

Controlling carpenter ants

P.J. Pellitteri

If you see large black ants skittering around your home, they may be carpenter ants. These ants incite more complaints from homeowners than any other insect in Wisconsin. Because they nest in weakened or decaying wood, carpenter ants often get blamed for structural problems. But they do not eat wood and are normally just a nuisance.

Outdoors, carpenter ants feed on dead and live insects, and on aphid-secreted honeydew. Indoors, they are attracted to meat, honey, sugar, jelly, grease, and fats. If nesting indoors, they may be found in water-damaged or decaying wood, foam insulation, or hollow cavities such as hollow-core doors, wall voids, and even curtain rods. Outdoors, carpenter ants nest in dead or rotting trees and stumps, in landscape timbers, or in logs and boards lying on or buried in the ground.

Identification

Carpenter ants (*Camponotus* spp.) are medium to large, all-black or black-and-red ants. Workers range from $\frac{3}{8}$ to $\frac{1}{2}$ inch long, and queens grow up to 1 inch. The bodies of carpenter ants distinguish them from other ants. Carpenter ants have rounded thoraxes and only one segment, or "node," that connects the thorax to the abdomen. Other Wisconsin ants have either two segments or a thorax that is uneven in profile (see illustrations). Red, yellow, or very small ants are of different species.

Life cycle

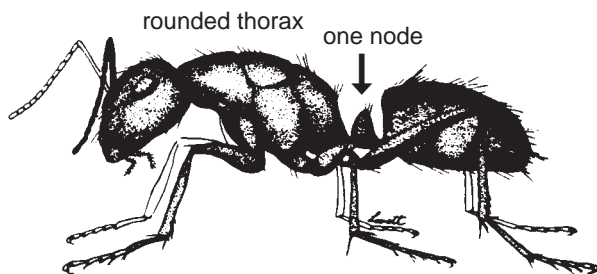
During late May or early June winged carpenter ants leave the colony in swarms to mate. After mating, the queen will tear off her wings and search for a nesting site. Having excavated a small cavity in the soil or in wood, the queen—the only carpenter ant capable of reproducing—will seal the entrance and lay 15–20 eggs. Grub-like larvae

hatch, and the queen feeds them with fluid secreted from her mouth. It takes 2–10 months for a larva to complete development, spin a silken cocoon, and emerge as a small wingless worker ant.

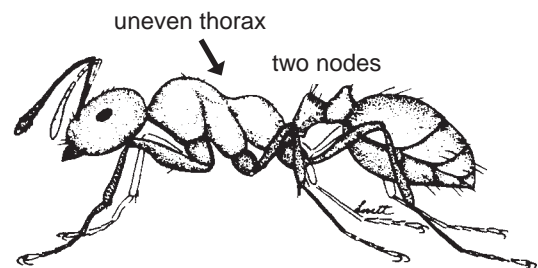
Carpenter ant queens suffer very high mortality during this early nesting phase, and over 90% of the colonies fail during the establishment of nests.

Workers born in the first brood collect food, enlarge the nest, and tend the next newborns. The larvae are helpless and depend on the workers for protection and nourishment. Adult workers (sterile females) are the ants that are seen crawling indoors. During the first 3–5 years a strong colony will grow to 2,000–3,000 individuals. It will then produce 10–400 winged ants, called kings and queens, that will emerge and swarm during the spring. If the nest is indoors, the swarm can occur anytime, even in winter. The larger the swarm, the stronger the colony.

Carpenter ant



Pharaoh ant



Damage

Carpenter ants excavate small tunnels and galleries in soft wood or foam insulation. They are smooth, clean cavities, and turn the wood to a swiss-cheese texture. The damage is minor. In most cases the real damage to the wood is caused by moisture or dry rot. Remember, carpenter ants do not eat wood; they nest in already weakened or softened wood. In the rare places where the ants excavate healthy wood, the effects are localized.

Control

It is not unusual to see a few carpenter ants in the home during the spring. They are just scouts from outdoors. However, if you see any of the following, you may have a nest in your home:

- Carpenter ants inside between November and early March;
- Large numbers of winged ants inside;
- Coarse sawdust mixed with insect fragments (called frass) falling from ceilings, cabinets or other wood sources;
- Consistent indoor sightings of at least 15 workers per day in places other than the kitchen. Carpenter ants come from outside in the spring and summer looking for food. A large number of ants around a garbage can or dishwasher can be explained as an outdoor colony coming in for food. But seeing numerous ants every day in a bedroom, for example, suggests an indoor colony.

If any of these conditions exists in your home, you should try to control the colony.

Finding the nest

The secret to carpenter ant control indoors is to find the nest. If you cannot find the nest, your chance for long-term success is minimal. If you can kill the queen, on the other hand, the colony will not survive. Be observant and use the clues the ants give you in trying to locate the nest.

Watch the place where you see the most activity by workers. Carpenter ants are most active between 8 p.m. and 4 a.m. Colonies are often found under tubs, around sinks and toilets, in poorly ventilated attics, in leaky roofs or in rotting windowsills or door frames—in short, anywhere water problems may appear. If any ants are seen around a bedroom window, the nest is most likely in the window frame or nearby in a wall void.

