Ida Bay Cave Harvestman

Hickmanoxyomma cavaticum
Hickman 1958

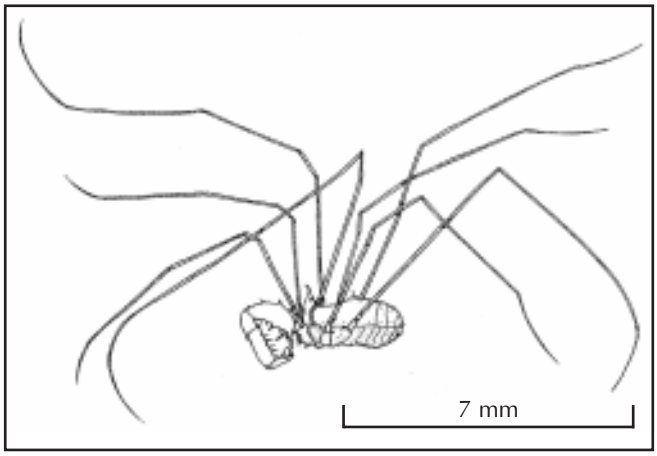


Illustration: Karen Richards

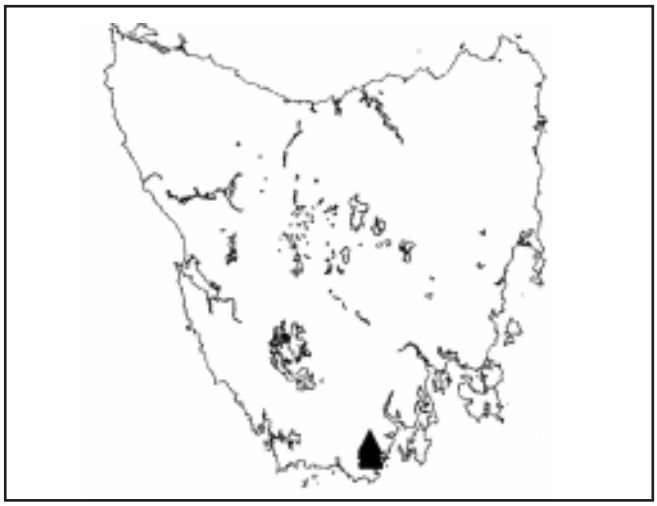
Status

Commonwealth *Endangered Species Protection Act 1992* . . . . . .Not listed
Tasmanian *Threatened Species Protection Act 1995* . . . . . .Rare

Description

Harvestmen are related to spiders but are not venomous, do not spin webs and the head and body are fused together. The Ida Bay Cave Harverstman is small-bodied (7 mm long) with very elongated legs. It is yellow-brown in colour and, like other species belonging to the genus *Hickmanoxyomma*, has a prominent eye-mound with a long spine. Species of *Hickmanoxyomma* are distinguished by the shape of this eye mound as well as other factors (Hunt 1990). The genus name *Hickmanoxyomma*, combines recognition of Professor V. Hickman, who studied harvestman, with the 'spined-eye' (monoxyomma) feature. Complete descriptions of the species are contained in Hickman (1958) and Hunt (1990).

Very little is known about the life history of any of the cave harvestmen. Harvestman are typically predators but may also scavenge. In New Zealand, other species of cave harvestman are known to predate on glowworms (Meyer-Rochow 1990).



Known distribution of the Ida Bay cave harvestman

Distribution and Habitat

The Ida Bay cave harvestman is only known from the Ida Bay, Hastings and North Lune karst areas in southern Tasmania. Within these caves it is uncommon but widely distributed. It occurs on cave walls, floors and ceilings, in the dark and transition zones and often near glowworms. Two individuals, a juvenile and an adult, have been collected from under logs 100 m from the entrance of the nearest known cave at Hastings suggesting that this species is capable of moving from cave to cave across the surface (Hunt 1990).

Important Locations
Ida Bay karst system, Hastings and North Lune Karst Systems are important for the survival of the Ida Bay cave harvestman.

