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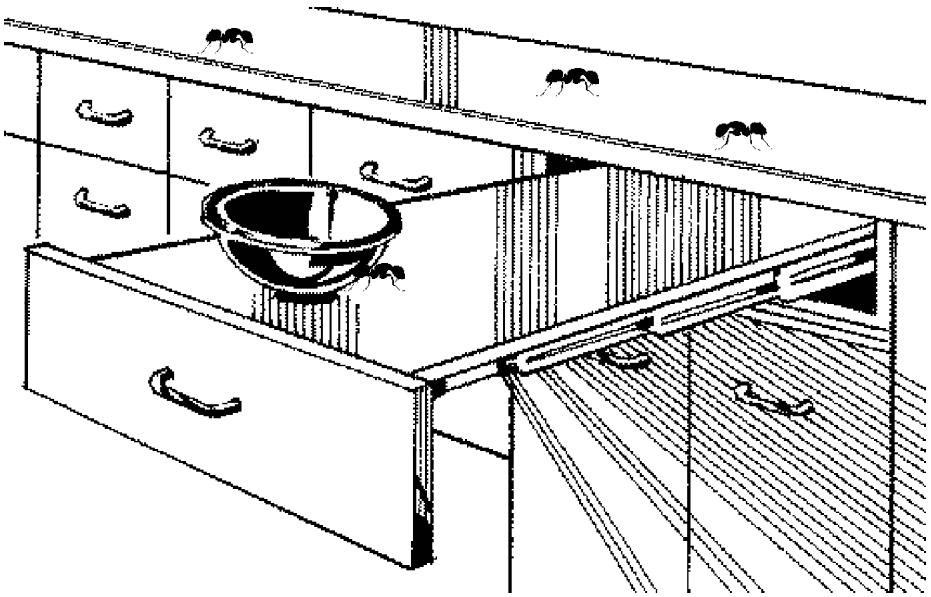
Those Big Ants in Your Kitchen and Bathroom



Carpenter Ants:
Those Big Ants in Your Kitchen and Bathroom

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Ever wondered about those big, black ants in your house? You know, the ants you spray every time you see them in the kitchen and bathroom, but they keep coming back. Or, maybe it took the occurrence of a mating fight of the winged forms (usually in the spring or summer) to alert you to their presence, since the worker ants (no wings) are most active at dusk or in the evening. This publication will help you deal with this challenging pest problem.

The Problem

We have approximately 10 species of carpenter ants in Tennessee. Carpenter ants (*Camponotus* spp.) vary in size and color. The ones commonly found in structures are usually large (1/4 to 1/2 inch) and blackish in color; however, there also are several species that are reddish-orange or reddish-orange and black. Carpenter ants can be an annoyance when they forage indoors searching for food and water. Carpenter ants do not sting because they lack stingers, but they can and will bite if picked up. They have very strong, sharp mandibles that are used to excavate wood (Figure 1), and they defend themselves by grasping the attacker with their mandibles and spraying formic acid from the end of their abdomens into the wound. A circular fringe of hairs on the end of their abdomen allows the ants to direct the spray.

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Besides being an annoyance, carpenter ants can be destructive and may damage wood by hollowing it out for a nest. The ants excavate galleries that have a smooth, sandpapered appearance. Shredded fragments of wood similar to coarse sawdust or wood splinters are ejected from the galleries, along with dead ants and bits of other insects that the carpenter ants have eaten. When such accumulations are found, it is a good indication that a nest is nearby. Homeowners often complain about bits of the above-mentioned debris regularly falling from a wooden porch that is infested with carpenter

Figure 1. The carpenter ant's sharp mandibles are used for removing wood.

It is important to be able to distinguish the difference between the wood-destroying carpenter ants and nuisance ants.

ants. Often, however, the excavated sawdust remains hidden behind a wall or in some other concealed area.

Carpenter ants nest in either moist or dry wood, but prefer wood that is moist. Consequently, nests often occur in wood dampened by water leaks, e.g., around sinks, bathtubs, poorly sealed window and door frames, roofs, gutters or down spouts. When considering likely nesting sites, it is important to remember that carpenter ants often nest in areas other than wood, such as beneath insulation or in false ceilings. Nests are especially common in moist, hollow spaces—within the wall behind a dishwasher, in a hollow porch column or a shower curtain pole. Some of the smaller carpenter ants are more likely to use a pre-existing void, such as a pith of a stem or a window-blind roller.

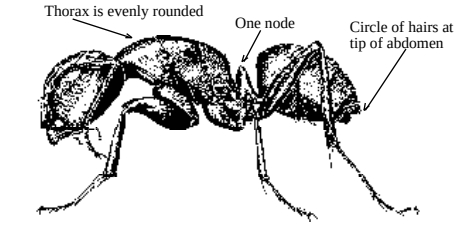
Carpenter ant nests may be located inside or outside the structure. Ants occasionally observed inside the home actually may be nesting outdoors in a tree stump, the hollow of a standing tree, landscape timber or woodpile, and may be foraging indoors only in search of food. However, noticing five or more carpenter ants per day in an area of the home where there is no food, such as a bathroom or bedroom, usually indicates an indoor nest. Swarms of winged carpenter ants emerging indoors are another sign of an indoor nest, as is the sighting of ants indoors during winter or on cool or rainy days.

