Kit for Beekeepers

BIOSECURITY MEASURES IN BEEKEEPING | SMALL HIVE BEETLE (SHB)

Prevention of SHB outbreak (not endemic)

Learn to distinguish SHB larvae from wax moth larvae

Distinguishing *Aethina tumida* from wax moth larvae is essential to recognise the parasitic beetle and intervene promptly.

Aethina tumida wandering larvae are about 10–12 mm long, slightly flattened, whitish and with a darker head.

Unlike wax moth larvae (both greater and lesser wax moth), they are more flattened, have a less conspicuous head and a body profile that appears serrated. On the dorsal body side, protrusions give a spiny appearance.

The larvae of the greater wax moth (*Galleria mellonella*), in the final stages of development, is very large, about 35–40mm, with a clearly visible dark head.

The larvae of the lesser wax moth (*Achroia grisella*) are whitish, about 16–20mm long, and cylindrical in shape. Because *A. tumida* larvae can resemble wax moth larvae at first sight, rapid morphological differentiation is important for field suspicion, laboratory triage, and correct submission for confirmatory diagnosis.

step 1

Collect suspect larvae safely.

Remove larvae from combs, hive debris, or equipment; kill them by freezing overnight or by preserving them in non-denatured 70% ethanol; and submit them in a sealed container to the laboratory.

step 2

Perform a general visual check.

Place larvae in a Petri dish or similar dish and examine them under a magnifier or stereomicroscope, first checking whether the sample is homogeneous and selecting undamaged specimens when possible.

step 3

Assess the key larval characters of *Aethina tumida*.

Suspect *A. tumida* when the larva is creamy to light beige, about 1 cm long at maturity, has a brown head capsule, three pairs of well-developed thoracic legs, two dorsal spines on each segment, and two stronger spines at the rear end.

step 4

Check for the absence of prolegs.

A crucial distinction is that *A. tumida* larvae do not have abdominal pseudopods or prolegs on the ventral side of the posterior abdominal segments.

step 5

Differentiate from wax moth larvae.

Wax moth larvae such as *Galleria mellonella* and *A. grisella* have abdominal prolegs, do not show the characteristic dorsal spines of *A. tumida*, and are often associated with silk webbing, cocoons, and dark frass in the hive or sample container.

step 6

If the larva shows three pairs of thoracic legs, dorsal spines on each segment, and no abdominal prolegs, it should be considered suspect for *A. tumida* and submitted for confirmatory testing, ideally PCR if needed or if the specimen is damaged.

If abdominal prolegs are present and silk webbing or cocoons are visible, the specimen is more consistent with wax moth larvae rather than *A. tumida*.

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info@bthenet.eu

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