

Braula fly

What is braula fly?

The braula fly lives in honey bee colonies and attaches itself to honey bees where it feeds on nectar and pollen at the honey bee's mouth and on material secreted by the host. The pest is not considered a serious threat to commercial beekeeping as it does not damage or parasitise any stage of the honey bee life cycle. However, its presence may reduce the egg laying capacity of queen bees and could potentially make the detection of external parasitic mites difficult.

What does it look like?

The braula fly is a small (0.9 mm wide by 1.5 mm long) wingless fly. It is red-brown, covered in hairs and has six legs. The braula fly lay small eggs (0.84 mm by 0.42 mm) throughout the hive, however, only the eggs deposited on capped honey comb will hatch. The hatched larvae tunnel under the cappings leaving narrow tracks about 1 mm wide across the surface of the comb. This tunnelling gives the comb a fractured appearance, a key characteristic of braula fly presence.

What can it be confused with?

Braula fly could be confused with the exotic parasitic varroa mites (*Varroa destructor* and *V. jacobsoni*) and tropilaelaps mites (*Tropilaelaps clareae* and *T. mercedesae*). Adult female varroa mites are oval, flat, red-brown, and 1 mm long and 1.5 mm wide. tropilaelaps mites are active, red-brown mites which are around 1 mm long and 0.5-1 mm wide.

Braula fly could also be confused with pollen mites (*Mellitiphis alvearius*) which are light brown and around 0.75 mm long and 0.75 mm wide. Pollen mites are not harmful to honey bees but are sometimes found in hives. If any mites are observed on adult honey bees or in the brood, call the Exotic Plant Pest Hotline immediately on 1800 084 881.



Braula fly is small and wingless

Simon Hinkley and Ken Walker Museum Victoria, PADIL



Braula fly (top), varroa mite (right), tropilaelaps mite (bottom) and pollen mite (left)

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An outline of the braula fly on a finger, note the 6 prominent legs

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What should beekeepers look for?

Braula fly have a preference to attach to queen bees, but have also been observed on drones and worker bees as well. As a result of this preference, queen bees should be thoroughly and regularly checked. Beekeepers should also look through harvested comb honey, as braula fly larvae can tunnel through honey cappings, damaging the appearance and marketability of any comb honey produced.

How does it spread?

Braula fly can spread through swarming or absconding honey bee colonies and drifting honey bees. Braula fly can also spread through the interchange of hive components from apiary to apiary, as well as the movement of hives. The larvae can also be spread by the removal and transport of infected comb honey.

Where is it now?

Braula fly are only found in Tasmania and are not present on mainland Australia.

How can beekeepers protect their hives from braula fly?

Braula fly has not been shown to cause a weakening of honey bee colonies. However, beekeepers specialising in comb honey production may need to consider control measures if the braula fly becomes a problem during peak production periods. Control measures include freezing (-15°C) comb honey for at least 24 hours which will kill all life stages of the braula fly. The normal practice of extracting honey is another effective means to control the larval stage of the braula fly.



Numerous braula fly on the thorax of a queen bee

Lindsay Bourke



Fractured appearance of honey comb from burrowing braula fly larvae

NSW DPI

For more information about braula fly, go to www.beeaware.org.au/braula-fly. The BeeAware website contains extensive information on braula fly, including:

- Life cycle
- Appearance
- Detection methods
- Spread and distribution
- Similar pests
- Management options
- Additional fact sheets and videos

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