

## Tracheal mite

### What is tracheal mite?

Tracheal mite (*Acarapis woodi*) is a microscopic, white coloured, internal mite of the honey bee respiratory system, capable of infecting queen bees, drones and worker bees. Tracheal mite infects and reproduces inside the tracheae (breathing tubes) of the honey bee and feeds on the honey bee's haemolymph (blood). Infection affects the honey bee's capacity to breathe, which results in weakened and sick honey bees which have a significantly reduced lifespan. If Tracheal mite infestation is combined with other stresses (disease, lack of pollen or nectar, etc.) it can lead to the death of the colony.

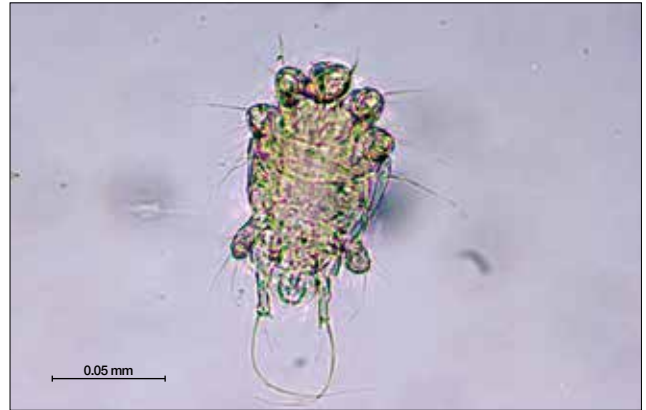
### What can it be confused with?

General symptoms associated with tracheal mite infestation such as population drop, honey bees staying in their hive and crawling and disoriented honey bees could be confused with other factors affecting honey bee colonies, such as a lack of pollen or nectar, pesticide use or various other pests and diseases.

### What should beekeepers look for?

Tracheal mites are invisible to the naked eye and there are no reliable or diagnostic visible symptoms of infestation. Tracheal mites spend their whole life inside adult honey bees, except for mature female tracheal mites, which have a mobile phase, and leave the host to attach to younger honey bees through bee to bee contact.

Despite this, serious tracheal mite infestation does cause general colony symptoms such as large numbers of crawling honey bees at the entrance of the hive which are unable to fly, honey bees appearing disorientated, honey bees holding their wings at odd angles ('K wing'), large numbers of honey bees staying in the hive rather than foraging and, in extreme cases, the hive population dropping dramatically. The only accurate diagnostic method for tracheal mite is laboratory examination of the honey bee's tracheae.



Simon Hinkley and Ken Walker Museum Victoria, PADIL

Tracheal mites are microscopic and only visible by dissecting the bee's trachea




Simon Hinkley and Ken Walker Museum Victoria, PADIL

As their name suggests, tracheal mites live inside the air ways of honey bees



Long Lane Honey Bee Farms

Honey bee showing signs of 'K wing'



Honey bee colonies are more susceptible to tracheal mite in cooler climates and during autumn and winter. Tracheal mites can spread easily when a colony is in close proximity to each other, such as a winter cluster, and can contribute to heavy winter losses. Always be aware of any unusually high winter losses.

### How does it spread?

Adult female tracheal mites are picked up by younger honey bees and are spread within the hive through bee to bee contact. Tracheal mites can also spread to new areas through the transportation of infected colonies and through swarming and absconding. Once in an area it can spread throughout an apiary through drone and worker bee drift between hives.

### Where is it now?

Tracheal mite is not present in Australia but is found in most other honey producing regions of the world, such as Europe, North America and parts of Asia.

### How can beekeepers protect their hives from tracheal mite?

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 observe any symptoms that you think may be caused by Tracheal mite, call the Exotic Plant Pest Hotline.**

**EXOTIC PLANT PEST HOTLINE  
1800 084 881**

For more information about tracheal mite, go to [www.beeaware.org.au/tracheal-mite](http://www.beeaware.org.au/tracheal-mite). The BeeAware website contains extensive information on tracheal mites, including:

- Life cycle
- Symptoms
- Similar pests
- Spread and distribution
- Additional fact sheets and videos

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