



BEEKEEPING BASICS - PESTS AND DISEASES

## Tropilaelaps mites

*Tropilaelaps* mites are honeybee parasites that share some similarities with *Varroa* mites. The primary hosts of *Tropilaelaps* are some of the Asian honey bee subspecies (*Apis dorsata* and *Apis laboriosa*). However, like *Varroa*, some *Tropilaelaps* species have more recently adapted to parasitising the European honey bee (*Apis mellifera*).

*Tropilaelaps* adults lay their eggs inside honeybee brood cells and the developing mite larvae feed on the blood of the developing bees.

### Distribution

*Tropilaelaps*' range is currently largely confined to Asian countries such as the Philippines, Thailand, Vietnam, India, Sri Lanka, Afghanistan and Pakistan. Their geographic range has spread rapidly within the last 50 years and they have been reported in Kenya and Papua New Guinea. There is great concern that they will cause enormous damage to honeybee colonies in any area that they spread to.

### Physical description of pest

*Tropilaelaps* mites appear similar to *Varroa* mites, though they are significantly smaller and their bodies are more elongated. They are brownish-red in colour and have hard-shelled bodies. Females are approximately 0.7mm long and 0.5–0.6mm wide, while males are significantly smaller.



## How it affects the hive

*Tropilaelaps* and *Varroa* cause similar damage to European honeybee colonies. They can kill the developing brood, shorten the lifespan of adult bees that survive the brood stage and spread diseases such as deformed wing virus. These mites have caused significant losses to honeybee colonies across Asia. European honeybees are more susceptible to damage from *Tropilaelaps* than Asian honeybees because they have not evolved the same behavioural defences against the mites.

*Tropilaelaps* have a similar life cycle to that of *Varroa*, but have a shorter lifecycle, which enables them to build up much faster within a colony. The mites reproduce within brood cells, with a female mite typically laying 3–4 eggs daily onto bee larvae, beginning 48 hours after the cell is capped. Both the adult and developing mites feed on the haemolymph (blood) of the bee larvae.



## How it spreads

*Tropilaelaps* spreads most rapidly through beekeepers transporting infected colonies. They can spread within apiaries through contaminated equipment and combs. *Tropilaelaps* mites can also spread over long distances via adult bees through drifting, robbing and swarming.



## Treatment and Control

Providing a brood break is an effective treatment against *Tropilaelaps*, as the mites cannot survive for long outside of the brood cells. Beekeepers in areas where *Tropilaelaps* is present may treat their hives with acaricides very frequently. If the mites are detected in a new country, an eradication or containment plan will be implemented to try to control the outbreak.



## Symptoms and Detection

Signs of *Tropilaelaps* infestation are similar to those of *Varroa*. High brood mortality, irregular brood pattern, perforated cappings, stunted adult bees and bees with deformed wings are potential indicators of *Tropilaelaps*.

*Tropilaelaps* mites can be detected using the sugar shake, alcohol wash or sticky board method. *Tropilaelaps* can be distinguished from *Varroa* mites, as they are smaller and narrower than *Varroa*.



## Prevention

Maintaining good hygiene and husbandry practices will help to prevent the further spread of these mites. Be aware of local regulations in regards to pest monitoring and reporting. If you suspect that you have a *Tropilaelaps* infestation, contact the regulatory authorities immediately. Rapid detection and identification can help to keep this parasite out of countries where it is not yet established.

### REFERENCES

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### BANNER PHOTOS ON PAGE 1

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