

# Carpenter Ant Management

## Lancaster County

444 Cherrycreek Road, Suite A / Lincoln, NE 68528  
(402) 441-7180 / <http://lancaster.unl.edu>

Barb Ogg, Extension Educator

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Carpenter ants are important in the balance of nature because they burrow and nest in dead trees and enhance decay of the wood. They achieve pest status when a colony invades and damages the integrity of the wood within a house. This fact sheet will explain how the biology and behavior of carpenter ants relate to control strategies when a homeowner is faced with this problem.

### Description and Habits

The black carpenter ant, *Camponotus pennsylvanicus*, is the most common carpenter ant species in Nebraska (Figure 1). Foraging workers are black and quite large—1/4-5/8 inches. There is at least one other carpenter ant species found in Nebraska. Its scientific name is *Camponotus sayi*. It has no recognized common name, but we unofficially refer to it as the “red” carpenter ant because it has a reddish-orange head and thorax and a black abdomen (Figure 2). It is smaller than the black carpenter ant. Even

though these two carpenter ant species have different coloring, they both have one-segmented pedicel (the segment between the thorax and the abdomen) and the profile of the thorax is evenly rounded and not bumpy. All carpenter ant species have these characteristics.

Carpenter ant workers are polymorphic—which means workers are different sizes. Entomologists refer to larger workers as “major” workers and the smaller workers as “minor” workers. The minor workers are not “baby” ants—they just have different tasks in the colony. Each colony has at least one queen, the egg-laying colony member. There may be more than one queen in a colony.

When a colony gets very large (6-10 years old and has more than 2,000 workers), it may produce winged reproductives, called swarmers (Figure



**Figure 3. Swarming queens and kings have wings allowing them to fly and start new colonies. They lose their wings after mating.**



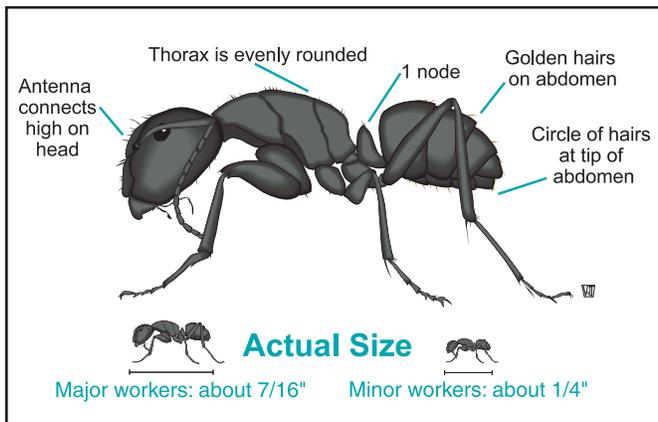
**Figure 4. Black carpenter ant queen takes care of her first brood herself.**

Photos by Jim Kalisch, UNL Department of Entomology

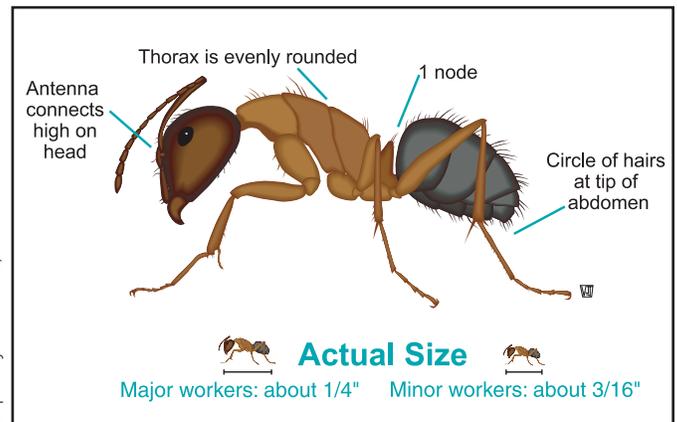
3). Swarming usually occurs during warmer months, but in Nebraska, people report swarms of the red carpenter ant during warm spells in the winter. Black carpenter ant swarms are more commonly observed from March-June. The males are much smaller than the females and often emerge a few days earlier.

After mating, a single queen seeks out a suitable nesting site and lays only a few eggs which hatch into maggot-like larvae (Figure 4). The queen

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**Figure 1. Characteristics of the black carpenter ant**



**Figure 2. Characteristics of the red carpenter ant**

cares for the larvae which become the colony's first workers. These workers forage for food and take care of the colony while the queen continues laying eggs.

The diet of carpenter ants is quite varied and includes living and dead insects, honeydew from aphids, sweets, meat and fats. They do not eat wood. Workers leave the colony in late afternoon or early evening, forage during the night and return to the colony in the early morning hours.

Carpenter ants carry food back to the nest intact or ingested and later feed it to non-foraging members in the nest. These ants may forage several hundred feet from the nest to search for food.

Homeowners may be concerned if they see carpenter ants inside. But, seeing carpenter ants inside the home does not necessarily mean the house is actually infested. It could mean the house is simply within foraging distance of a colony.

