Fact sheet

Plant Health AUSTRALIA

EXOTIC PEST

Tropilaelaps mites

What are tropilaelaps mites?

Tropilaelaps mites are native to Asia and parasitise the brood of the giant honey bees of Asia. Two species of tropilaelaps mites (*Tropilaelaps clareae* and *T. mercedesae*) are also able to parasitise European honey bees (*Apis mellifera*) and reproduce on their brood. If tropilaelaps mites were to become established in Australia, they would cause significant losses to managed and feral honey bee colonies.

What do they look like?

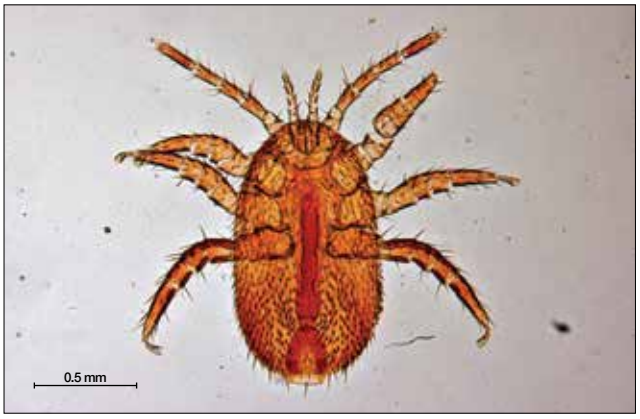
Tropilaelaps mites are active, red-brown mites which are around 1 mm long and 0.5-1 mm wide. They can be seen with the naked eye on both adult honey bees or in the brood.

Adult tropilaelaps mites lay eggs in the brood cells of honey bee larvae and feed on developing honey bees. Infestation results in the transmission of honey bee viruses and causes the death of many pupae, resulting in an irregular brood, deformed honey bees with missing legs or wings and ultimately colony decline or absconding. Crawling honey bees and brood discarded at the entrance of a colony may indicate a colony heavily infested with tropilaelaps mites.

What can they be confused with?

Tropilaelaps mites could be confused with the braula fly (*Braula coeca*) which is red-brown, 1.5 mm long, covered in spine like hairs and has six long legs. This pest is currently only present in Tasmania and is generally considered quite harmless. Tropilaelaps could also be confused with pollen mites (*Mellitiphis alvearius*) which are light brown and are around 0.75 mm long and 0.75 mm wide. Pollen mites are not harmful to honey bees but are sometimes found in hives.

Tropilaelaps mites could also be confused with other exotic parasitic mites, most notably varroa mites (*Varroa destructor* and *V. jacobsoni*). If any mites are observed on adult honey bees or in the brood, call the Exotic Plant Pest Hotline immediately on 1800 084 881.

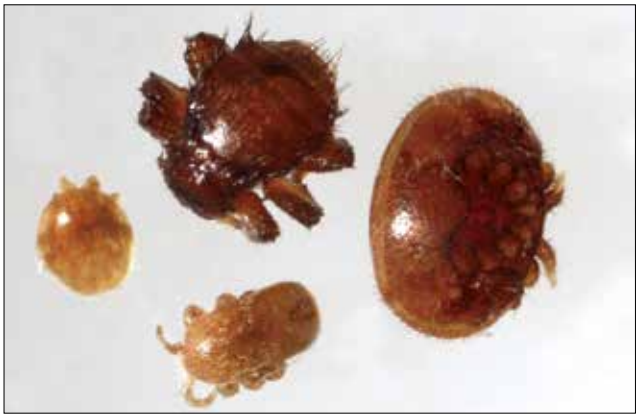


Ken Walker Museum Victoria, PADIL

Tropilaelaps mites are longer than they are wide

Denis Anderson, CSIRO

Tropilaelaps mites on European honey bee pupae, and a deformed honey bee resulting from tropilaelaps mite infestation



Food and Environment Research Agency (Fera), Crown Copyright

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

What should beekeepers look for?

Observing tropilaelaps mites on adult honey bees is difficult because only 3-4% of adult tropilaelaps mites attach themselves to adult honey bees. When adult tropilaelaps mites emerge from a brood cell, they almost immediately enter another brood cell within 24 hours, which makes it unlikely that they will be noticed until the level of infestation is quite high. As tropilaelaps mite infestation grows, honey bees will develop symptoms such as stunted wings, missing legs, shrunken thoraces and other deformities. Nurse bees may also start removing infested brood and deformed honey bees and deposit them at the hive entrance.

How do they spread?

Tropilaelaps mites can spread through the transportation of infested hives and adult honey bee drift. However, unlike varroa mites which can potentially survive on adult honey bees for months, tropilaelaps mites can only survive on adult honey bees for up to three days. Therefore, the level of tropilaelaps mite spread is dependent on the level of brood within colonies.

Where are they now?

Tropilaelaps clareae is currently only present in the Philippines, while *Tropilaelaps mercedesae* is present throughout regions of mainland Asia, including Papua New Guinea.

How can beekeepers protect their hives from tropilaelaps mites?

This pest is currently not present in Australia and there are strict quarantine requirements in place to protect the Australian honey bee industry.

If you see any of these symptoms, or observe mites on your honey bees or in the brood, call the Exotic Plant Pest Hotline.

EXOTIC PLANT PEST HOTLINE
1800 084 881

Deformed pupae are a sign of tropilaelaps mites

Tropilaelaps mite feeding on a giant honey bee, *Apis dorsata*, pupa

For more information about tropilaelaps mites, go to **www.beeaware.org.au/tropilaelaps**. The BeeAware website contains extensive information on tropilaelaps mites, including:

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