

***Hylaeus anthracinus* (F. Smith, 1853)**
(Hymenoptera: Colletidae: Hylaeinae)

Profile Prepared by Karl Magnacca, USGS-BRD, Kilauea Field Station.

SUMMARY

Hylaeus anthracinus is a coastal bee endemic to the islands of Oahu, Molokai, Kahoolawe, Maui, Hawaii, and formerly Lanai in Hawaii. It is distinguished by the single large facial mark, sometimes filling the entire area below the antennae. Although it can sometimes be found in moderate numbers, habitat destruction has caused its range to contract significantly.

CONSERVATION STATUS

Xerces Red List Status: Critically Imperiled

Other Rankings:

Canada – Species at Risk Act:	N/A
Canada – provincial status:	N/A
Mexico:	N/A
USA – Endangered Species Act:	Species of Concern
USA – state status:	HI: Species of Concern
NatureServe:	GNR
IUCN Red List:	N/A

SPECIES PROFILE

DESCRIPTION

Males: Face marks yellow, consisting of a single large spot; clypeus always fully yellow, color of paracocular areas varying from a narrow yellow strip along the clypeus to almost completely filling in the area below the antennae. Hairs of abdominal apex black, erect.

Females: Entirely black, lacking coloration; mandibles tridentate, a trait shared only with the sister species *H. flavifrons*.

Hylaeus anthracinus is sister to *H. flavifrons* but otherwise not closely related to other Hawaiian species. Superficially it resembles species of the *difficilis* group, with the single, central facial mark and very narrow process of the 8th sternum in the male.

However, it does not have the synapomorphies of that group (narrow, pubescent scape, appressed brown hairs on the apex of the abdomen), and resembles the wood-nesting species in the black abdominal hairs and dilated scape.

TAXONOMIC STATUS

Hylaeus anthracinus was described as *Prosopis anthracina* by F. Smith (1853), and transferred to the new genus *Nesoprosopis* by Perkins (1899). *Nesoprosopis* was reduced to a subgenus of *Hylaeus* by Meade-Waldo (1923). The most recent taxonomic treatment was Daly and Magnacca (2003).

LIFE HISTORY

Hylaeus anthracinus is generally found in coastal strand. Like other coastal species, it can also occasionally be found at higher elevations in dry forest. Nesting habits are unknown; it may nest in stems of coastal shrubs. Flower records include *Scaevola sericea* (naupaka), *Sida fallax* (ilima), *Chamaesyce* spp. (akoko), *Argemone glauca* (pua kala), *Myoporum sandwicense* (naio), and *Tournefortia argentea* (tree heliotrope).

DISTRIBUTION

Hylaeus anthracinus is apparently restricted to small patches of habitat on each island. The largest area is probably on Molokai, where an area of sand dunes stretching from Moomomi to Kalaupapa may support a large population. Elsewhere it is found at Kaena Point on Oahu; Pali o Kalapakea on Kahoolawe; Kanaio and Manawainui on Maui; and South Point and Ooma on Hawaii. Additional sites may exist, but it is likely that they too will be small areas.

THREATS

The biggest threat to *H. anthracinus* is habitat loss. Although the species can be found in relative abundance in some areas, native coastal strand vegetation is now extremely rare. Perkins found *H. anthracinus* even in Honolulu and Waikiki, but development and introduced plants have severely reduced available habitat. Ants may also negatively affect this species. Unlike other coastal species, it is rarely found in inland dry forest.

CONSERVATION STATUS

This species was found widely in the early period of Hawaiian insect collecting (1892-1930). It is now restricted to small, potentially vulnerable populations.

Originally, U.S. Federal listings of rare and endangered species classed *H. anthracinus* as a “Category 2” Candidate Species about which more information was needed before it could be considered for listing. This status was based on recognition that Hawaiian bees in general were becoming rarer and little was known about their conservation status. Data were never gathered to document whether or not this species should be proposed for listing. It is currently considered to be a “Species of Concern” or a “Special Status Species” by the U.S. Fish and Wildlife Service and the Hawaii Division of Forestry and Wildlife.

CONSERVATION NEEDS

Known populations of *H. anthracinus* on Oahu, Molokai, Maui, and Kahoolawe are protected under the auspices of the State of Hawaii, the National Park Service, and the Nature Conservancy. Another Maui population is in an area undesirable for development, though it may be vulnerable to encroachment by invasive plants. The population at Ooma on Hawaii may be at risk from nearby development, and at South Point they may be vulnerable to vegetation damage by visitors. All sites are susceptible to fire. Maintenance of remaining habitat is the highest priority.

RESEARCH NEEDS

Determine life history requirements, including nest sites and pollen requirements, and find additional populations.

RESOURCES

CONTACTS

Karl Magnacca, USGS-BRD, Kilauea Field Station, Hawaii National Park, HI 96718

REFERENCES

Daly, H. V., and K. N. Magnacca. 2003. *Insects of Hawaii, Vol. 17: Hawaiian Hylaeus (Nesoprosopis) Bees (Hymenoptera: Apoidea)*. University of Hawaii Press, Honolulu. 234 pp.

Smith, F. 1853. Catalogue of hymenopterous insects in the collection of the British Museum. Part I. Andrenidae and Apidae. Printed by order of the Trustees, London. 197 pp.

Meade-Waldo, G. 1923. Hymenoptera, fam. Apidae, subfam. Prosopidae, fasc. 181. Pp. 1-45 in P. Wytzman (ed.), *Genera Insectorum*. L. Desmet-Verteneuil, Brussels.

Perkins, R. C. L. 1899. Hymenoptera, Aculeata. Pp. 1-115 in D. Sharp (ed.), *Fauna Hawaiiensis*, Vol. 1. Cambridge University Press, Cambridge, United Kingdom.

WEBSITES

Bishop Museum Arthropod Species of Concern checklist

<http://hbs.bishopmuseum.org/angered/soc-artho.html>

Lists *H. anthracinus* as a Species of Concern. Updated February 21, 2000.