

Tropilaelaps

A Growing Threat to Honey Bees

WHAT YOU NEED TO KNOW



? What is Tropilaelaps [Tro-pil-lay-laps]?

Tropilaelaps (or Tropi) mites are a growing concern for beekeepers in North America. There are four recognized species of *Tropilaelaps*, which are all originally parasites of Asian honey bees. Among these mites, *Tropilaelaps mercedesae* is the primary concern for beekeepers in North America because it has successfully switched hosts to parasitize the western honey bee and has expanded its geographical range. Its native range is in South and Southeast Asia, corresponding to its original host's range (giant honey bees, *Apis dorsata* and *Apis laboriosa*). When the western honey bee (European honey bee, *Apis mellifera*) was brought into Asia for honey production, *Tropilaelaps* quickly switched hosts and became a major pest of the western honey bee. It was believed that *Tropilaelaps* mites could not survive in areas where winter brood breaks occur due to cold weather, but it has become established in some areas where winter brood breaks are assumed to occur. **So far, *Tropilaelaps* are not known to be in North America.**

! Impact on Honey Bees

The life cycle of *Tropilaelaps* mites is similar to that of *Varroa* mites; they reproduce in capped brood cells in the colony, and feed primarily on the hemolymph of honey bee brood. Both mites vector viruses, such as deformed wing virus (DWV). While *Varroa* mites can feed on adult bees, it is believed the mouthparts of *Tropilaelaps* cannot penetrate the exoskeleton of an adult bee. As a result, *Tropilaelaps* mites cannot survive on adult bees for more than 2–3 days and require constant access to brood to feed and reproduce.



Honey bee with *T. mercedesae*, and *V. destructor*.
Photo by Project Apis m.

Having a shorter reproductive cycle than *Varroa*, *Tropilaelaps* mites can quickly overcome a colony if left unmanaged when brood is available. At high infestations, visual damage resembles that from *Varroa*: uncapped and cannibalized brood, dead and decaying larvae, adult bees with deformed wings, and weakened adult bee population.

Tropilaelaps

Identify Tropi:
See it, STOP it!



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Tropi Look a-likes



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Varroa Mite (L) vs Tropi Mite (R)



Photo by A. Abbate & R. Tokach, Auburn University

Tropilaelaps mites are smaller than *Varroa* mites. Their length is similar to that of *Varroa* mites (~1 mm), but they are only about $\frac{1}{3}$ as wide. They may be seen in older brood cells that the bees have uncapped, or running over the comb surface, with a stop-start motion. Although they can be seen with the naked eye, they are difficult to spot due to their small size, making them easily missed by the untrained beekeeper.



What to do if you Suspect Tropi

Visual identification of *Tropilaelaps* can be challenging and there are many look-alike species that can be present in a honey bee colony, such as pollen mites, *Braula*, and male *Varroa* mites. If you notice an unusual mite during routine *Varroa* mite monitoring (sugar shake, alcohol wash, sticky board), report suspect specimens to your local state/provincial/territorial authority. Take a picture and make sure to collect the specimen for further confirmation. Specimens can be put into a small container or placed in a vial of alcohol. Find contact information for USA and Canadian inspectors at tropistop.com

By spreading the word, we can help STOP *Tropilaelaps* in its tracks. It is not thought to be in North America yet; let's work together to safeguard our pollinators from this emerging threat.



For More Information



tropistop.com

