



THE Bee-Files

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Stinging Insects: Bald-Faced Hornets and Aerial-Nesting Yellow Jackets



Adult yellow jacket
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Common name: Bald-faced hornets and aerial-nesting yellow jackets; also, see “yellow jackets”

Scientific name:

- Bald-faced hornet: *Dolichovespula maculata*
- Aerial-nesting yellow jacket: *Dolichovespula arenaria*

Also known as: white-faced hornet, bald-faced yellow jacket

Size: 5/8 to 3/4 inch long

Commonly confused with: honey bees, solitary bees, ground- and house-nesting yellow jackets, and hornets

Distinguishing marks

- Bald-faced hornet
 - black and white patterns on face, thorax, abdomen, and first antennal segment
 - mostly hairless
- Aerial-nesting yellow jacket
 - smaller than the bald-faced hornet
 - hairless body
 - abdomen black with yellow stripes and markings

Distribution: throughout North America

Habitat: meadows, forest edges, and lawns



Bald-faced hornet nest
Nicholas Calderone

Life cycle: Bald-faced hornets and aerial-nesting yellow jackets are social insects with annual nests. In both species, a solitary queen emerges from hibernation in the early spring. She builds a golf-ball sized nest using chewed wood pulp and raises the first generation of workers on her own. After they emerge, the workers collect food for the next generation of developing workers, while the queen restricts herself to laying eggs. Larvae are fed pre-chewed insects caught by adults, while adults feed on nectar and fruit pulp.

The nest consists of several tiers of comb covered by a round, paper casing with an entrance at the bottom. Nests are typically located about 10 to 12 feet high in tree or shrub branches, although they may be built on the sides of houses. The nest structure grows rapidly since workers continually add to the paper nest as the population grows. As fall approaches, colonies produce males and new queens, which leave the nest to mate. Newly mated queens burrow into the ground where they spend the winter. The workers, males, and the old queen perish in the fall. Nests are not reused.



Yellow jacket eating sugary flesh of a peach, Jerry A. Payne, USDA ARS www.insectimages.org

Damage: The bald-faced hornet causes little agricultural or structural damage. Yellow jackets and bald-faced hornets become very numerous towards the end of summer and may be persistent, unwelcome guests at picnics, where they scavenge for food.

Benefits: Both bald-faced hornets and aerial-nesting yellow jackets control many harmful insects, such as crane flies, flies and caterpillars.

Management: Bald-faced hornets and aerial-nesting yellow jackets should not be killed unless they pose a risk. Nests that are high in trees need not cause concern unless someone in the vicinity is allergic to their stings. If a nest is in a low-traffic area, it may be possible to mark off a warning-zone to alert people to its presence. Nests in high-traffic areas may require treatment.

If control is necessary, apply an approved insecticide directly to the nest opening. Use an approved "Wasp & Hornet" spray that propels a stream of insecticide 15-25 feet. Treatment is most effective in the evening when most of the insects are in the nest. Be sure to dress appropriately. Wear eye protection, a long-sleeved shirt, long pants and boots, and secure your sleeves and pant legs. Establish an unobstructed escape route, and be ready to move quickly away from the area in case any of the insects fly towards you. You may need to repeat the treatment two or three times on consecutive evenings. Do not illuminate the nest, as that will make the insects more active and may attract them to you. If you require illumination, use a flashlight covered with red cellophane for light - wasps cannot see red. You may want to call in a professional, since there is a risk of being stung.

If yellow jackets are present, avoid using perfume or cologne, and do not wear bright colors, as they are attracted to anything that looks or smells like a flower. At picnics, keep all food and drink covered, except when actually serving or eating. Be careful when drinking from a can or bottle, as you may swallow a yellow jacket and receive a sting in the throat. Always keep trash containers covered.

Sting: Both the bald-faced hornet and the aerial-nesting yellow jacket are protective and will sting repeatedly if their nests are disturbed. They do not usually sting when away from the nest. Unlike honey bees, these insects have a smooth stinger and can sting repeatedly. Also, the venom of these wasps is different from that of bees, and may elicit a more painful sting. Check your shrubs for nests before pruning or gardening. 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.



Bald-faced hornet nest under an eave of a house www.unexco.com

Further sources: Akre, R.D., A. Greene, J.F. MacDonald, P.J. Landolt, and H.G. Davis. 1980. *Yellow jackets of America North of Mexico*. U.S. Department of Agriculture, Agriculture Handbook No. 552, 102 pp.

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