

Removing Stingers From Golf Courses

Wasps, Hornets and Yellow Jackets Endanger Golfers' Health And Their Enjoyment of the Game

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Wasps — including paper wasps, hornets and yellow jackets — are a common problem on golf courses. They annoy outdoor diners, pose a hazard to golfers and grounds workers, and present a potential liability. Many people die each year from allergic responses to their painful stings. These insects are far more dangerous and unpredictable than honeybees, and the process of eliminating their nests should be undertaken with great care. Folk remedies such as dousing the nest with gasoline or a water hose seldom work and may result in multiple stings.

On the other hand, wasps generally are beneficial because they prey on other insects, including caterpillars and other pests. There usually is no need to control a hornet nest located high in a shade tree or a paper wasp nest on a remote eave of a building. Unless it poses an immediate hazard, the best option usually is to leave the nest alone. Control may be warranted when nests are near areas of human activity.

General Biology and Habits

Most wasps are social insects that live by the hundreds or thousands in nests or colonies. Mated queens spend the winter under bark or in other sheltered locations. In spring, the queen begins a small nest of paper material made from chewed wood fibers and saliva. The nest reaches its maximum size by late summer. After mating flights, the young queens seek out overwintering sites, and the main colony dies off.

Paper Wasps

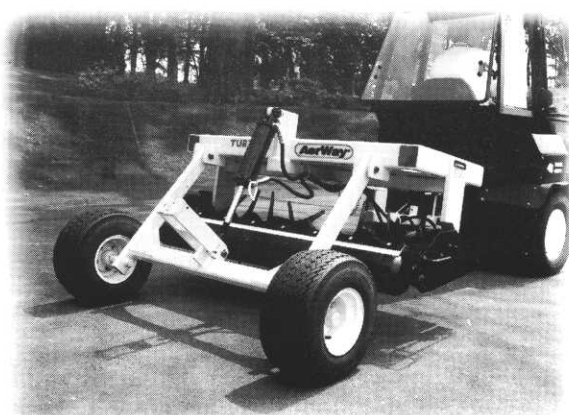
Paper wasps (*Polistes* species) typically build their umbrella-shaped nests under eaves and ledges of buildings, or sometimes in shrubs or hedges. Adults are narrow-bodied, brownish with yellow or reddish markings and about 5/8 to 3/4 inch long. Paper wasps are less aggressive than hornets or yellow jackets. They're fairly easy to eliminate with the wasp and hornet sprays sold at grocery or hardware stores. These products often can be sprayed from as far away as 20 feet.

Although it is safest to treat all wasps at night, paper wasps can be controlled during daytime provided that you do not stand directly under the nest during treatment. Most

wasp sprays cause the insects to drop, so standing under the nest increases the chance of being stung. Wait a few days after treatment to ensure that the wasps have been killed, then scrape off or knock down the nest.

Hornets

Hornets are far more dangerous and difficult to eliminate than paper wasps. The baldfaced hornet (*Dolichovespula maculata*), the most common species, is 5/8 to 3/4 inches long and black, with white markings on the face, thorax and end of the abdomen. Hornet nest are made of gray,
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paper-like material and resemble a large, bloated football. Nests are typically built in trees or shrubs, on overhangs or attached to the outside of sheds or other structures. Hornet nests may contain thousands of wasps, which become extremely aggressive when disturbed. The nests are often located out of reach and should be removed by a professional pest-control firm.

Hornet nests should be treated only at night, when most hornets are inside the nest and are less active. Wear a full wasp suit and bee veil, secured at the wrists, ankles and collar. Hornet nests have a single opening, usually at the bottom, where wasps enter and exit. Apply an aerosol-type wasp and hornet spray or a dust formulation such as carbaryl (Sevin), bendiocarb (Ficam) or deltamethrin (DeltaDust) directly into the opening. An extension pole (such as the product Dustick) that allows application from the ground or from some distance away gives added safety to the applicator. Sellers of structural pest-control supplies stock such applicators. During treatment, only background lighting should be used. Do not shine a flashlight into the nest opening.

Be especially careful not to puncture or break the outer nest envelope, as this will cause the agitated hornets to scatter in all directions. Following treatment, wait several days to ensure that all of the wasps are dead before removing the nest. If active hornets are still observed, the application may need to be repeated.

Yellow Jackets

Yellow jackets (*Vespula* species) often are the most dangerous stinging wasps found on golf courses. The common name is based on their distinctive black and yellow markings. Like hornets, yellow jackets become extremely aggressive when their nest is disturbed. The nests often are located underground in old rodent burrows, especially those of chipmunks, ground squirrels or woodchucks, or beneath rocks or landscape timbers. By late summer, the nest may be a foot or more in diameter and contain thousands of wasps.

Yellow jackets also build nests in rock walls or in walls, attics, crawl spaces, garages, sheds or other structures. If the nest can be located, the colony often can be eliminated by applying an aerosol wasp spray into the nest opening. Dust formulations (such as DeltaDust, Drione, Sevin or Ficam) also are effective, provided that a hand-held duster is used to puff the insecticide into the nest opening. Inexpensive dust applicators are available from structural pest-control supply houses.

Dusts tend to be more effective than aerosols when the nest itself is located some distance from the entrance hole, as often occurs when yellow jackets construct nests in wall voids or deep within abandoned animal burrows. Insecticide dust blown into the opening penetrates farther than sprays and is also carried throughout the nest on the bodies of the workers.

