

SMALL HIVE BEETLE (11-15-05 by Carla Markmann)

Actual size



Adult SHB, typical clubbed antennae

History of Introduction to US

- Native to South Africa
- First identified in Florida 1998
- Has become widespread in southeastern US
- Spread by movement of bee colonies, package bees, maybe in fruit (melons)
- Status in California unknown at the present time, rated as “Q”

Infestation Effects

- Adults and larvae found in active bee colonies and stored equipment
- Adults and larvae feed on bee eggs, honey, pollen and brood
- Larvae also tunnel through comb, may damage new comb
- Waste from adults and larvae contaminates honey, causes honey fermentation, rotten orange smell, honey runs out of comb, slimy appearance
- Heavy infestation may cause bees to abscond



SHB larvae
in comb

Appearance

- Eggs small, in irregular clusters in crevices or brood combs, white, 2/3 size of bee eggs
- Adult pale reddish when first hatched but becomes dark brown to black when mature
- Adult are broad, ovoid in shape, about 5-7 mm (1/4-1/2 inch) in length, 1/3 the size of worker bee
- Adults have club shaped antennae, short wing cases (elytra), and fine hairs on elytra
- Adults run rapidly over comb when hive is opened, avoid light
- Larvae are 10-13 mm long, pale cream/tan color, spines on back and three paired prolegs near head
- Larvae leave the hive and burrow into soil beneath or in front of hive to pupate
- Prefer soft sandy soil for pupation
- Hatch in about 60 days
- Adults reported to be able to fly 5 miles or more



SHB larvae,
3 paired prolegs, dorsal
spines

Management

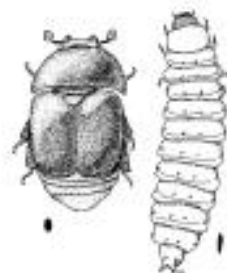
- Healthy hives can resist infestation better than weak ones, may remove larvae
- Keep hives and honey house clean
- Extract honey without delay, don't leave equipment around
- Maintain good ventilation in hive and honey house
- Conduct periodic examination for signs of infestation
- Freeze comb and equipment at 10 degrees F following honey extraction
- See attached internet references for treatment options

California (CDFA- PDEP) SHB Survey and SHB Status

- 2005-2006 CDFA survey in to determine SHB presence/distribution in California
- Currently “Q” rated =temporary “A” rating pending more information from survey



SHB in hive next to workers



SHB adult and larvae

Internet References for SHB

1. The Small Hive Beetle A Serious New Threat to European Apiculture by Mike Brown and Jeff Morton (Excellent pictures and summary)

<http://www.csl.gov.uk/science/organ/environ/bee/factsheets/SHB.pdf>

2. The Small Hive Beetle, Aethina tumida A New Beekeeping Pest by Keith S. Delaplane, U. of Georgia.

http://www.bugwood.org/factsheets/small_hive_beetle.html

3. Guidelines for Prevention, Detection, and Control of the Small Hive Beetle in Texas by Tanya Pankiw

http://honeybee.tamu.edu/pests_diseases/small_hive_beetle.pdf

4. CDFA links to other articles and a short video of bee feeding SHB

<http://www.cdfa.ca.gov/phpps/ppd/Entomology/Coleoptera/Aethina.htm>

5. The Small Hive Beetle – A New Pest of Honey Bees.- U. of Tenn Ag Ext. Serv

<http://www.utextension.utk.edu/publications/spfiles/SP594.pdf>

6. Florida Dept. of Agriculture and Consumer Services - Pest Alert

<http://www.doacs.state.fl.us/pi/enpp/ento/aethinanew.html>

7. Featured Creatures U. of Florida and FDACS

http://creatures.ifas.ufl.edu/misc/bees/small_hive_beetle.htm

Photos Credits

1. Adult morphology: www.bbka.org.uk
2. Larval morphology: <http://www.csl.gov.uk/science/organ/environ/bee/factsheets/SHB.pdf>
3. SHB in hive next to workers: CSIRO (Australia)
<http://www.csiro.au/index.asp?type=mediaRelease&id=Prbees2&stylesheet=mediaRelease>
4. Drawing comparing adult and larval SHB: http://www.beetlelady.com/small_hive_beetle.html
5. Larvae in comb: http://www.bugwood.org/factsheets/small_hive_beetle.html