

## Small hive beetle

### What is Small hive beetle?

Small hive beetle (SHB) (*Aethina tumida*) is a small (0.5 cm long 0.3 cm wide) brown-black beetle with clubbed antennae. The larvae of SHB cause the majority of damage to honey bees by burrowing into combs, eating brood, honey and pollen. Whilst feeding, the larvae also carry a yeast (*Kodamaea ohmeri*) which contaminates the honey, causing it to ferment. Heavy infestations cause the hive to become 'slimed out' and may cause the colony to die or abscond. In Australia, SHB has the greatest impact in the warm and humid coastal strip between Victoria and North Queensland.

### What does it look like?

Adult SHB are brown-black. The eggs are tiny (about 1 mm long) and are pearly white. In strong colonies, eggs are laid in the crevices of the hive, while in weak colonies eggs are laid directly on brood comb. Larvae are white, 10 mm long with three pairs of prolegs near the head. Once they mature, larvae leave the hive and burrow into the ground surrounding the hive to pupate.

### What can it be confused with?

SHB larvae look similar to wax moth larvae. To distinguish between the two pests, SHB cause the honey to ferment and the hive to become 'slimed out', while wax moth larvae leave behind webbing mass and tough white cocoons on frames.

### What should beekeepers look for?

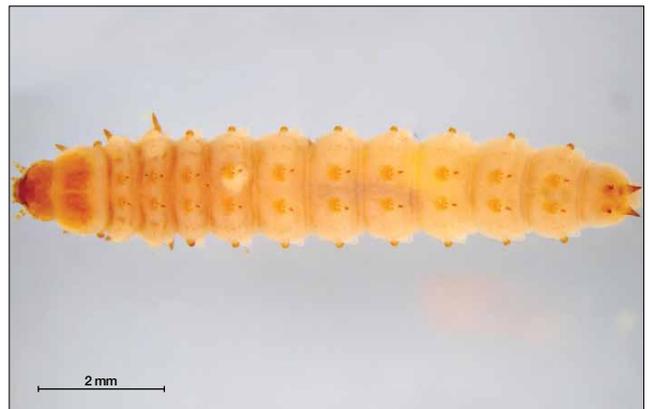
Beekeepers should look for the adult SHB in the darker parts of the hive. Adult SHB avoid light and will seek refuge quickly when the hive is inspected. Inspect underneath the hive lid, as well as the brood box and bottom board. Weak and stressed colonies with a low bee-to-comb ratio are considered the most susceptible.

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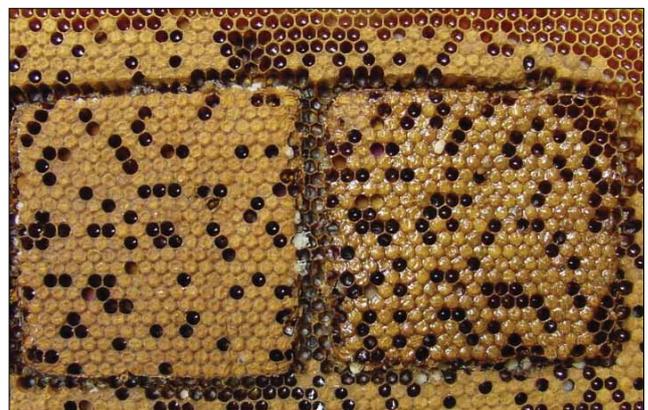
Adult SHB are brown-black with clubbed antennae

James D Ellis, University of Florida



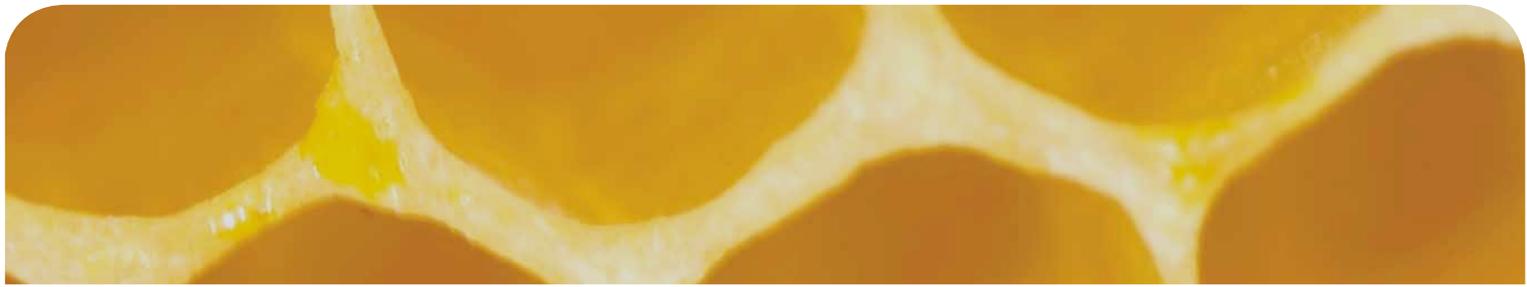
Larvae of SHB are pearly white and about 10 mm long

Ken Walker: Museum Victoria, PADIL



Cells infested with SHB (right) show a slimy appearance when compared to healthy unaffected cells (left)

Keith Delaplane, University of Georgia



Also look for larvae on frames in the brood box and in the above honey supers. The larvae cause the majority of the damage by burrowing into combs, eating brood, honey and pollen. Whilst feeding, the yeast species (*K. ohmeri*) that the larvae carry contaminates the honey, causing it to ferment, which makes the honey look greasy and slimy and weep out of the cells.

### How does it spread?

SHB can spread by beekeepers moving infested hives to non-infested areas. SHB is also a strong flyer and can fly up to 7 km to find new hives and colonies. The SHB is believed to be attracted to new hives by honey bee colony odours and slumgum.

### Where is it now?

SHB is present throughout NSW, Qld, Vic, ACT and in parts of SA and WA. It has not been recorded in NT or Tas.

### How can beekeepers protect their hives from Small hive beetle?

To protect hives against SHB it is critical to maintain strong, healthy colonies with a young productive queen bee and a high bee-to-comb ratio. Beekeepers should maintain good hygiene practices in the hive (e.g. remove debris on bottom boards, remove burr comb etc.) to reduce areas where SHB can hide and breed. It is also important to maintain good hygiene practices around the apiary (e.g. remove beeswax scraps, old combs and dead colonies etc.) which can attract SHB. Cool rooms maintained at 15°C or less for excess supers and combs will prevent the adult SHB laying eggs and will minimise SHB larvae activity.

**Please Note:** The SHB larvae carry a yeast species (*Kodamaea ohmeri*) that poses a threat to immuno-compromised people. Be aware of the risk of handling and cleaning SHB slimed honey bee equipment and take precautions.



Adult SHB are about 2-3 times smaller than honey bees

Jessica Lawrence, Eurofins Agrosience Services



Heavy infestation of larvae on comb produces a slimy appearance

Nick Annand, NSW DPI

**SHB is a reportable pest in every state and territory of Australia. This includes NT and Tas where it is currently not present, as well as WA and SA where it is only present in restricted areas. Always consult your local department of agriculture before the interstate movement of hives, honey bee products or apiary equipment.**

#### Other relevant fact sheets about SHB:

- Small Hive Beetle (PIRSA) – FS03/06
- You can also download the RIRDC report *Small Hive Beetle Biology – Producing Control Options* by N. Annand (2011)