Most carpenter ants you see are workers searching for food or water. If there is no pattern to their activity, consider placing foods such as honey, canned cat food, dead insects, or other sugar or protein on a plate. Once the workers find the food they should show you a pattern as they bring it back to the colony and recruit more workers to take advantage of the free food.

Listen for sounds at night. A dry rustling sound can sometimes be heard in spring and summer behind the surface of a door or wall. Place your ear to the surface and listen. If you tap the walls and disturb the colony, the sound often becomes louder.

Carefully check hollow-core doors, foam insulation, or other cavities or voids that ants might use. Newly constructed homes should not have the type of water problem that would attract carpenter ants to nest indoors, but occasionally the ants will invade voids or beams that have pre-existing cavities.

Indoor treatment

Even if it takes a few weeks, locating the nest will be the most important step toward controlling the problem. Once you have found the nest, consider replacing the damaged or decayed wood, whether it's an old windowsill or damaged roofing material. Replacing the wood often resolves the ant problem.

If you suspect the nest is behind a wall or in a hollow door, find a way to get an insecticide into the nest. Use any cracks and crevices for application. Often it is necessary to drill 1/8-inch diameter holes to give you access. Treating just outside surfaces will keep ants from view because they are repelled by sprays. However, surface sprays do not kill the queen and will not solve the problem. Done correctly, a single treatment should eliminate the nest.

Dusts are best for treating voids in walls. You can purchase dusting equipment or use a plastic squeeze bottle or turkey baster to blow dust into the hole. Small, light applications are more effective than heavy ones. Dusts will not harm insulation and they do a good job of dispersing within the walls.

Liquid or aerosol sprays for ant and roach control can also be used. These will work well if the nest is exposed. Active ingredients include permethrin, pyrethrum, cyfluthrin,

deltamethrin, esfenvalerate, tetramethrin, tralomethrin, and propoxur. (As of December 2002, chlorpyrifos and diazinon are no longer sold for homeowner use, but existing products may still be used.) Be sure the product is labeled for indoor use and read and follow all directions for use. The solvents in many liquid sprays can melt some insulation materials.

There are several types of baits available for carpenter ants: pellets, gels, and traps. Most baits contain small amounts of boric acid, insect growth regulators, or other slow-acting poisons. These products are typically less toxic and more targeted in their activity than other treatment methods. Baits rely on the worker ants to carry the poison back to the nest. They work best in spring and early summer. If you use a bait, be sure to select one that is made specifically for carpenter ants. Baits can be placed in plastic containers to keep children and animals from coming in contact with the poison.

Foggers do not work well on carpenter ants because they do not penetrate walls sufficiently.

Carpenter ants in spring

If ants first appear in late April or May and are seen mostly around the kitchen, there is a good chance they are coming from an outside colony looking for food. Their presence is not enough to conclude you have an indoor problem. If the only visible activity occurs in a 2–3 week period in spring, consider using a barrier insecticide treatment to keep the ants outside. Windows, doorways and a 2–3 foot treatment band around the building's exterior will repel or kill the ants without needlessly exposing the residents.

Treatments each spring or every 6 weeks should solve the problem. Use any of the materials listed above. Continued activity after a barrier treatment suggests that an indoor nest remains to be found.

Outdoors

Carpenter ants often nest in trees with decaying wood or center heart rot. Healthy, sound wood will not support a colony. Control is not necessary for the health of the tree, and is often difficult to achieve. Note, however, that the presence of ants indicates decaying wood and suggests vulnerability to storm damage.

If you find the outdoor colony, the nest can be treated with an insecticide like carbaryl (Sevin), cyfluthrin, deltamethrin, esfenvalerate, permethrin, or a bait. Always read the label for restrictions and instructions. Apply spray or dust directly into the nest. If the nest is underground, use sufficient water to soak into the nest. Remember, you have to kill the queen to eliminate the nest.

There is some evidence that strong outdoor colonies will establish a seasonal "satellite" nest indoors. These nests support small numbers of workers, pupae, and mature larvae that move indoors in summer when outdoor habitat is in high demand. During the fall they move back to the parent nest. Although satellite colonies do move indoors, your main concern should be whether you have the proper environment for the ants to nest in. Satellite colonies can be spot treated, but a more permanent solution, if the ants have been a long-standing problem, is to find the parent colony and treat it. Check wooden porches, landscape

timbers, and old stump areas for the main colony.

Professional help

Pest control operators have the training and experience to deal with carpenter ants. Often they will use the same pesticides you can buy. If you decide to get professional help—either for convenience or because you are unable to find the nest—contact two or three reputable firms and ask them about their service. Compare costs, guarantees, and types of treatment. Spot treating the nest using the least amount of pesticides is the preferred treatment.

References to products in this publication are for your convenience and are not an endorsement of one product over other similar products. You are responsible for using chemicals according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from chemical exposure.

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Author: P.J. Pellitteri is distinguished outreach specialist of entomology, College of Agricultural and Life Sciences, University of Wisconsin-Madison and University of Wisconsin-Extension, Cooperative Extension. Produced by Cooperative Extension Publications, University of Wisconsin-Extension.

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