Threats, Limiting Factors and Management Issues

Quarry and forestry operations have been identified as potential threats to populations of the Ida Bay Cave Harverstman. At present the species is not under direct threat. A limestone quarry operation adjacent to Exit Cave was affecting water quality in the cave and had the potential to impact on the Ida Bay Cave Harverstman. However, this quarry is now closed and is being rehabilitated.

North Lune Cave occurs within State Forest and part of Exit Cave occurs within the Southwest Conservation Area and therefore both cave systems are potentially vulnerable to operations such as mining and forestry.

Trampling of individuals and degradation of habitat are possible threats to this species and requires further investigation.

Preliminary allozyme studies suggest that the Hastings and North Lune populations might well be genetically isolated despite only being three kilometres apart. (Hunt 1990).

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Conservation Assessment

Historical Distribution
The present day distribution of *Hickmanoxyomma* species is believed to be a result of the extinction of a widespread surface-dwelling ancestor during the glacial climates of the Pleistocene (Hunt 1990). It is likely that the Ida Bay Cave Harverstman has been naturally restricted to its current distribution since at least the last glaciation. The species is well distributed within the caves where it is known from and there is no evidence that the distribution of this species has declined in recent times.

Area Currently Occupied
Ida Bay, North Lune and Hastings caves

Population Estimate
Unknown

Reservation Status
Much of the Ida Bay karst system occurs in the Southwest National Park which is part of the Tasmanian Wilderness World Heritage Area (WHA). North Lune caves are in State Forest and Hastings Caves are in a State Reserve.

Assessment Criteria

Meets criteria for listing as rare on the Tasmanian *Threatened Species Protection Act 1995* because the species is subject to stochastic risk of endangerment because of naturally small population size. The Ida Bay cave harvestman is known to occur in three cave systems at Ida Bay.

Recovery Program

Objectives
- To protect existing Ida Bay Cave Harverstman habitat from adverse impacts

Previous Management Actions
- Exit cave was proclaimed a State Reserve in 1979 and included in the WHA in 1989. In 1990 it was incorporated into the Southwest National Park/Conservation Area. Hastings Caves State Reserve falls outside the WHA.
- In 1990 the limestone quarry adjacent to Exit Cave was closed due to adverse impacts of the quarry operation on the cave system.
- An invertebrate fauna survey of Exit Cave was conducted by Eberhard et. al (1991) as part of an extensive study into the invertebrate fauna of over 130 caves throughout Tasmania. This study confirmed the restricted distribution of this species.
- Route markers and fauna sanctuaries were installed in Exit cave to protect habitats and species (Eberhard 1999).
- Access to Exit Cave was restricted for the purposes of management planning between 1992 and 1998 under the Tasmanian *National Parks and Wildlife Act 1970*. The cave was re-opened to restricted recreational use.

Actions Needed

- Provide information on the location of the species to land managers to ensure no activities adversely affects the species.
- Conduct surveys for surface in the vicinity of the Ida Bay, Hastings and North Lune cave systems.
- Undertake further research to determine the habitat requirements of the Ida Bay Cave Harverstman with special emphasis placed on identifying surface habitats. This work may have important implications for the dispersal ability of this species.
- Investigate the impacts of cave users on the species.
- Facilitate research into the ecology of the species to determine population numbers, life cycle, diet and behaviour.
- Facilitate research to assess the genetic variability between the three known populations of the Ida Bay Cave Harverstman.

Source Material

References
Eberhard, S. (1990). Ida Bay karst study: the cave fauna at Ida Bay in Tasmania and the effects of quarry operations. Report to Department of Parks, Wildlife & Heritage, Tasmania. 25pp.

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IUCN Species Survival Commission (1994). IUCN Red List Categories, *IUCN Species Survival Commission*. Nov. 1994.

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Review and Further Information

Statement prepared: May 2000

Prepared by: Michael Driessen, Maria Moore and Karen Richards

Review date: When new information received.

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Permit: It is an offence to collect, possess or disturb this species unless under permit from the Director, Parks and Wildlife Service.

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