THREATENED SPECIES LISTING STATEMENT

Mole Creek Cave Harvestman, *Hickmanoxyomma gibbergunyar*
Hunt 1990

Status
Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999.....Not Listed
Tasmanian *Threatened Species Protection Act 1995*.....Rare

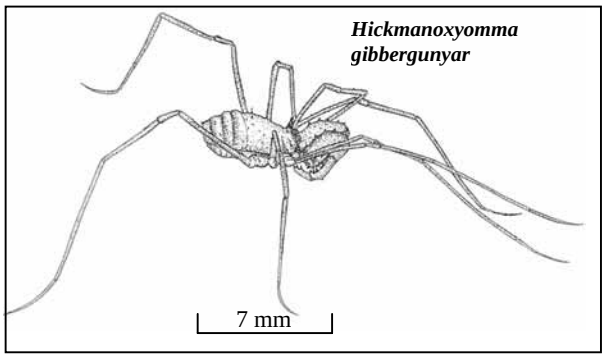
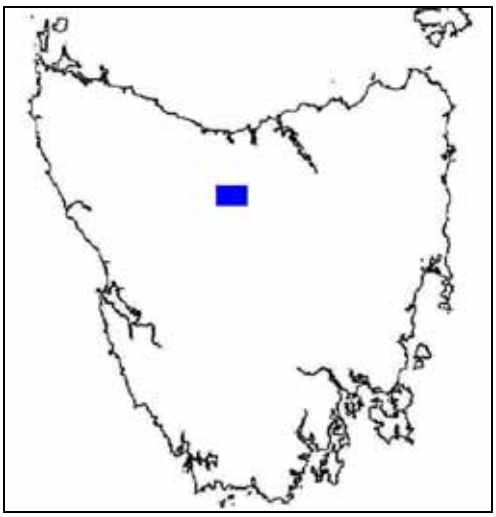


Illustration: Karen Richards

Description
Harvestmen are related to spiders but are not venomous, do not spin webs, and the head and body are fused together rather than separate as in true spiders. The Mole Creek cave harvestman is small-bodied (7 mm long) with very elongated legs. It is light brown in colour with darker brown patterning and, like other species belonging to the genus *Hickmanoxyomma*, has a prominent eye-mound with a long spine. The shape of this eye mound can help to distinguish species of *Hickmanoxyomma* (Hunt 1990). A complete description of the Mole Creek cave harvestman is contained in Hunt (1990).

Very little is known about the life history of cave harvestmen. Harvestmen are typically predators but may also scavenge. Species of New Zealand cave harvestmen are known to predate on glow worms. The Tasmanian species of *Hickmanoxyomm*a exhibit varying degrees of troglomorphism, or adaptation to cave environments. Some species are obligate cave-dwellers (Troglobites), others are largely surface dwellers, while others utilise both cave and surface habitats. *Hickmanoxyomma gibbergunyar* appears to be an obligate cave dweller (Eberhard 2000).


Known distribution of *Hickmanoxyomma gibbergunyar*.

Distribution and Habitat
The Mole Creek cave harvestman is known only from the Mole Creek karst system in central north Tasmania. Within this cave system it is widely distributed though seldom common in any particular cave. It occurs on cave walls, floors and ceilings, in the dark and transition zones and often near glow worms.

Important Locations
The Mole Creek cave harvestman is endemic to the Mole Creek karst system. The species has been recorded from at least 10 caves within the karst system (including Georgies Hall, Herberts Pot, Honeycomb Cave, Wet Cave, Westmorland Cave, Cow Cave-Pyramid Link, Cyclops Cave, Baldocks Cave, Wombat Cave, Anastomosis and Kubla Khan Cave), and is likely to be more widespread than is currently known. The Mole Creek karst system is vital to the survival of this species.

Threats, Limiting Factors and Management Issues

Quarrying, land-clearance and changes to drainage and water nutrient levels due to farming practices have been identified as potential threats to populations of the Mole Creek cave harvestman. At present the species is considered fairly secure. However, the majority of caves in which the species is known to occur are located on private land and are vulnerable to land practices which could threaten individual cave habitats. Trampling of individuals and degradation of cave habitat through trampling are also potential threats to this species which require further investigation.

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 Mole Creek cave harvestman has been naturally restricted to its current distribution since at least the last glaciation. The species is well distributed within the Mole Creek caves karst system and there is no evidence that the distribution of the species has declined in recent times.

Area Currently Occupied

Mole Creek karst system

Population Estimate

Unknown

Reservation Status

A number of caves containing the Mole Creek cave harvestman are located within Forest Reserves or the Mole Creek Karst National Park. Other known cave locations are on State Forest, private land or unreserved public land.

Assessment Criteria

Hickmanoxyomma gibbergunyar meets criteria for listing as rare on the Tasmanian *Threatened Species Protection Act 1995* because the species is subject to stochastic risk of endangerment and has an area of occurrence of less than 2000 km^2.

Recovery Program

Objectives

- To protect existing Mole Creek cave harvestman populations from adverse impacts

Previous Management Actions

- An invertebrate fauna survey of over 130 caves throughout Tasmania was carried out by Eberhard *et al.* (1991). This study confirmed the restricted distribution of this species to the Mole Creek karst system.
- An intensive survey of the invertebrate fauna of caves within the Mole Creek Karst National Park by Eberhard (2000) located a number of new cave locations for the species.

Actions Needed

- Provide information on the location of the species to land managers to ensure no activities adversely affect the species.
- Undertake further survey work to identify additional caves in which the species occurs.
- Undertake research to determine the habitat requirements of *H. gibbergunyar*.
- Conduct an investigation into, and regularly monitor, the condition of cave habitats.
- 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.

Source Material

References

- Eberhard, S. M. (2000). Reconnaissance survey of cave fauna management issues in the Mole Creek Kast National Park, Tasmania. Nature Conservation Report 2000/1, Department of Primary Industries, Water and Environment, Hobart.
- Eberhard, S. M., Richardson, A. M. M. and Swain, R. (1991). The invertebrate cave fauna of Tasmania. Zoology Department of Tasmania, Hobart.
- Hunt, G. S. (1990). *Hickmanoxyomma*, a new genus of cavernicolous harvestmen from Tasmania (Opiliones: Triaenonychidae). *Records of the Australian Museum* **42**: 45-68.
- Parks and Wildlife Service (2004). *Mole Creek Karst National Park and Conservation Area Management Plan 2004.* Parks and Wildlife Serve, Department of Tourism, Parks, Heritage and the Arts, Hobart.

Specialist Advice

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Review and Further Information

Statement prepared: June 2005

Prepared by: Michael Driessen and Stephen Mallick.

Review date: When new information received.

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Permit: It is an offence to kill, injure, collect or keep this species unless under permit from the Secretary, Department of Primary Industries, Water and Environment.