Colonies should be eliminated only at night, when most of the yellow jackets are in the nest and less active. Locate the nest opening during daylight so that you'll know where to direct the treatment after dark. A full protective wasp suit should be worn. Approach the nest carefully, using indirect light. Do not shine your flashlight into the nest opening. Place the light on the ground, to one side, rather than holding it because angry wasps tend to fly toward light. Attach a long string to the hand so you can easily recover the flashlight later. If the nest is difficult to reach, call an experienced pest-control operator.

Yellow jackets' tendency to scavenge for food makes them a serious nuisance around outdoor food concessions and dining areas. These problems peak in late summer and fall, when the colonies are nearing maturity and thousands of workers are out foraging for food for the developing queens. At that time, they favor sugary foods, including fruits, ice cream, beer and soft drinks.

Outdoor diners should keep food and beverage containers covered. Yellow jackets foraging away from the nest usually are not aggressive and will seldom sting unless provoked. People should resist the urge to swat at the wasps and use care when drinking from beverage cans, which may contain a foraging wasp. Perfumes or colognes also tend to attract wasps and should be avoided.

It's important to limit wasps' access to attractive food sources. Equip trash cans with tight-fitting (preferably self-closing) lids and plastic liners, and empty and clean them often. Dumpsters and trash cans should be located away from concession, dining and other high-traffic areas. Clean up spills and leftovers promptly, but if spills have attracted large numbers of yellow jackets, wait until their activity subsides at night.

Maintaining good sanitation earlier in the summer will make these areas less attractive to foraging yellow jackets later on. A dilute solution of ammonia (6 ounces of ammonia per gallon of water) sprayed in and around trash cans and sponged onto outdoor tables and food preparation surfaces may help to repel yellow jackets. Use household ammonia, not bleach.

Yellow jacket traps of varying designs are sold at many lawn and garden stores. When properly baited and maintained, these traps (much like Japanese beetle traps) often attract and capture large numbers of yellow jackets. Unfortunately, trapping a few hundred wasps seldom results in a noticeable reduction in activity if nests contain thousands of wasps. If traps are used, position them around the periphery of the area you wish to protect; otherwise, you may attract more wasps than are trapped.

Cicada Killers and Sand Wasps

Cicada killers (*sphecius speciosus*) are very large wasps, up to 1 5/8 inch long, that resemble gigantic hornets or yellow jackets. They have a rusty-red head, amber-yellow wings and a black abdomen with pale yellow stripes. These wasps alarm golfers and homeowners because of their menacing appearance, burrowing habits and buzzing. Although cic-

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ada killers rarely sting unless handled, stepped on with bare feet or otherwise provoked, their presence may be sufficiently disturbing to warrant control.

Cicada killers prefer to nest in areas of full sun, scant vegetation and light-textured, sandy, well-drained soils. The female wasp digs numerous burrows about 1/2 inch across, 6-9 inches deep, vertical or slightly angled, with several secondary tunnels, each ending in a brood chamber. Excess soil is pushed out of the burrow, forming a U-shaped mound around the entrance. Offspring develop in the underground burrows, emerging as winged wasps the following summer.

Cicada killers often form aggregations with numerous individuals nesting in the same area. Males usually emerge first and patrol the nesting area. They buzz-bomb any intruder, sometimes hovering about or flying into a person's head or back. Fortunately, males cannot sting, and the females are quite docile and do not defend their burrows. However, the mounds themselves are unsightly and can smother patches of grass.

Sand wasps (*Bembix* species) are similar to cicada killers, but smaller. These fast-flying wasps are about 13/16 to 1 inch long and dark-colored, often with pale green markings. Sand wasps nest in sandy areas, usually in colonies. They return repeatedly to their burrows to stock their nests with various kinds of insect prey. Although these wasps aren't aggressive, they're a distraction when they

nest in golf course bunkers.

Like most wasps and bees, cicada killers and sand wasps are highly susceptible to carbanate and pyrethroid insecticides. Small infestations can be controlled by dusting the burrow openings with carbaryl, bendiocarb or deltamethrin to kill the females as they engage in nesting activities.

“Unlike a honeybee’s stinger, the wasp’s stinger is barbless; it’s not lost in the wasp’s first victim, and each wasp can inflict multiple stings.”

Broadcast spray applications are effective when many nests are present.

Emergency Aid

Wasps, especially hornets and yellow jackets, will sting if the nest is disturbed. Attacking wasps release a chemical “alarm pheromone” that causes nest mates to swarm to the defense. Unlike a honeybee’s stinger, the wasp’s stinger is barbless; it’s not lost in the wasp’s first victim, and each wasp can inflict multiple stings.

In most people, wasp stings result in localized redness and swelling. Treatment involves washing the wound to prevent infection, using an ice pack, and taking pain relievers and antihistamines orally. In the case of large, local reactions, elevation of the affected limb and rest may also be needed.

For people who are hypersensitive to wasp and bee venom, stings can be life-threatening. Sting victims should seek immediate medical attention if they experience dizziness, difficult breathing or swallowing or a general allergic reaction away from the wound site. Even if they survive this dangerous initial reaction, such persons may be at even greater risk should they receive additional stings, regardless of whether these occur weeks, months or even years later.

Sting-allergic persons should consider obtaining a prescription for syringes with epinephrine or undergoing immunotherapy, a series of injections that increase tolerance to insect venom.

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(Editor’s Note: Daniel A. Potter, Ph.D., is a professor of turf and landscape entomology at the University of Kentucky. His book, “Destructive Turfgrass Insects: Biology, Diagnosis, and Control,” is available from the GCSAA bookstore or from Ann Arbor Press. His brother, Michael F. Potter, Ph.D., is a professor in entomology Extension at the University of Kentucky. He specializes in urban and structural pest control. This article was reprinted with permission from *Golf Course Management* magazine.)



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