



Source: USDA.

### Varroa mites

Varroa mites are to bees what ticks are to dogs, a dangerous pest that can compromise the health of the host. Varroa mites attach themselves to the body of bees. Mites are spread when infested bees visit flowers or when hives are stacked one upon the other.

In 2013 the Entomology Lab began the first ever honeybee health survey in the region with funding provided by USDA-APHIS. The varroa mite was found in samples from two hives on Guam and those colonies were destroyed. The survey found a high percentage of mites on honey bee samples from Saipan and Tinian.

Honey bee populations worldwide are in decline due to several causes including varroa mite infestations, pesticide use, and diseases. Because of this, the importation of honey bees is prohibited on Guam.



Source: Olympia Terral.



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### For more information

Entomology Lab  
College of Natural & Applied Sciences  
Dean's Circle, House 35, University of Guam  
UOG Station  
Mangilao, Guam 96923  
Phone: (671) 735-2068  
Fax: (671) 734-4600  
<http://cnas-re.uog.edu/bees/>

Guam Beekeepers Association  
President: Chris Rosario  
Contact: (671) 487-1640  
Email: [rosarioc1640@gmail.com](mailto:rosarioc1640@gmail.com)

The Guam Beekeepers Association meets the last Wednesday of the month on the UOG campus. Several members are available for feral hive extractions. If you see a feral hive or swarm of bees, please contact Chris Rosario at the number above.

### References

Attfield, H. A. 2001. *Beekeeping Guide for the Tropics and Subtropics*.  
Crane, E. 1999. *The World History of Beekeeping and Honey Hunting*.  
Root, I. R. 1990. *The ABC and XYZ of Bee Culture*.

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# Honey Bees on Guam



Source: Olympia Terral.

## Scientific Name

*Apis mellifera*

## Common Name

honey bee



Source: Olympia Terral.

### Where are bees from?

It is believed that *Apis mellifera* originally came from Africa and then spread throughout Europe and the Near East. Honey bees are now found throughout the world and are commercially exploited for their honey and for crop pollination services. Honey bees are social insects designed to work together to eat, drink, clean, and raise their young. Honey bees cannot survive living alone or even in a small group.

### How did they get here?

Brought from Hawaii, honey bees were first introduced on Guam in 1907. (Crane, 1999.)

### What do bees need?

Bees need water, nectar, pollen, and a place to live that is safe from predators and pesticides.

### What do beekeepers need?

To keep bees it is necessary to have a hive where the bees can live and some specialized equipment. A bee veil protects the neck and face from stings while gloves protect the hands.



A smoker is used to distract the bees. When bees smell smoke, they begin to fan the hive as a defensive response to the presence of fire. This keeps them busy while the beekeeper checks the hive.

A hive tool is useful for prying apart the hive boxes and frames and a soft brush is helpful for brushing the bees off the honeycombs.



Beekeepers need access to a pesticide-free area so that their bees can safely forage for pollen and nectar.

### Life cycle

Honey bees have four life stages: egg, larvae, pupa, and adult. Of all the insects, only honey bees can precisely control the temperature of the hive and thereby control the time it takes for each stage of development.

### Development time for honey bees in days

	Egg	Larva	Pupa	Adult
Queen	3	6	7	16
Worker	3	6	12	21
Drone	3	6	15	24

Source: ABC and XYZ of Bee Culture.



Source: Waugsberg, WikiCommons.

Left to right: drone larvae at prepupa then pupa stage. The developing drone spends 3 days as an egg, 6 days as a larva, and 15 days as a pupa. It takes a drone 24 days to become an adult bee.



Worker Bee



Queen Bee



Drone Bee

Source: Alex Wild.

Worker bees are always female as is the queen. There is only one queen per hive and she lays all the eggs. Drones are male and their sole purpose is to mate with a virgin queen. In times when there is a lack of food or water, the worker bees will not feed the drones and may drive them away.