



## *Stinging Insects: Honey Bees*



Honey bee gathering nectar and pollen, Jerry A. Payne, USDA ARS [www.insectimages.org](http://www.insectimages.org)

**Common name:** Honey bees

**Scientific name:** *Apis mellifera*

**Size:** male (drone): 5/8 inch long; female (worker): 3/8 to 5/8 inch long; queen: 3/4 inch long

**Commonly confused with:** yellow jackets, wasps and hornets

### **Distinguishing marks:**

- males are robust with large compound eyes
- queens are elongate and rarely seen
- workers are most commonly seen
  - variety of colors from yellow to black
  - solid or striped abdomen, often with bands
  - often seen carrying pollen on their hind legs

**Distribution:** temperate, subtropical and tropical areas worldwide



Honey bee swarm in a pine tree, David J. Moorhead, University of Georgia [www.insectimages.org](http://www.insectimages.org)

**Habitat:** Wild nests are found in hollow trees and manmade structures. Colonies managed by beekeepers are typically kept in wooden hives and may be found in urban, suburban and rural settings. Workers visit flowers in meadows, open woods, agricultural areas, yards and gardens.

**Life cycle:** Honey bees are highly social, usually consisting of a single queen, between 6,000 and 60,000 workers, and a few hundred to a few thousand drones. Colonies are perennial, usually surviving for several years. At the beginning of the spring, the population of the colony is low. However, as the queen lays eggs, and the workers forage for pollen and nectar to feed the developing brood, it grows through the summer.

Colonies reproduce by swarming, which typically occurs in May or June, but occasionally in September or October. A swarm consists of the original queen and several thousand workers. A swarm will cluster on a branch near the original nest while scouts seek a new, permanent location. This may take a few hours or a few days. Rarely, a swarm will build a new nest where it first alights. Honey bees prefer to nest in hollow cavities of trees, but manmade structures are commonly selected as well. All individuals within a colony, except the drones, survive the winter on stored honey.

**Damage:** Honey bees nesting in the wall of a house or building present two problems. First they pose a stinging hazard. Second, they can cause structural or aesthetic damage. If the colony is killed or dies, honey may ferment and create a nuisance odor. The wax comb may sag or melt, and honey may flow from the combs and damage drywall and plaster.

**Benefits:** Honey bees provide pollination for over 90 commercially grown crops as well as many wild plants. It is estimated that honey bee pollination adds \$14.6 billion per year to agricultural output in the US. They also provide over 200 million pounds of honey, as well as a variety of other products such as beeswax, pollen and propolis.

**Management:** The presence of a swarm in your backyard may be alarming; however, bees in a swarm are unlikely to sting. As long as the bees pose no immediate hazard, wait three days before seeking abatement. The bees will most likely move on in that time and save you the expense of removal. If control is desired, call your local extension office to see if they have a list of beekeepers interested in swarm collection. A professional pest control operator can also remove the swarm.

Honey bees nesting in a wall of a house or other valuable structure should be removed. Simply killing them will leave the structure susceptible to damage. Removal of honey bees from a building should be done by a professional and may involve a pest control operator, a beekeeper and a carpenter. For personal safety, do not approach wild nests and stay out of areas where commercial hives are kept.

There is a growing concern about Africanized honey bees, however, these bees are currently limited to parts of the southwest. They can be found in California, Arizona, Nevada, New Mexico and Texas. Hikers should be especially attentive when traveling in these areas.

**Sting:** Honey bees can be defensive around their nest, and they often defend in large numbers. If this happens, it is best to cover your face with your hands and carefully move in a straight line away from the nest. Unlike other stinging insects, honey bees have a barbed stinger that remains in its victim after stinging. If stung, remove the stinger as soon as possible by scraping it out with a fingernail or credit card. If you are stung, cooling the area with ice may be soothing.

**Remember!** Insect stings can elicit a life-threatening, allergic reaction in some individuals. Check with your physician to determine what symptoms require a visit to the emergency room. Never attempt any control measure if you have a known allergy to insect stings.

**Further sources:** Seeley, T.D. 1996. *The Wisdom of the Hive: The Social Physiology of Honey Bee Colonies*. Belknap Press, 309 pages.

Winston, M.L. 1991. *The Biology of the Honey Bee*. Harvard University Press.

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