



Anisolabis howarthi. Photo: Mike Slay

Terrestrial Invertebrates

Earwigs

Order Dermaptera

ORDER INCLUDES:

1 Native Family

3 Native Genera

10 Native Species

9 Endemic Species

GENERAL INFORMATION: Earwigs have slender, flattened bodies and are easily recognized by the pair of large pincers at the tip of their abdomens. Earwigs are nocturnal and most are carnivorous, although some species are omnivorous. Females lay eggs in the soil, under objects, or in other protected places, and guard eggs and care for young until they can find food for themselves. Earwigs hatch from eggs and molt as they grow, obtaining more antennal segments and progressively more developed wings with each molt. Earwigs are considered harmless to people, although some species emit a foul-smelling substance when disturbed. All native earwigs are members of the family Carcinophoridae. Six endemic species in the genus *Anisolabis* represent an adaptive radiation from a marine littoral ancestor, probably *A. maritima*, which is indigenous to Hawai‘i. *A. maritima* and *Euborellia eteronoma* are widespread and populations appear stable. *A. perkinsi*, known only from Kaua‘i, has apparently declined. *A. howarthi* is restricted to caves on Hawai‘i Island. It is rarely seen and each cave may harbor a distinct population. The other four *Anisolabis* species have not been recollected for at least 75 years and may be extinct. Two species were known from O‘ahu, one was endemic to Maui, and one was known from the island of Hawai‘i. One recently described species from Hawai‘i, *Paraflexolabis ornata*, is only known from three specimens and may not be native. Earwigs are not considered pests in Hawai‘i, although they are elsewhere in the world.

DISTRIBUTION: Earwigs are known from all the MHI and 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: Earwigs occur in a variety of habitats including caves, coastal and marine littoral areas, mesic and sometimes wet forests, and possibly recent lava flows.

THREATS:

- Invasive predators and parasites.
- Possibly alien diseases.
- Loss or degradation of habitat.
- Possible disease.

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 earwigs should include:

- Conduct surveys to determine the distribution and abundance of known earwigs and to document and identify new species.
- Conserve areas supporting native species, especially cave habitats.
- Conduct surveys searching for populations of species thought to be extinct.

MONITORING:

- Continue monitoring the status of known populations.

RESEARCH PRIORITIES:

- Determine the status and population trends of *A. perkinsi* and initiate studies designed to determine the causes of its decline.
- Conduct studies to document the biology, habitat requirements, and life history of native species.
- *A. maritima* and *A. howarthi* populations possess geographic variation. Initiate studies to determine whether populations are distinct 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:

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