Flying ants indoors are not always an indication of the presence of a parent or main colony. Carpenter ants usually have more than one nest site. One study indicated that the black carpenter ant had two to six nest sites. The parent colony may contain the egg-laying queen, eggs and small larvae, while the satellite colonies usually contain large larvae, pupae and reproductives (unmated males and females with wings). Therefore, carpenter ants may form satellite colonies in the home that do not contain the queen. It is necessary to locate and treat the parent colony to prevent further infestation of satellite colonies within in the home.

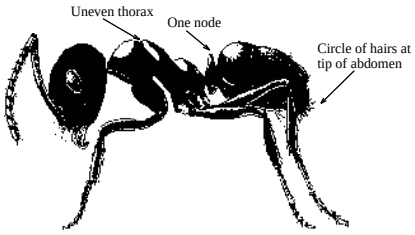
The potential for damage exists only when carpenter ants are nesting within the structure. While large colonies can potentially weaken studs, joists and other structural timbers, damage is not normally as extensive as that associated with termites. Remember, carpenter ants remove wood to make a space for their nest, while termites eat the wood. Damage produced by smaller carpenter ant colonies may be insignificant, but this can only be determined by locating and exposing the nest area.

Misidentification can lead to unnecessary pesticide use and cost

It is important to be able to distinguish the difference between the wood-destroying carpenter ants and nuisance ants. There are two other ants that closely resemble the carpenter in size, color and in many of their characteristics. A relatively large black ant that is often mistaken for a carpenter ant in Tennessee is the black field ant, *Formica subsericea*. Another *Formica* species, often called the Allegheny mound ant, is reddish-orange and black and resembles several of the carpenter ants found here. Many costly "carpenter ant" jobs are inadvertently sold to homeowners by pest control firms that confuse these two "look-alike" ant groups. A good hand lens is needed to observe these ants. They all have a one-segmented waist and a circular ring of hairs on the end of the abdomen (Figure 2). View these ants from the side to determine their identity. Carpenter ants have an evenly rounded thorax—the body segment just after the head; *Formica* species have a thorax which in profile appears ridged or uneven. Black field ants commonly form large, low-profile earthen mounds in the yard. Allegheny mound ants often build large, dome-shaped mounds and are common at higher elevations. Unlike carpenter ants, the *Formica* do not establish nests inside buildings, although they may occasionally wander indoors in search of food. *Formica* ants are efficient predators (they eat other insects) and it can be quite amazing to observe them as they drag their victims back to the nest. Often no control is needed for *Formica*. A bait, Combat® Outdoor Ant Killing Granules, sprinkled around the mound can control the colony without affecting other organisms. A mound drench of carbaryl, diazinon or chlorpyrifos (Dursban) may also be used.



Eastern Black Carpenter Ant



Black Field Ant

Figure 2. Carpenter Ant (top) and *Formica* species (bottom). Both ants have a one-segmented petiole and a circular ring of hairs at the end of the abdomen. Notice the carpenter ant has an evenly rounded thorax (body region behind the head) and the *Formica* species has an indentation in the thorax when viewed from the side. Carpenter ants can next in moist wood in houses and Formica species may enter houses in search of food. Figures reprinted with permission from *PCT Field Guide for the Management of Structure-Infesting Ants. Formica* ant drawing by Kathy Brown-Wing.

The Solution

In contrast to other household ants, insecticidal baits have not been consistently effective against carpenter ants. The best way to control them is to find and treat the nest(s) directly. This is much easier said than done. When attempting to locate a nest, focus your efforts (at least initially) on where most of the ants have been seen. Areas dampened by moisture, e.g., around sinks, dishwashers, chimneys and window or door frames, are especially attractive to carpenter ants; yet, at times, "bone-dry" walls also prove to be nesting sites. Gently tap along baseboards, floor joists, paneling and other suspected wood surfaces with the blunt end of a screwdriver, listening for the hollow sound of damaged wood. A knife or screwdriver blade inserted at this point will penetrate the wood if it is damaged. If a nest is nearby, the ants may also respond to your tapping by making a "rustling" sound, similar to the crinkling of cellophane.

