Cave Physa - Physella spelunca

Abundance: Rare

Status: NSS4 (Bc) NatureServe: G1 S4

Population Status: Unknown

Limiting Factor: Unknown

Comment: NSSU to NSS4 (Bc)

Introduction

The cave physa (Physa speluna or Physella spelunca) is a small aquatic snail with a sinistral (shell opens on the left) spiral shell in the family Physidae. Their shells can reach 9 mm (0.3 in) in length and 4.5 mm (0.02 in) wide (Turner and Clench 1974). Turner and Clench (1974) discovered the cave physa in Lower Kane Cave near Lovell, Wyoming and the snail is not known from any other locations. The cave physa lives in the stream (21-22°C; 70-72°F) originating from a hot spring about 300 m (1000 ft) inside the cave entrance. The cave physa is endemic to Wyoming and considered critically imperiled across its range (NatureServe 2016). Wethington and Guralnick (2004) confirmed that the cave physa is a unique species from other snails living in hot springs. The snail feeds on bacteria growing in the cave (Turner and Clench 1974), but little is known about the life history of this unique species.

Habitat

The cave physa is only known from a stream originating from a hot spring in Lower Kane Cave in Wyoming.

Problems

Conservation Actions

- Lower Kane Cave is protected naturally (sulphuric gas in cave) as well as a locked gate at the entrance (Wethington and Guralnick 2004).

Monitoring/Research

Recent Developments

Wethington and Lydeard (2007) sequenced DNA and investigated internal morphology of snails in the family Physidae. The penial morphology and DNA both suggested that the cave physa falls into the type c group.

References

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application] Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: December 31, 2015).

Turner, R and W. Clench. 1974. A new blind Physa from Wyoming with notes on its adaptation to the cave environoment. Nautilus 88:80-85.

Wethington, A. R., and C. Lydeard. 2007. A molecular phylogeny of Physidae (Gastropoda : Basommatophora) based on mitochondrial DNA sequences. Journal of Molluscan Studies 73:241-257.

Cave Physa (*Physa spelunca*)

SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: February 2016. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.