

Wasp and bee control

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Wasps and bees are beneficial insects, although they are generally considered to be pests because of their ability to sting. Wasps, in particular, can become a problem in autumn when they may disrupt many outdoor activities. People often mistakenly call all stinging insects “bees.” While both social wasps and bees live in colonies ruled by queens and maintained by workers, they look and behave differently. It is important to distinguish between these insects because different methods may be necessary to control them if they become a nuisance.

Appearance

Wasps have a slender body with a narrow waist, slender, cylindrical legs, and appear smoothed-skinned and shiny. Yellowjackets, baldfaced hornets, and paper wasps are the most common types of wasps encountered by people (**figs. 1, 2, 3**).

Bees are robust-bodied and very hairy compared with wasps (**figs. 4, 5**). Their hind legs are flattened for collecting and transporting pollen. Bees are important pollinators. Honey bees are responsible for more than 80% of the pollination required by most fruits, legumes, and vegetable seed plants as well as many ornamentals that are grown in our landscapes. Bumble bees are important pollinators of native prairie plants.

Food preferences

Wasps are predators, feeding insects and other arthropods to their young, which develop in the nest. They are beneficial because they prey on many insects, including caterpillars, flies, crickets, and other pests. During late summer and fall, as queens stop laying eggs and their nests decline, wasps change their food gathering priorities and are more interested in collecting sweets and other carbohydrates. Some wasps may become aggressive scavengers around human food and may be common around outdoor activities where food or drinks are served.

Bees feed only on nectar (carbohydrates) and pollen (protein) from flowers. Honey bees sometimes visit trash cans and soft-drink containers to feed on sugary foods.

Nesting sites

Yellowjackets, baldfaced hornets, and paper wasps make nests from a papery pulp comprised of chewed-up wood fibers mixed with saliva.

Yellowjacket and baldfaced hornet nests consist of a series of rounded combs stacked in tiers. These combs are covered by an envelope consisting of several layers of pulp (**fig. 6**). Paper wasps



Fig. 1: Yellowjacket



Fig. 2: Baldfaced hornet



Fig. 3: Paper wasp



Fig. 4: Honey bee



Fig. 5: Bumble bee

construct only one comb without any protective envelope (**fig. 7**). These insects are sometimes known as umbrella wasps because of the shape of their nest.

Yellowjackets, baldfaced hornets, and paper wasps nest in quiet, out of the way places. Unfortunately, in urban areas this may conflict with people and their interests.

Yellowjackets commonly build nests below ground in old rodent burrows or other cavities (**figs. 6, 9**). They can also build nests in trees, shrubs, under eaves, and inside attics or wall voids (**fig. 10**). Baldfaced hornets commonly build nests in the open in trees (**fig. 8**) as well as under eaves and along the sides of buildings.

Paper wasps build nests under any horizontal surface and are commonly found on limbs, overhangs, eaves of buildings, beams and supports in attics, garages, barns, sheds, and other similar places (**fig. 7**).

Honey bees make a series of vertical honey combs made of wax. Their colonies are mostly in manufactured hives but they do occasionally nest in cavities in large trees, voids in building walls, or other protected areas.

Bumble bees use old mice burrows, cavities in buildings, and other locations to make their nests. Like honey bees, bumble bees make cells of wax.

Life cycle of wasps and bees

Wasps and bumble bees have **annual** colonies that last for only one year. The colony dies in the fall with only the newly produced queens surviving the winter. The new queens leave their nests during late summer and mate with males. The queens then seek out overwintering sites, such as under loose bark, in rotted logs, under siding or tile, and in other small crevices and spaces, where they become dormant. These queens become active the following spring when temperatures warm. They search for favorable nesting sites to construct new nests. They do not reuse old nests.

Honey bees are **perennial** insects with colonies that survive more than one year. Honey bees form a cluster when hive temperatures approach 57° F. As the temperature drops, the cluster of bees becomes more compact. Bees inside this mass consume honey and generate heat so that those in the cluster do not freeze. As long as honey is available in the cluster, a strong colony can withstand temperatures down to -30° F. or lower for extended periods.

Wasp and bee stings

Wasps and bees sting to defend themselves or their colony. Stinging involves the injection of a protein venom that causes pain and other reactions.

Wasps and bumble bees can sting more than once because they are able to pull out their stinger without injury to themselves. If you are stung by a wasp or bumble bee, the stinger is not left in your skin.

Honey bees have barbs on their stinger which remain hooked in the skin. The stinger, which is connected to the digestive system of the bee, is torn out of the abdomen as the bee attempts to fly away. As a result, the bee soon dies. If you are stung by a honey bee, scratch out the stinger (with its attached venom gland) with your fingernail as soon as possible. Do not try to pull out the stinger between two fingers. Doing so only forces more venom into your skin, causing greater irritation.

