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Bee Killers, *Mallophora bomboides* (Wiedemann), *Mallophora orcina* (Wiedemann), and *Malophora nigra* Williston (Insecta: Diptera: Asilidae)[1]

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The Featured Creatures collection provides in-depth profiles of insects, nematodes, arachnids, and other organisms relevant to Florida. These profiles are intended for the use of interested laypersons with some knowledge of biology as well as academic audiences.

Introduction

Three large predaceous robber flies of the genus *Mallophora* occur in Florida (Bromley 1950).

- *Mallophora bomboides* (Wiedemann) is known as the Florida bee killer
- *Mallophora orcina* (Wiedemann) is known as the southern bee killer
- *Mallophora nigra* Williston is known as the black bee killer

Two other species are recorded from Florida: *Mallophora rex* Bromley and *Mallophora chrysomela* Bromley. Morphologically, there is nothing to distinguish them from *Mallophora bomboides* (Wiedemann), and they are considered to be color variants of the latter. Also, *Mallophora nigra* Williston may be merely a wholly black color variant of *Mallophora bomboides* (Cole and Pritchard 1964).

Distribution and Phenology

At least 20 species in seven genera of asilid flies in the southeastern United States prey on various Hymenoptera, including honeybees (*Apis mellifera* L.). Of these, *Mallophora* orcina is the most prominent, with 80% or more of its diet composed of honeybees (Bromley 1946).

Mallophora bomboides occurs in the southeastern United States including North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi. Flight time in Florida is from April through December, though they are most common in late summer.

Figure 1. The Florida bee killer, *Mallophora bomboides* (Wiedemann), with honey bee prey.
Credit: Nancy West, University of Florida

Mallophora orcina occurs in the eastern US from Florida north to Ohio and west to Missouri and Arkansas. Flight time in Florida is from April through August, though they are most common in mid-summer.

Figure 2. The southern bee killer, *Mallophora orcina* Williston.
Credit: Gary Steck, FDOACS-DPI

Mallophora nigra is uncommon. It is apparently even rarer outside of Florida, having been recorded only from "North Carolina" (Cole and Pritchard 1960), presumably North Carolina. Flight time in Florida is from July through September.

Description

Members of this genus in Florida are large, robust flies. The wings are smoky brown and the body has dense patches of black and yellow or white hairs. Bee killers resemble bumblebees and carpenter bees in shape and coloration. They generally mimic all of the five bumblebee species occurring in Florida (Stange 1992). They make a beelike hum or buzz when flying (Linsley 1960).

Biology

Adults typically occur in open habitats, often in the vicinity of apiaries. They perch on stalks of weeds or on tips of shrubs from which they launch their attack (Brower et al. 1960). Prey are primarily social bees and wasps, including honey bees, bumble bees, carpenter bees, *Polistes* and *Vespa* wasps. Honey bees may be particularly suitable as prey because of their slow flight, local abundance, and appropriate body size (Poulton 1906). Eggs are laid into the soil. Specific feeding habits of larvae of the species discussed here are unknown, but larvae of other *Mallophora* species are ectoparasites on scarabaeid beetle grubs in the soil (Knutson 1972).

Key to the *Mallophora* of Florida

1. Abdomen and scutellum wholly black-haired..... *Mallophora nigra*

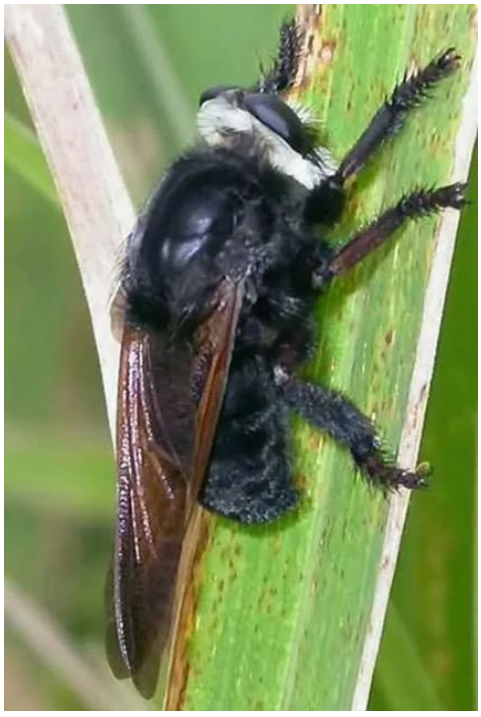

Figure 3. Lateral view of the black bee killer, *Mallophora nigra* (Wiedemann).
Credit: Jeff Hollenbeck

