

Pest Alert

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Florida Department of Agriculture and Consumer Services, Division of Plant Industry
Charles H. Bronson, Commissioner of Agriculture

Small Hive Beetle *Aethina tumida* Murray (Coleoptera: Nitidulidae)

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A Honey bee Pest New to Florida and the Western Hemisphere

In late May, 1998, a beekeeper in St. Lucie County, Florida, discovered beetles severely damaging beehives. The beetles are *Aethina tumida* Murray, known as an apiary pest in South Africa, where it is called the small hive beetle. This was the first record for this beetle in the Western Hemisphere.

The adults (Figs. 1-2) are broad, flattened beetles about 5-7 mm long and dark brown to nearly black in color. The adults can be distinguished from other U.S. nitidulids by the following suite of characters: eyes with tuft of setae laterally; legs broad and flattened; pygidium basally with a transverse row of foveae (It often necessitates removal of pygidium to observe this character.).

The larvae (Figs. 3 and 4) are elongate, whitish grubs which under magnification can be seen to have rows of spines on the dorsum. Adults and larvae inhabit beehives, where they feed on stored pollen and honey. Combs are damaged and brood killed by the burrowing of the beetle larvae. Bees have been observed in Florida to abandon combs once they are infested by the beetles. As an infestation grows, the honey ferments, and bubbles out of the cells. The fermenting honey is said to have the odor of decaying oranges.

Pupae are white to brown and are found in the soil beneath hives. In South Africa, development from egg to adult required 38 to 81 days, with five generations a year possible during the warmer months. Small hive beetles have been found in feral honeybee hives in Florida. They have been shown to attack bumblebee nests in the laboratory, and have been observed to survive winters in the hive inside the bee cluster.

Since its discovery, the small hive beetles has spread to all Florida counties and also has been found in all southeastern states, Pennsylvania, Ohio, and Minnesota. Even though the small hive beetle was discovered first in Florida, it now appears that it was first introduced into Georgia or South Carolina. It was noticed but not recognized in both of those states at least a year earlier than its discovery in Florida.

A new pesticide developed by Bayer for Varroa mite also has proved effective against the small hive beetle, according to research by the USDA-ARS. The pesticide is coumaphos, sold under the brand name CheckMite+®. (Mention of a brand name does not imply endorsement of the product by the Florida Department of Agriculture and Consumer Services.)



Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner



Figure 1. *Aethina tumida* Murray, adult, dorsal view. Beetle is somewhat distended.
Photo credit: Jeffrey Lotz, FDACS/DPI



Figure 2. *Aethina tumida*, adult dorsal view. More natural appearance.
Photo credit: Jeffrey Lotz, FDACS/DPI



Figure 3. *Aethina tumida*, larva, dorsal view.
Photo credit: Jeffrey Lotz, FDACS/DPI



Figure 4. Larvae of *Aethina tumida* in hive.
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