Most people have only local reactions to wasp and bee stings, although a few may experience more serious allergic reactions. Local, nonallergic reactions range from burning, itching, redness, and tenderness to massive swelling and itching that may last up to a week. These local reactions can be treated with ice, vinegar, honey, meat tenderizer, or commercial topical ointment to relieve the itching.

An allergic reaction may include hives or rash, swelling away from the sting site, headache, minor respiratory symptoms, and stomach upset. These allergic reactions *are not life-threatening* and can be readily treated with an antihistamine.

Very rarely, a person may suffer a life-threatening, systemic allergic reaction to a bee or wasp sting, which can cause anaphylactic shock (fainting, difficulty breathing, swelling, and blockage in the throat) within minutes of being stung. These systemic symptoms are cause for immediate medical attention. People with known systemic allergic reactions to bee or wasp stings should consult with their physician to obtain an Epi-Pen™ or Ana-Guard Sting Kit™ to carry with them at all times. The venoms of bees and wasps are different, so having a severe reaction to a wasp sting does not mean a person will have the same reaction to a bee sting.

Control of nests

The first step in wasp or bee control is to correctly identify the insect and locate its nesting site. An experienced pest control service may provide wasp or bee control service or you can use the following information to attempt to control them yourself.

Wasps

The best time of the year to control wasps is in June after the queen has established her colony and while the colony is still small. But because nests are small, they are also harder to find. The best time of the day to control wasp nests is at night, when they are less active. At temperatures below 50° F, wasps have difficulty flying. Never seal a wasp nest until you are sure there are no surviving wasps inside. If a nest is not discovered until fall, control may be unnecessary as imminent freezing temperatures will kill the colony.

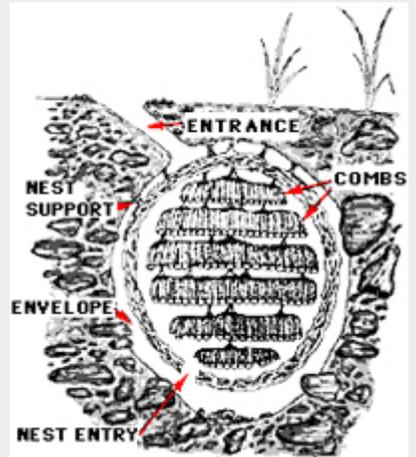
Exposed wasp nests (Figs. 7, 8)

Wasp nests that are visible but are not near your home or areas of human activity do not need to be treated. If they are not disturbed, the wasps won't bother you.

Nests that are near human activity can pose a potential problem. If there is a concern about stings, you should eradicate the nest.

Apply a ready-to-use aerosol “wasp and hornet spray” into the entrance of the nest during late evening according to label directions. If no activity is observed the next day, the nest has been successfully exterminated. If live wasps are still observed, repeat the treatment at three-day intervals until they are all dead.

Mechanical control without insecticides is possible for small, exposed nests. At night, cover the nest with a large, heavy, plastic bag and seal it shut. Cut the nest from the tree and freeze it or let the bag sit in the sun, which will kill the wasps inside in a day or two. Use caution: there is more risk involved in this procedure than in spraying the nest.



Arthur Antonelli, Washington State

Fig. 6: Cutaway view of underground yellowjacket nest



Fig. 7: Paper wasp nest



Roger Akre

Fig. 8: Baldfaced hornet nest



Fig. 9: Yellowjacket nest in lawn

Ground wasp nests (Figs. 6, 9)

When yellowjackets are found nesting in the ground, first try pouring a soap and water solution into the entrance. Many types of soap will work, including dish and laundry soap.

If that doesn't work, apply an insecticide into the nest opening. Be sure you use a product that is cleared for use in lawns or soil. Dusts are more effective than liquid insecticides because liquids do not always reach the nest. After you are sure all the wasps have been exterminated, cover the nest entrance with soil.

When treating ground-dwelling wasp nests, use **one** of the following insecticides:

- carbaryl (e.g. Sevin) as a dust
- chlorpyrifos (e.g. Dursban) as a dust
- carbaryl (e.g. Sevin) as a liquid concentrate
- acephate (e.g. Orthene) as a liquid concentrate
- diazinon as a liquid concentrate

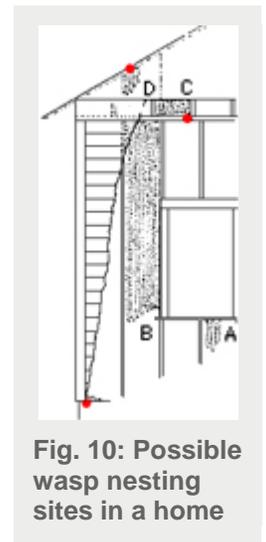


Fig. 10: Possible wasp nesting sites in a home

Concealed wasp nests (Fig. 10)

The most challenging nests to control are those that are concealed in voids behind walls or in attics. Often, the only evidence of the nest is wasps flying back and forth through a crack or hole in the home.