The general vicinity of a carpenter ant nest can often be located by placing small dabs of honey, maple or corn syrup alone or mixed with crickets or mealworms in the area(s) where ants have been seen. Carpenter ants feed more on proteins—crickets or mealworms—in the spring and more on carbohydrates—honeys and syrups—in the fall. (Cleanup is aided by placing the "bait" onto small squares of wax paper or the back, non-sticky side of pieces of masking tape). The best time to set out bait is late at night, since this is when carpenter ants are most active. After the ants have fed on the bait, follow them on their journey back to their nest. A red lens on a flashlight may allow observation of the ants without disturbing them. Be patient—eventually the ants will disappear behind a baseboard, cabinet or into some other concealed location, such as behind a wall, a window/door frame or a porch column. Treat behind walls and other hidden spaces where ants are entering by injecting into existing cracks and/or drilling small (1/8 inch) holes and puffing boric acid to the suspected nest areas. Professional pest control firms have "dusters" specifically designed for this purpose. Professionals also have many more options when choosing a pesticide. Homeowners wishing to perform this treatment themselves can purchase boric acid in a ready-to-use "puffer," or attempt to make one using an empty, dry, narrow-tipped plastic container. With a little luck, the insecticide dust will disperse in the hidden void, contact and kill the ants. If you

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suspect the nest is in a wall, drill and treat at least 3 to 6 feet on either side of where ants are entering, to maximize the chances of contacting the nest. As is true for most ants, carpenter ants prefer to travel along wires, pipes and edges; therefore, it is beneficial also to inject dust into any openings around plumbing pipes and behind (not inside) the junction boxes of electrical light switches and receptacles. Never apply insecticides directly into junction boxes or spray liquids around electrical outlets. Turn off the main circuit breaker as an additional safety precaution.

As noted earlier, carpenter ants seen in the home may actually be nesting outdoors and foraging indoors for food and water. If outdoor nests are suspected, inspect for ants around the foundation and siding of the house at night with a flashlight. Pay particular attention to areas around doors, windows, decks, edges, cracks and where utility pipes and wires enter the structure. Also, observe areas where tree limbs touch the house. The bait previously described can be used to trace these ants back to their nest. Ants will randomly forage, but upon locating a food source, they usually will return to the nest in a straight line—unless they are following a guideline such as a root or a garden hose. Observe the foragers as they return to the nest. If possible, determine the location of ants over a distance of 3 feet. Once the location of the ants is determined, visualize a straight line in the direction they were foraging. This should lead you right to the nest. You may end up following the ants out into the yard, possibly to a nest located in a stump, dead tree limb, rotten fence post, telephone pole or under a log or landscaping timber. Once an outdoor nest is discovered, treatment can be performed by spraying or drenching it with carbaryl, diazinon or chlorpyrifos (Dursban).

Eliminating carpenter ants can be very challenging. If you do not wish to attempt control yourself, you may want to call a professional.

If you are hesitant to apply insecticides, but want to perform control procedures yourself, then baiting with less toxic compounds may be the answer. Insecticidal baits for carpenter ant control have had mixed results. Anecdotal information from researchers indicates a one percent boric acid solution in a 10 percent sugar water solution has been successful in controlling the Florida carpenter ant in structures. Also hydramethylnon (Combat®Outdoor Ant Killing Granules) baits may be effective when applied outdoors as granulars along foraging trails. Do not spray near baits, since spraying could either kill the foragers needed to bring the bait back to the nest or repel them from the bait. Remember, insecticidal baits do not always provide as effective control as other options, and the potential for structural damage needs to be considered as long as carpenter ants are active.

Carpenter ants are considered a wood-destroying organism and are reportable on an inspection form should you decide to sell your house. If resale of your house is a concern, then use a professional pest control operator.

Calling a Professional

Eliminating carpenter ants can be very challenging. If you do not wish to attempt control yourself, you may want to call a professional. Pest control firms approach carpenter ant problems differently. Some try to locate the nest(s) and treat only in suspected areas; whereas other companies take a less-directed approach, opting instead to drill and dust as many potential nesting sites as possible. Most companies also apply a perimeter (spray) treatment around the foundation of the house to temporarily prevent re-invasion. **Caution:** Applying a perimeter treatment to a home where ants are nesting indoors may force the ants to forage inside only, thereby making them more of a nuisance. The approach that should **not** be taken is simply to spray each month where carpenter ants are seen. Knowledgeable companies will spend less time "spraying" and more time inspecting and asking the homeowner questions (e.g., Where are you seeing ants? Have there been plumbing or moisture leaks?). If no effort is made to locate the nest(s) or probable nest areas, the infestation will continue. The

homeowner can further assist in helping to locate nests by using the bait technique mentioned earlier.

Preventing Future Problems

The following measures will help prevent future problems:

• Correct roof leaks, plumbing leaks and other moisture problems that attract carpenter ants.

• Clip back tree limbs and branches touching the roof or siding of the house. These serve as "bridges" between ants nesting in dead portions of trees and the structure.

• Seal cracks and openings in the foundation, especially where utility pipes and wires enter from outside.

• Never store firewood in the garage, because firewood is a prime nesting location for carpenter ants. Stack wood away from the foundation and elevate it off the ground.

Adapted from: Mike Potter. 1996. "Eliminating Carpenter Ants," *Kentucky Pest News,* May 12.

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To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

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