



## Entomology Insect Information Series

**Providing Leadership in Environmental Entomology**

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### BALDFACED HORNETS

Known for large nests and a defensive nature, baldfaced hornets are an impressive and often misunderstood members of the wasp family. Contrary to the name, the baldfaced hornet is not a hornet. It is actually one of the many types of yellowjackets found in the United States. The baldfaced hornet is often confused with a similar-sized wasp, the European hornet, which is the only true hornet in North America. In nature, baldfaced hornets are extremely valuable because they kill many pests including flies, caterpillars, and spiders. It is only when their nests are located near areas of human activity that they pose a threat to people.

**Appearance.** Baldfaced hornets are different from other yellowjackets because of their white-and-black color as opposed to the more typical yellow-and-black pattern. The most notable feature of this wasp is the white or “baldface” head. They also have three white stripes on the end of their body. Compared to other yellowjackets, baldfaced hornets are extremely large. Adult workers vary in size, but average about 3/4 inch long. Queens look similar to the workers and are only a little larger.



**Habits.** Baldfaced hornet nests are made up of one queen and many female workers. During early spring (April-June) mated queens emerge from protected sites, such as stumps, logs, and under loose bark.



Once she finds a suitable location, a queen begins construction of a paper nest, lays eggs, and collects prey to feed her growing young. After the first generation of wasps complete development and emerge as winged adults, they assume the duties of building and maintaining the nest, and foraging for food, water, and care for the colony. Colonies often average about 400 workers, but can vary in size from 100-700. In early July to September, new queens and males are produced. The males and queens will leave the nest, mate and the new queens will find a suitable protected site to overwinter. The original queen and workers die after the males and future queens leave the nest. In most cases, abandoned nests are not reused and often decompose during the winter. Nests that have been reused have only been seen in more tropical areas of North America.

Baldfaced hornet nests often hang in trees and shrubs where they go unnoticed until the leaves have dropped in the fall. Nests can also be built on eaves of buildings, on windows, in attics or on other artificial structures. They are often pear or egg-shaped and can be as large as 14 inches in diameter and over 23 inches in length. Nests are constructed of multiple layers of hexagonal combs, similar in shape to those of honeybee nests and covered in a mottled gray paper envelope. The raw materials for the “paper” are from vegetable fibers, such as rotten or weathered wood, dead plants, or even man made materials such as cardboard and

newspaper. The fibers are chewed and mixed with saliva to make a pulp which is then formed into place.

The sting of a baldfaced hornet is similar to most other social bees and wasps. A typical reaction includes immediate pain and/or swelling at the sting site. Other sensations may include burning and itching. For some individuals the initial swelling may be painful and increase to affect a larger area. One unique behavior of baldfaced hornets is the ability to squirt venom from the stinger into the eyes of nest intruders. The venom causes immediate watering of the eyes and temporary blindness.

Most social wasps vigorously defend their nests from perceived threats. Baldfaced hornets are known for their defensive behavior. People are often stung when they accidentally stumble upon a hidden nest or when the nest is located in areas adjacent to homes or places where there is human activity. It is when nests are located close to areas with human activity or there is a medical threat to persons who may be allergic to venom that control is warranted.

**Control.** Effective control involves treating the nest. The nest should be located during daylight hours, but treatment should occur at night when wasp activity is less and most of the baldfaced hornets have returned to the nest. Lights used to illuminate the nest should not be directly held by a person. The light source should point toward the nest, but away from the person treating. Thick protective clothing, including boots, gloves, hat and eyewear should be worn to guard against stings. There are many types of insecticides that will kill baldfaced hornets. Generally, aerosol sprays labeled for wasps and hornets, that shoot a long stream of insecticide, are a good choice. Many aerosol products contain materials useful in getting a quick "knockdown", while others containing foaming agents that expand

within the nest to spread the insecticide, minimizing the number of wasps escaping the nest. Insecticidal dusts also can be applied into the nest, however they may take several hours to achieve the desired result and require the applicator to get close to the nest. When treating any material, a sufficient amount of insecticide should then be applied directly into the nest entrance to ensure thorough coverage. Once the insecticide has been applied, it is helpful to leave the nest intact for a few days to allow time to kill all the workers and newly emerging wasps. When control has been achieved, the nest should be removed, and placed in a sealed plastic garbage bag and properly disposed. Nests treated with insecticides should not be kept for display purposes.

Treating baldfaced hornet nests can be tricky and dangerous. If a nest of baldfaced hornets is not threatening people, it should be left alone, to be killed naturally during the winter. If a nest must be controlled, homeowners should seriously consider hiring a pest control professional with expertise in killing and removing baldfaced hornets and their nests.

*For other publications in our Entomology Insect Information Series visit our web site at <http://entweb.clemson.edu/cuentres/eiis/index.htm>.*

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