Aerosol insecticides usually do not work very well against hidden nests. The best method is to apply a small amount of insecticidal dust (dusts are less commonly available in stores than aerosols; be sure any dust you plan to use is labelled for use in homes). You may need to drill small (about 1/8 inch) holes to deliver the insecticide into the nest area. If the product you are using does not have a built-in applicator, you can use a plastic container with a tube tip or spout, such as an empty liquid detergent bottle, to "puff" the product into the void.

When treating wasp nests hidden in building voids, use **one** of the following insecticide dusts:

- bendiocarb
- chlorpyrifos
- boric acid (will be slow acting)

If you would rather hire someone experienced to exterminate a wasp nest, talk to a reliable pest control service.

Concealed nests that are treated in the fall may force wasps into the home. If there is no immediate danger, it may be best to wait until freezing temperatures kill the nest. Do not seal the nest entrance until you are sure all wasps are dead. Closing the nest too early can force survivors into your home. When the wasps are dead, seal the entrance with caulk or something similar to prevent a new wasp queen from using the same entrance to build a new nest next year.

In Figure 10 at the right, A = new colony just starting between the studding, B = long established colony between the studding, C = colony between the ceiling joists, D = colony in the attic, and the red dots = possible points of entrance.

Old wasp nests

Wasp nests found during winter or early spring are old nests from the previous summer. There are no live wasps in the nest; they have already left the nest or died inside it. The nest can be safely removed and disposed of if desired. Old nests are not reused by wasps, so there is no risk if one is left. However scavengers, such as carpet beetles, are attracted to an old nest and may become a nuisance if the nest is in your home.

Honey bee nests

Honey bees are normally housed in manufactured hives and managed by beekeepers. In some instances wild colonies of honey bees may nest in hollow trees or in wall voids. Honey bees may become a nuisance in the spring at bird feeders and swimming pools as they forage for water. They seldom, if ever, are a nuisance in summer or early fall.

Wild colonies can be treated with the same insecticides and methods as described for exposed or concealed wasp nests. Combs inside buildings should be removed and destroyed to avoid problems with honey-stained damage to walls and secondary pest problems, such as carpet beetles, and attracting bee swarms in the future. Never use honey or wax from colonies that have been treated with an insecticide. Control of honey bee nests can be challenging. Consider hiring an experienced pest control service if a honey bee job appears too difficult.

Bumble bee nests

When a bumble bee nest is a nuisance, treat it with the same insecticides and methods as described for ground-nesting or concealed wasp nests.

Ground-nesting bees

There are other types of bees you may encounter that do not form colonies. Solitary andrenid bees are common ground-nesting bees. They are also important pollinators of native plants. They usually nest in sun-exposed, dry areas of yards. Although there is just one bee per nest, many of these bees typically nest close to each other. They are usually most conspicuous to the public during spring. Although many ground-nesting bees may be found flying around their nests in the spring, they are gentle and very rarely sting people.

Sprinkling the area of their nests with water may be enough to encourage them to move as they avoid damp areas. The same insecticides that control ground-nesting yellowjackets and bumble bees are effective against andrenid bees.

Wasps and outdoor activities during late summer and fall

During late summer and fall, yellowjackets become aggressive scavengers and frequently disrupt outside activities where food or drink is served. Control of scavenging wasps is difficult, as there are no insecticides that effectively repel or discourage them.

The best strategy is to minimize attracting them. Wait to serve food and drink until people are ready to eat. Promptly put away food when done and throw garbage into a container with a tightly fitting lid. Examine glasses, cans, and other containers before drinking from them to check for wasps that may have flown inside. If a wasp flies to your food, wait for it to fly away or gently brush it away. If only a few yellowjackets are bothering your activity, ignoring them or capturing them with a net and crushing them may be sufficient. Traps may catch a considerable number of wasps, but not enough are captured to noticeably reduce the wasp population in the fall.

Using insecticides

Always read pesticide labels carefully before buying and again before using. The availability and use of particular pesticides may change from year to year. The label is the final authority on how you may legally use any pesticide.

Insecticide names listed here are common names of active ingredients available for wasp control. You will find these insecticide names on the label under the heading Active Ingredients. These names are often listed in fine print, so look carefully