

# Schayer's Grasshopper

## *Schayera baiulus*



TASMANIAN THREATENED FAUNA LISTING STATEMENT

Image by Dr Ken Key

**Scientific name:** *Schayera baiulus* Erichson (1853).

**Order/Family:** Orthoptera/Acrididae

**Status:** *Threatened Species Protection Act 1995*: **endangered**

*Environment Protection and Biodiversity Conservation Act 1999*: **Not Listed**

Tasmanian NRM Region: **North and Cradle Coast**

Regional Forest Agreement: **Priority species**

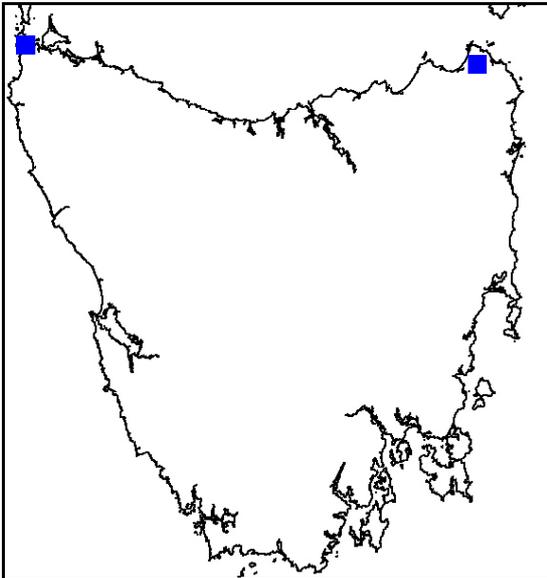


Figure 1. Distribution of *Schayera baiulus* in Tasmania



Figure 2. *Schayera baiulus*. Image by Dr Ken Key

## DESCRIPTION AND ECOLOGY

Schayer's Grasshopper (*Schayera baiulus*) is currently the only Tasmanian grasshopper listed on the Tasmanian *Threatened Species Protection Act 1995*. The adult is a flightless grasshopper about 3.5 cm long (body and head combined). The antennae are short and the adult female is pale brown mottled with black. The immature nymphs are a uniform pale grey to black colour. Adult males have never been seen but are likely to be smaller and less robust than the female (pictured). The females are flightless and males are very likely to be flightless due to the relatively small size of wing rudiments in the male nymph. Any suspected records of this species should be confirmed by a specialist.

## DISTRIBUTION AND HABITAT

Schayer's Grasshopper is endemic to Tasmania. It appears to be very rare and may have always been so though little is known of the species. Adolphus Schayer, then superintendent of the Van Diemens Land Company property at Woolnorth in the far north-west, collected at least three specimens of this species sometime between 1835 and 1841. Despite intensive searching, the species was not seen again until 1988, when a live male nymph was collected near Rushy Lagoon in the far north-east, and a live female nymph was collected near Cape Grim in the far north-west (probably close to Schayer's original collection site(s)). Despite these two records, further searching in the vicinity of these new sites yielded no further specimens. The species has not been recorded again since 1988.

At the Cape Grim site in NW Tasmania, a nymph was found "on the edge of a shallow seepage line running down gently eastwards from the track and bearing short grass and forbs" (Key 1991). Vegetation present includes stunted coastal paperbark *Melaleuca ericifolia* plants to one metre high, and tussocks of sagg *Lomandra longifolia* and coastal poa *Poa poiiformis*.

It is not known precisely where the Rushy Lagoon specimen in the north east was collected. The area over which sampling of grasshoppers occurred includes (i) a rocky ridge

with open 6 - 10 metre high stands of she-oak *Allocasuarina verticillata* and a "narrow-leaved eucalypt", (ii) slopes covered in thickets of coastal paperbark to 3 metres high interspersed with more open patches with sagg and grasses, forbs and small shrubs and (iii) a depression filled with short overgrazed pasture (Key 1991).

