



## Bugs Around Your House

### Honey Bees

(Scientific name: *Apis mellifera*;  
Family: Apidae; Order: Hymenoptera)

MICHIGAN STATE  
UNIVERSITY  
EXTENSION

**Description** Honey bees in North America are an introduced species, brought here by the first settlers. Workers are about 3/4 inch long, typically of the color shown in the picture (below left), though sometimes they are darker. We do not have the highly defensive Africanized bees (often unfairly called "Killer bees") in Michigan, so do not panic if you see bees. Honey bees attack only when their nests are threatened or sting when we step on one with no shoes on. Honey bees do not come to picnic tables trying to share our fruit juice or meat -- those are invariably yellowjackets.



A worker honey bee inspecting another. Photos by Zachary Huang.



An exposed honey bee nest, which is quite rare in Michigan.

**Behavior and biology** Most bees live inside man-made boxes called beehives, although wild, unmanaged honey bees may be slowly coming back after varroa mites essentially wiped them out, beginning in the late 1980s. These feral colonies may nest inside tree cavities, abandoned trailers, and occasionally inside wall cavities or attics. Honey bees are highly social and do not have an annual cycle. The whole colony overwinters by clustering together, producing heat by shivering their flight muscles. In the spring and early summer (May and June) their nest cavity (or hive) becomes too small to hold their population, so the one big family divides into two, with the old queen and about 30 to 60% of the workers taking off for a new location. This process is called swarming and the 6,000 to 20,000 workers with their queen are called a swarm. The swarm often is located not far from the original colony (20 to 60 ft), often on a tree branch, occasionally on a truck or near a house. This is only their **temporary** location. They can leave the same day or at most 5 days later (in bad weather), and move into a new cavity. Rarely you see one that fails to find a cavity and forms an open nest on the tree branch or under eaves, as depicted above right). At the old location, a new queen emerges, mates with drones after about a week and starts egg laying inside the colony. Once she starts laying eggs (about 2,000 per day), she remains in the nest again until the colony swarms. In Michigan this usually means the next year.

**The most important pollinators** The most important function that honey bees perform for us is not honey production but rather the pollination of fruits, vegetables, wildflowers and garden plants. The most recent estimate put the value of crops requiring pollination by honey bees at around \$14 billion per year in the United States. In Michigan, many fruits and vegetables that rank in the top 10 nationally in production (e.g. apples, cherries, blueberries, peaches, pears, strawberries, cucumbers and squash) all depend on honey bee pollination, for either fruit set or better yield and quality. The total value of these crops in Michigan is estimated at \$290 million per year. With the production of honey (7.6 million pounds, valued at \$5.7 million) and other products (pollen, beeswax and propolis), the total contribution of bees to Michigan's economy is easily over \$300 million per year.

**Control and prevention** Swarms are very docile and will move away in a few days. Remove or kill honey bees if they are nesting inside your house and causing stinging incidents. Unfortunately, if they are nesting inside a wall, simply killing them is not enough. The honey left behind will attract other insects or run into the house when wax melts during the hot summer (when bees are there, they maintain the temperature so the wax does not melt). Therefore it is important to open the siding and walls and remove all honey, brood and wax. To prevent bees or other insects from nesting again, fill the cavity with insulation or other material and seal the holes and cracks. If it involves removing sidings or structures, most beekeepers would not do it for free. Special pest removal might charge \$150 to \$300 for such a job. Do not attempt to remove a live honey bee colony unless you are trained and have protective clothing.

Disclaimer: This fact sheet is for information only. Mention of products does not indicate endorsement. Prepared by Zachary Huang, Department of Entomology, Michigan State University, East Lansing, MI 48824, USA. Email: bees@msu.edu.

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