

POLLINATORS IN PARADISE: CONSERVATION OF THE ENDANGERED HAWAIIAN YELLOW-FACED BEES

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In Oct' 2016, seven species of Hawaiian yellow-faced bees became federally protected under the Endangered Species Act. Endemic *Hylaeus* (yellow-faced bees) are pollinators which have coevolved with native plants and support native Hawaii ecosystems functions since before humans arrived on the islands. Plants which had coevolved with these endemic Hawaiian bees and depend on the bee for pollination are also endangered. The habitats which the bee and plants depend on are becoming unsuitable due to erosion, pollution, development, and fragmentation. *Hylaeus anthracinus* were the only native yellow-faced bee species found in significant numbers on Oahu during recent targeted surveys and during this study. Although once widespread, *H. anthracinus* are now apparently restricted to small fragments of endangered, coastal habitat on Oahu. Immature *H. anthracinus* were reared from egg to healthy adult in a controlled setting. Data gathered through nest dissections and immature rearing facilitated the design of artificial nest sites. Artificial nest sites were developed, established and monitored weekly. Artificial sites were successfully nested in by *H. anthracinus* and were tested as conservation tools. *Hylaeus anthracinus* nesting and foraging ecology observations were described as well as opportunities these tools may hold for additional pollinator conservation management. Invasions by ants were quickly identified as a primary reason for the bees decline. The nests in artificial nest sites were protected with a non-toxic, sticky barrier (Tanglefoot) that ants were unable to cross if applied correctly and reapplied often. A citizen science project is being developed to spread awareness of this endangered native pollinator and enlist the help of the Hawaiian community and visitors to Hawaii in conservation efforts.

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