pattern, and because other species of *Helminthoglypta* occupy lands adjacent to the range of this species, *Helminthoglypta talmadgei* is not expected to range much beyond the region now known to be inhabited (Burke et al., 1999).

Environmental Specificity

B = Narrow. Specialist or community with key requirements common.

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

Comments Stable talus and rockslides in limestone substrates, especially near springs or streams. Trees and bushes appear to be important for shading and food, though deep shade is not necessary (Kelley et al., 1999). *Helminthoglypta talmadgei* seems to be more of a montane species, in contrast to several lowland species of shoulderband snails that inhabit the adjacent coastal areas of northern California. Records indicate that this species has a tendency to inhabit intermediate and higher elevations. Of the 25 locations, 5 are below 1000 feet, 8 are above 2000 feet, 4 are above 3000 feet, 2 are above 4000 feet, and the highest is a fairly precise location at 1500 meters (4921 feet). This species may range as high as there are rock talus slopes and streams that create openings in the coniferous forests of the Klamath Mountains. Many *Helminthoglypta talmadgei* sites involve limestone rock talus (Burke et al., 1999).

Other Considerations

NRANK: N2N3

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Reasons

Range slightly restrictive, but sites scattered and abundance at all sites low.

BCD Sources

New Sources

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Roth, B. 1982. Life history studies and distribution of *Monadenia setosa*. California native river snail study. Report to USDA Shasta-Trinity National Forests, Redding, California, contract number 53-9A28-03210. 56 pp.

Roth, B. 1988. A new Recent species of *Helminthoglypta* (Gastropoda: Pulmonata) from the Klamath Mountains, California, and redescription of an Oligo-Miocene species from Oregon. *Wasmann Journal of Biology*, 45(1-2): 16-25.

Roth, B. and L.L. Eng. 1980. Distribution, ecology, and reproductive anatomy of a rare land snail, *Monadenia setosa* Talmadge. *California Fish and Game*, 66(1): 4-16.

Roth, B. and P.H. Pressley. 1986. Observations on the range and natural history of *Monadenia setosa* (Gastropoda: Pulmonata) in the Klamath Mountains, California, and the taxonomy of some related species. *The Veliger*, 29(2): 169-182.