



*Kilauella* sp. Photo: Brendan Wang.

## Terrestrial Invertebrates

### Bark lice

Order Psocoptera

#### ORDER INCLUDES:

6 Native Families

7 Native Genera

>93 Native Species

>90 Endemic Species

**GENERAL INFORMATION:** Most bark lice are scavengers or feed on lichen found on woody vegetation. Bark lice are an important food source for native birds and other insectivores. The largest number of endemic species occurs within the genera *Ptycta*, *Palistreptus*, and *Kilauella*. The first two genera have been revised and contain 60 and 20 taxa respectively; however *Kilauella* is still largely unknown, and a large number of undescribed species are present.

**DISTRIBUTION:** Bark lice are known from all the MHI except for Ni‘ihau and Kaho‘olawe. One unusual species is only known from Laysan in the NWHI.

**ABUNDANCE:** Unknown. A lack of systematic surveys prevents any population estimate. However, the loss of native habitats likely means that species within the order are declining.

**LOCATION AND CONDITION OF KEY HABITAT:** Unknown. Found mostly on woody vegetation. They are more abundant in some locations than others, but the habitat requirements of the native taxa are poorly studied.

#### THREATS:

- Loss or degradation of habitat.
- Insufficient information for species assessments.

**CONSERVATION ACTIONS:** The goals of conservation actions are not only to protect current populations and key breeding habitats but also to establish additional populations, thereby reducing the risk of extinction. In addition to common statewide and island conservation actions, specific management directed toward bark lice and psocids should include:

- Conduct surveys to determine the distribution and abundance of known bark lice and psocids and to document and identify new species.
- Preserve, maintain, and restore habitats supporting existing populations.

#### MONITORING:

- Continue monitoring the status of known populations.

#### RESEARCH PRIORITIES:

- Conduct studies to document the biology, habitat requirements, and life history of native species.
- Conduct and support systematic and taxonomic assessments of poorly known and understudied taxa. Review and revise genera in need of taxonomic scrutiny. Work to identify and describe new species to science.

**References:**

Nishida GM editor. 2002. Hawaiian terrestrial arthropod checklist, 4<sup>th</sup> edition. Bishop Museum Technical Report No. 22: iv + 310 pp.

Thornton IWB. 1981. The Psocoptera of the Hawaiian Islands. Parts I and II, Introduction and the nonendemic fauna. *Pacific Insects* 23(1-2):1-49.

Thornton IWB. 1985. The Psocoptera of the Hawaiian Islands. Part III The endemic *Ptycta* complex (Psocidae): Systematics, distribution, and evolution. *International Journal of Entomology* 26(1-2):1-128.

Thornton IWB. 1990. The Psocoptera of the Hawaiian Islands. Part IV. The endemic genus *Palistreptus* (Elipsocidae): systematics, distribution, and evolution. *Bishop Museum Bulletins in Entomology* 4:1-57.

Zimmerman EC. 2001. *Insects of Hawaii: Volume 1 Introduction*. Honolulu: University of Hawaii Press.