
Blind Cave Leiodid Beetle

Glacicavicola bathyscioides

Insecta — Coleoptera — Leiodidae

CONSERVATION STATUS / CLASSIFICATION

Rangewide: Critically imperiled/Vulnerable (G1G3)
Statewide: Critically imperiled (S1)
ESA: No status
USFS: Region 1: No status; Region 4: No status
BLM: Rangewide/Globally imperiled (Type 2)
IDFG: Not classified

BASIS FOR INCLUSION

Restricted distribution and habitat threats.

TAXONOMY

Glacicavicola bathyscioides was described in 1968. This species is the sole member of the genus and leiodid subfamily Glacicavicolinae.

DISTRIBUTION AND ABUNDANCE

The blind cave leiodid beetle occurs in 4 widely separated lava-tube caves on the eastern Snake River Plain (Westcott 1968) in Fremont, Butte, Lincoln, and Power counties. The beetle has also been documented in a limestone cave in Wyoming, on the west side of the Teton Mountains. The majority of lava-tube caves have not been surveyed for invertebrates.

POPULATION TREND

Population trend is unknown.

HABITAT AND ECOLOGY

This beetle is an obligate inhabitant of cave habitat. Several of the occupied caves contain perennial ice formations, though, based on the description in Briggs (1974), the Lincoln County cave may not contain ice. Westcott (1968) found beetles on ice and floating in melt-water above the ice floor. Beetles appeared to be particularly partial to ice mounds or large ice stalagmites, the former frequently harboring a variety of live and dead arthropods. Beetles also occur on rock formations. Peck (1970) attracted beetles to bait more commonly among rocks than at the edge of ice or on ice. Naseath (1974) found the beetle on and in holes of highly vesicular basalt.

Naseath (1974) believed that the beetle subsists on a bacterium found on fractured lava rock. The bacterium belongs to the Order Myxobacteriales and is probably chemoautotrophic. The beetle may also scavenge dead invertebrates or consume fungus (Westcott 1968).

Dispersal above ground is highly improbable as even the brief removal of individuals from the cave habitat is fatal. One hypothesis is that beetles disperse through fractured basalt formations (Westcott 1968).

ISSUES

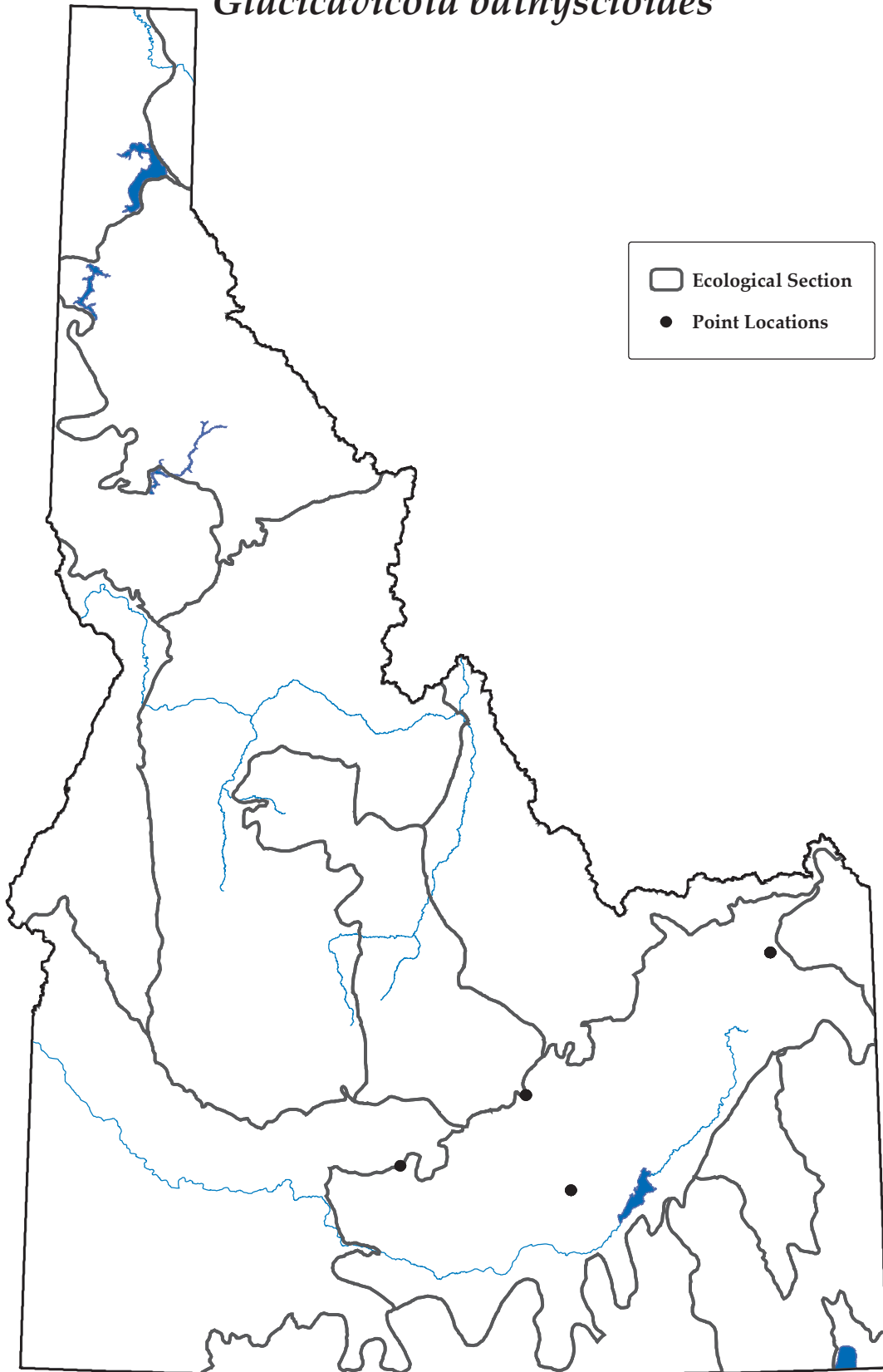
The primary threat to this species is alteration of cave habitat. Climate change could affect temperature and humidity levels in caves. Human activities in caves could also affect habitat suitability. Although experienced spelunkers are generally aware of the fragility of cave environments, lava-tube caves are popular with inexperienced spelunkers and are susceptible to both unintentional damage and vandalism. For example, the modification of a cave entrance can have dramatic effects on air and moisture exchange and cause important changes to the cave climate. Modification of cave entrances could be caused by rock removal for use in landscaping, which is permitted in some areas.

RECOMMENDED ACTIONS

Management of disturbance to the caves and the area around cave mouths is needed. Some of the occupied caves also support populations of other rare cave invertebrates (such as the arachnids *Flabellorhagidia pecki*, *Speleomaster pecki*, and *Speleomaster lex*). Monitoring efforts are needed to determine population trend. Invertebrate surveys of the majority of lava-tube caves have not been conducted, and surveys are needed so that the distribution and conservational status of these species can be better understood.

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2 August 2005
Point data are from Idaho Conservation Data Center,
Idaho Department of Fish and Game.