The Rushy Lagoon nymph was collected in early October and the Cape Grim nymph in mid-November. The Cape Grim specimen was reared in captivity and did not reach adulthood until mid-February. Although wild specimens may mature faster, adults could be expected at Cape Grim in late January. It is possible that Schayer's grasshopper matures earlier in the year than most grasshoppers and is therefore overlooked during surveys.

As there are only two recent records of Schayer's grasshopper and the habitat of one of these is poorly described it is difficult to define potential habitat. It may be present in isolated patches across the northern coast of Tasmania. Potential search areas are listed under "what is needed" below.

## HISTORICAL DISTRIBUTION

It is unknown whether the species was more widespread than the two areas where it has been found, but this is likely.

## RESERVATION STATUS

Current known sites are unreserved.

## POPULATION ESTIMATE

Unknown

## CONSERVATION ASSESSMENT

Schayer's grasshopper meets the criteria for listing as **Endangered** on the Tasmanian *Threatened Species Protection Act 1995* as the species is known from only two localities, with no reliable evidence as to the likelihood of its presence at any others, and no mature adults being recorded since 1841.

#### THREATS, LIMITING FACTORS AND MANAGEMENT ISSUES

- Lack of survey effort in recent times.
- Lack of information on the species' distribution, abundance, feeding habits and ecology.
- Habitat degradation or conversion at and around the two known sites.
- Populations may be vulnerable to local extinction through stochastic risk.

#### MANAGEMENT STRATEGY

- To protect known sites.
- To gain more information about the species which could assist management.

#### *What has been done?*

Despite a number of intensive surveys the species was not seen between 1841 and 1988, and has not been recorded since.

No management actions have been undertaken to protect these sites.

#### *WHAT IS NEEDED?*

Recovery actions necessary to decrease the extinction risk to *Schayera baiulus* include:

- Protect intact habitats in and immediately around existing known and new localities.
- Conduct searches in areas of potential habitat, particularly between Cape Grim and Studland Bay, the Hunter Group islands, Rocky Cape National Park, Ringarooma Tier and "The Ranges" east of it, and Furneaux Group islands, especially she-oak *Allocasuarina* forests around Palana and Cape Frankland on Flinders Island.

#### ADVICE FOR LANDOWNERS/MANAGERS

The following actions will assist to conserve *Schayera baiulus* in Tasmania:

- Avoid any activities that may impact upon the species' habitat such as overgrazing, clearing or frequent burning.
- Conduct and/or allow specialists to conduct surveys for the species so that

greater knowledge can be gained about the species ecological requirements.

- If you are visiting potential habitat, actively search for new populations and forward site details to the Threatened Species Section.

#### BIBLIOGRAPHY

Bryant, S. L., and Jackson, J. (1999) *Tasmania's Threatened Fauna Handbook: What, Where and How to Protect Tasmania's Threatened Animals*. Threatened Species Unit, Parks and Wildlife Service, Hobart.

Key, K. H. L. (1990) On the identity of Erichson's Species *Calliptamus baiulus* (Orthoptera: Acrididae) *Invertebrate Taxonomy* **3**: 519-522.

Key, K. H. L. (1991) Rediscovery of the Tasmanian Grasshopper *Schayera baiulus* (Orthoptera: Acrididae) in the Field. *Australian Journal of Zoology* **39**: 655-660.

#### SPECIALIST ADVICE

- Peter McQuillan, Department of Geography and Environmental Studies, University of Tasmania.
- Mike Driessen, Biodiversity Conservation Branch, Department of Primary Industries and Water

**Prepared by:** Kevin Bonham, April 2006.

**Review Date:** When new information received.

**Cite as:** Threatened Species Section 2006 Listing Statement Schayer's Grasshopper *Schayera baiulus*, Department of Primary Industries and Water.

**View:** <http://www.dpiwe.tas.gov.au>

and follow the links to Natural Environment, Threatened Species, then Threatened Species Lists.

**Contact details:** Threatened Species Section, Department of Primary Industries, Water and Environment, GPO Box 44 Hobart Tasmania Australia 7001. Ph (03) 6233 6556 fax (03) 6233 3477.

**Permit:** It is an offence to collect, disturb, damage or destroy this species unless under permit.