DETECTION

Although some methods developed to detect Varroa mites are useful, *Tropilaelaps* mites can be more difficult to detect. *Tropilaelaps* mites are smaller and lighter than *Varroa*, and do not drop easily through mesh floors. The mites have long legs and can remain entangled in washed bees, giving lower counts. Several detection methods have been shown to be sensitive, including icing sugar rolls on adult bees, examining uncapping brood, and a 'Bump' method, where open brood is hit firmly onto a hard surface to dislodge mites. A novel approach uses wax strips to rapidly uncap cells to observe *Tropilaelaps* mites that leave the uncapped brood cells. This process can be videoed and played back for improved accuracy, with minimal impact to the colony.

CONTROL

The inability of *Tropilaelaps* to survive well on adult bees is a weakness than can be exploited to help control these mites, and brood interruption, brood removal, queen caging or ringing are all effective husbandry approaches to control. Although registered products are unlikely to be available in many countries, early research suggests treatments based on formic acid are most efficient for controlling *Tropilaelaps*. As with all honey bee treatments, product label recommendations must be strictly adhered to.

Thank you for reading this flyer, we hope it provides essential information that raises your awareness and preparedness for the arrival of *Tropilaelaps* mites! The flyer has been translated into many different languages and is available on our download webpage (scan the QR code). We need to be vigilant as a community, so please share this flyer widely across your beekeeping friends, and together we can slow the spread of these damaging mites!

WHAT TO DO IF YOU SPOT *TROPILAELAPS*?

Monitor your colonies for *Tropilaelaps* mites. *Tropilaelaps* mites are statutory notifiable pests in many different countries, and so you must inform your local authorities immediately if you have any suspicions that the mite is present. Mite samples and photographs can be useful evidence to share with the authorities. Beekeepers can reduce mite spread by considering importing or migrating bee stocks from regions with a low risk of mite presence.

MORE INFO!!!

www.beeguards.eu
www.tropilaelaps.info

The imagery, typesetting and the first draft of the flyer were completed by partner UKIM (MK), with contributions for other languages by BeeGuards partners. It is published under the framework of WP6: Parasites & Pathogens. Illustrations: Irakli Janashia and Aleksandar Uzunov.

Tropilaelaps mercedesae

Funded by the European Union

UK Research and Innovation

Funded by the European Union under GA No 101082073. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

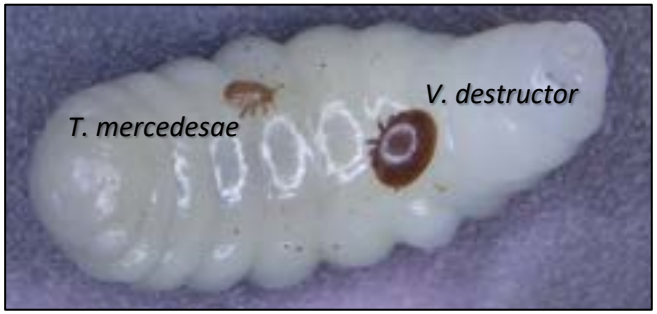
Tropilaelaps mercedesae is a parasitic mite that significantly compromises honey bees (*Apis mellifera*) health and which can lead to the collapse of untreated colonies. Severe infestation can lead to similar impacts to colony health as Varroa, including pupal death, perforated cappings, patchy chewed down brood, and adult bees with deformed wings.

In 2024, *Tropilaelaps* was confirmed for the first time in Europe, infesting honey bee colonies in southwest Russia and Georgia. These reports mark a continued movement towards the west from origins in Asia. Migratory beekeeping and bee stocks sales are likely pathways for the rapid movement of this dangerous mite.

Tropilaelaps mercedesae

Tropilaelaps mites are native to Asia but have now spread from their original hosts to parasitise and damage the Western honey bee (*A. mellifera*). However, the mite does little damage to the Asian honey bee species (*Apis dorsata*, *Apis laboriosa*, *Apis cerana*, etc).

Tropilaelaps has a smaller body size than *Varroa*. Although the mite is visible with the naked eye, confirmation in brood requires very careful observations.



Mature mites have an elongated red-brownish body and are capable of more agile movements than *Varroa*. *Tropilaelaps* mites move very fast as they emerge from capped cells or along the comb surface, and it is worth familiarising yourself with these movements by watching videos on the BeeGuards website (scan the QR code). The *Tropilaelaps* lifecycle is similar to that of *Varroa*, with a reproductive stage in sealed brood, followed by a short phoretic stage on the adult bees.

Unlike *Varroa*, *Tropilaelaps* can only feed on larvae and pupae, and can only survive for a few days on adult bees. Mites therefore only remain on adult bees for a short period, before invading new brood cells. *Tropilaelaps* mites reproduce more rapidly than *Varroa*, and so colony damage can occur very quickly.

SYMPTOMS

Symptoms are similar to Varroosis, with individual and colony-level manifestations. Parasitised pupae can become deformed and sometimes die in their cells, and adult bees can show deformed wings, shortened abdomens and have a shorter life expec-tancy. Colony level symptoms include patchy brood with perforated cappings and chewed down brood. Colonies can stagnate and shrink leading to neglected brood and colony loss.