1'. Abdomen and scutellum with white or yellow hairs..... 2

2. Basal four or five abdominal tergites densely covered with yellow hairs; and remaining segments wholly with black hairs; ventrum of abdomen wholly black haired. Average body length about 20 mm (3/4 in)..... *Mallophora orcina*

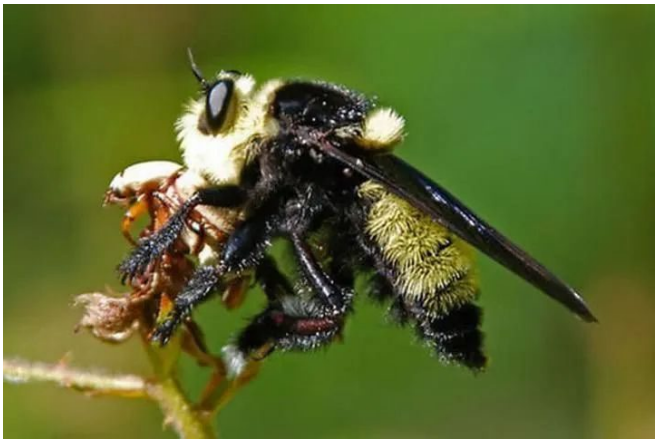

Figure 4. The southern bee killer, *Mallophora orcina* Williston.
Credit: Gary Steck, FDACS-DPI

2'. Basal three abdominal tergites densely covered with yellow hairs, 4th and 5th tergites with black hairs, and final 2 segments with pale hairs; ventrum of abdomen with yellow hairs. Average body length about 25 mm (1 in)..... *Mallophora bomboides*

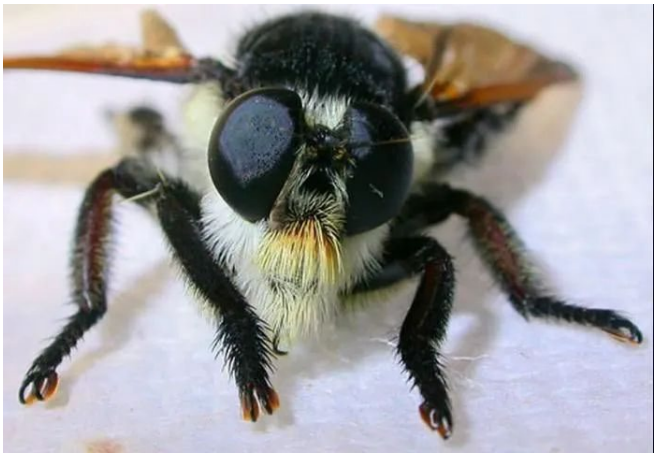

Figure 5. Frontal view of the Florida bee killer, *Mallophora bomboides* (Wiedemann).
Credit: Jeff Hollenbeck

Figure 6. Dorsal view of the Florida bee killer, *Mallophora bomboides* (Wiedemann).
Credit: Jeff Hollenbeck

Figure 7. Ventral view of the Florida bee killer, *Mallophora bomboides* (Wiedemann).
Credit: Jeff Hollenbeck

Economic Importance

Instances of economic losses to beekeepers due to the depredations of asilid bee killers are sporadic, but Florida is one of the few states where such losses have been reported (Bromley 1950). During July 2008, hundreds of these insects were seen attacking beehives in a watermelon field in Little Lake City, Gilchrist County, Florida (Halbert 2008).

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