The National Honey Bee Pests and Diseases Survey is one way we are monitoring hive health. The survey has been conducted annually since 2009. One of its main goals is to search for pests and diseases not yet known to be in the United States. Specifically, researchers are looking for an Asian mite called Tropilaelaps, a honey bee species called ***Apis cerana***, and a pathogen called Slow Bee Paralysis Virus (SBPV). Fortunately, they have not found any of these threats in American honey bee colonies to date. (The European honey bee familiar to U.S. beekeepers is ***A. mellifera***.) One other emerging threat is ***Apis mellifera capensis***, the Cape honey bee, a South African subspecies also not known to be in the United States. But we live in an ever-shrinking world where pests can be whisked from one continent to another in a single cargo shipment. That's why we want our Wisconsin beekeepers to be on the lookout for these threats.

How to collect a sample

If you find anything in your hive that you suspect could be one of these pests, place samples into vials, plastic bags or wide-mouth jars. Cover them with 70% ethyl, methyl, or isopropyl alcohol or even hand sanitizer as soon as possible after collection. Label each container with location, colony number and date the samples were collected.

Other resources for beekeepers

www.BeeInformed.org
A partnership working to understand what management practices work best and how they affect honey bee health, by gathering survey data from thousands of beekeepers each season. Go online to participate.

BEE INFORMED

www.Driftwatch.org
An online registry that helps pesticide applicators, specialty crop growers (beekeepers), and stewards of at-risk habitats communicate more effectively to protect pesticide-sensitive areas. Register your apiary online.

NO DRIFT ZONE
driftwatch
Pesticide Sensitive Crops and Habitats Registry
www.driftwatch.org

Further virus testing

The National Honey Bee Pests and Disease Survey also tests samples for seven other viruses. These viruses are known to be present in the United States, and the survey monitors the levels of their prevalence:

ABPV – Acute bee paralysis, although rare, has been associated with colony losses.

IAPV – Israeli acute paralysis virus is common in some regions and has been associated with colony losses.

KBV – Kashmir bee virus is uncommon, but has also been associated with colony losses.

DWV – Deformed wing virus, associated with varroa mites, is very common.

CBPV – Chronic bee paralysis virus is rare in the United States.

LSV-2 – Lake Sinai virus-2 is in the same family as CBPV. Newly discovered, it has been found at high levels in some colonies.

BQCV – Black queen cell virus, very common, may be associated with nosema disease.

If you suspect any of these exotic pests or diseases in your hives, please call 608-224-4572 or email elizabeth.meils@wi.gov

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive
P.O. Box 8911
Madison, WI 53708-8911
http://datcp.wi.gov

ARM-PUB - 250.indd rev. 11/14

be aware:

Watch for new threats to bee colonies

As a beekeeper, you are aware of pests and diseases like varroa mite and nosema. You know that overall hive health has been declining in the United States for a number of years. Now some new threats may be on the horizon, and we need you to be our first line of defense.

Wisconsin Department of Agriculture, Trade & Consumer Protection

Apis cerana (Asian honey bee)

What it is *Apis cerana* is native to southern and southeastern Asia and has now been confirmed in northern Australia. It is well adapted to warmer climates, builds smaller colonies than ***Apis mellifera***, and swarms many times during the year. It produces less honey than ***A. mellifera***.

What it does In the tropical areas where it has been found, the Asian honey bee outcompetes European honey bees in gathering nectar and pollen, and often robs honey stores from European bees.

What to look for *A. cerana* is smaller than *A. mellifera*, but otherwise looks very similar.

Apis cerana has not been found in the United States to date.

Ken Walker, Museum Victoria

Tropilaelaps mites

What it is Tropilaelaps are parasitic mites native to tropical Asia.

There are four species of Tropilaelaps. Because they reproduce rapidly and prolifically, completing a life cycle in one week, they would pose a much graver threat than varroa mites have if they were to arrive in the United States. Unlike varroa mites, Tropilaelaps mites attack only brood, because their mouth parts are not strong enough to penetrate an adult honey bee's body.

What it does Tropilaelaps cause damage similar to varroa mites -- developmental deformities, infections and death. Their parasitic feeding may transmit viruses and weaken or kill brood. Infected colonies may abscond, spreading mites to new areas. Because they are such efficient reproducers, their damage would be much more extensive than that caused by varroa mites.

What to look for Tropilaelaps are reddish brown, about one-third the size of varroa mites, so they are just barely visible to the naked eye. They have more elongated bodies than the wide-bodied varroa. Unlike slow-moving varroa mites, they scurry very quickly over brood combs from cell to cell.

Tropilaelaps have not been found in the United States to date.

Zachary Zang, http://cyberbee.net

Apis mellifera capensis (Cape honey bee)

What it is *Apis mellifera capensis* is a South African honey bee subspecies, and is a serious problem for beekeepers there, who generally prefer ***Apis mellifera scutellata***. Unlike other honey bee races, Cape honey bee workers can produce female offspring; these offspring are clones of their worker mothers. Beekeepers in one very specific region of South Africa prefer this species, because it is uniquely adapted to the regional flora. Because they are specialized foragers, Cape honey bees often perform poorly when taken outside this region.

What it does In South Africa, workers and drones of this subspecies drift between colonies, regardless of the species of the colony, and parasitize the colony. The parasitized colony often dwindles and dies. The workers produce their own females, and may hybridize with ***A. m. scutellata.***

What to look for *A. m. capensis* looks very similar to ***A. mellifera***. Signs may include many dark bees inside the hive, but not flying, and multiple eggs in worker cells. Diagnosing its presence may require morphometric techniques or genetic analysis.

Apis mellifera capensis has not been found in the United States to date.

© Per Kryger au.dk

Slow bee paralysis virus (SBPV)

What it is This virus is associated with and transmitted by varroa mites. Even in regions of the world where it has been found, it is rare.

What it does Adult bees infected with SBPV develop paralysis in the two front pairs of legs a few days before dying. The virus may be detected in larvae and pupae, but produces no symptoms.

What to look for Adults with paralysis in the two front pairs of legs.

Slow bee paralysis virus has not been found in the United States to date.

Stephen Ausmus, USDA Agricultural Research Service