



## Terrestrial Invertebrates

**Yellow-faced bees**  
Order Hymenoptera  
Family Colletidae  
Genus *Hylaeus*

**GENUS INCLUDES:**  
64 Native & Endemic Species

**GENERAL INFORMATION:** The yellow-faced bees (*Hylaeus*) are the only bees native to Hawai‘i. The 64 species evolved from a single ancestor in the subgenus *Nesoprosopis*, which is found throughout east and southeast Asia. They nest in hollow stems, holes in trees, under bark, crevices, cavities in rocks, or burrows in soil, and are important pollinators for many native plants. Aside from the coastal tree heliotrope, they rarely visit alien plants. Non-native bees including small carpenter bees (*Ceratina* spp.), sweat bees (*Lasioglossum* spp.), and the alien yellow-faced bee *Hylaeus strenuus* are competitors for both floral resources and nest sites. The European honeybee (*Apis mellifera*) and some ants such as the Argentine ant (*Linepithema humile*) also compete for nectar and pollen. Other introduced ants such as the big-headed ant (*Pheidole megacephala*) and yellow crazy ant (*Anoplolepis gracilipes*) are major predators and often exclude native bees entirely. Since *Hylaeus* bees pollinate native plants, their loss would be detrimental to the recovery of native plants. Five species have evolved to be cleptoparasites (cuckoo bees), laying their eggs in the nests of other species. While this habit is found in many groups of bees, these are the only cleptoparasitic species in the family Colletidae worldwide. Despite the apparent decline of many species, new undescribed species continue to be found.

**DISTRIBUTION:** Yellow-faced bees are found on all the MHI and Nihoa 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. Numbers of many species appear to have declined significantly since the last large-scale surveys in 2002 and 2011. A few species, such as *H. difficilis* in dry shrubland and *H. unicus* in wet forest, are relatively common, but the majority are rare and some are only known from one or two specimens.

**LOCATION AND CONDITION OF KEY HABITAT:** Yellow-faced bees occur in most terrestrial habitats including coastal strands, dry shrublands, wet forests, and alpine stone deserts. Coastal and lowland habitats are highly limited due to the presence of ants. Some montane dry forests that have been invaded by ants and myoporum thrips have greatly reduced bee abundance and diversity, and some species that were restricted to that habitat may now be extinct.

### THREATS:

- Competition with non-native bees (particularly honeybees), other non-native wasps such as yellowjackets, alien *Hylaeus*, and non-native ants.
- Predation by non-native insects, mainly ants.
- Loss or degradation of habitat, especially the loss of native host plants.

**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 yellow-faced bees should include the following:

- Conduct surveys to determine the distribution and abundance of known species and to document and identify new species.
- Preserve, maintain, and restore habitat for existing populations.

**MONITORING:** Continue monitoring the status of known populations.

**RESEARCH PRIORITIES:**

- Conduct systematic and taxonomic assessments of poorly known taxa.
- Conduct studies to document the biology, habitat requirements, and life history of endemic species.
- Refine methods for conducting quantitative surveys.

**References:**

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