In the construction of their nest, carpenter ants hollow out dead tree limbs, logs, posts, landscaping timbers

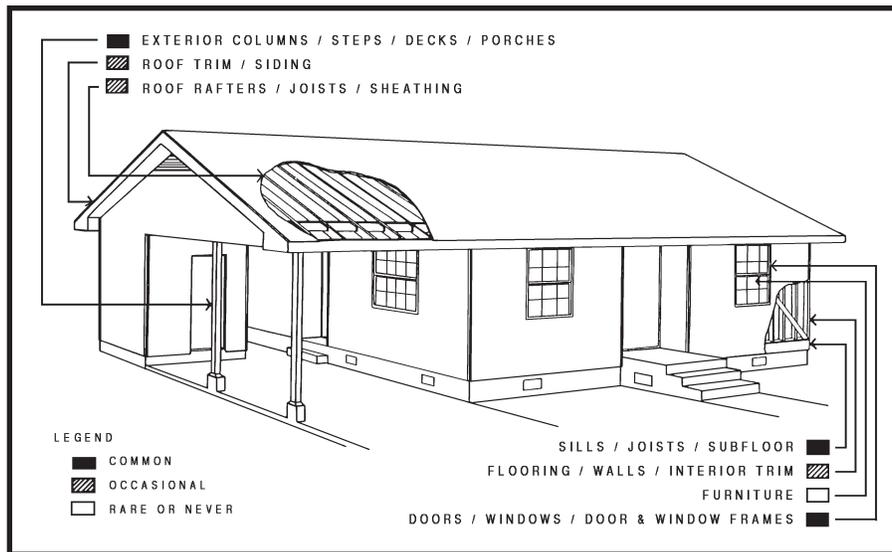
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**Figure 5. Smooth galleries of a carpenter ant colony in structural lumber.**

and wood used in homes and other structures (Figure 5). They can also live in creosote-treated railroad ties because they don't actually eat the wood, but only chisel it with their mouthparts. Carpenter ant galleries are smooth and very different from termite feeding, which has mud packed into the hollowed out area.

Certain parts of a house, around and under windows, roof eaves, decks and porches are more likely to be infested by carpenter ants. Refer to Fig-



**Figure 6. Incidence of carpenter ant damage in different parts of a typical home.**



**Figure 7. Rotted wood under window.**

ure 6 for most common problem areas of a home. Carpenter ants prefer to nest in moist wood, but wood saturated previously may be soft enough for carpenter ants to hollow it out. They may be a serious problem in poorly maintained log houses (Figure 7).

Carpenter ants don't always need a moist area to nest. They may use an old abandoned nest or wood "hollowed out" by termites. Nests also may be located in hollow doors, small void areas produced during construction or even in foam insulation.

Carpenter ants keep occupied galleries clean. They remove wood in the form of a coarse sawdust-like material, which they push from the nest (Figure 8). This often results in a cone-shaped pile accumulating just below the nest entrance hole. This pile may include, in addition to the wood fragments, other debris from the nest, including



**Figure 8. Typical pile of sawdust discarded from carpenter ant tunneling. Sawdust won't be seen in wall voids and other inaccessible locations.**



**Figure 9. Looking at carpenter ant sawdust with a magnifying glass shows tiny wood shavings all the same size, like tiny chisels were used. It usually has insect parts in it.**

bits of soil, dead ants, parts of insects and remnants of other food they ate (Figure 9).

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Barb Ogg, UNL Extension in Lancaster County

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Jim Kalisch, UNL Department of Entomology

## Control

**Baits.** Colonies of some ant species can be controlled with baits, but because carpenter ants have such a varied diet, baits are not very successful.

### Over the Counter Sprays.

Spraying foraging workers with most insecticides is of limited value because, even though some workers will die, the colony will largely be unaffected by the treatment.

**Treating the Colony.** Because carpenter ants live in colonies, a treatment which targets the colony will be most effective. Finding the colony is important. Look for the piles of sawdust to locate the entrance. Another method to find the colony is to watch the movement of foraging ants. They are most active at night. Inspect the entire structure and surrounding grounds, because the nest may be outdoors.

Once you find the colony, control strategy depends on where it is. If the colony is in a tree, you can use a dust insecticide (such as Sevin® or rotenone) labeled for use on trees in the landscape. Apply the dust directly into the nest cavity.

If the colony is in a wall void, you may need to place an insecticide inside the wall. Do not use liquid insecticides inside wall voids. Introduce the dust into the nest through the entrance hole using hand duster with a tube with a tip which fits snugly in the entrance. It may be necessary to enlarge the hole to fit the duster. You can make a duster from a flexible plastic bottle equipped with a tube tip. An old mustard or catchup bottle might work for this use. Fill the bottle no more than one-third full, insert the tip in the entrance hole and inject the dust by alternately squeezing and releasing the pressure on the bottle. Unfortunately, there aren't very many over-the-counter dust products available for homeowners. It may be money well spent to hire a pest control professional who has a greater arsenal of products at his disposal and proper application equipment.

Dust formulations registered for use in and around the home include Drione® (pyrethrins), Tempo® (cyfluthrin), Deltadust® (deltamethrin). These are marketed for the professionals and not readily available in retail outlets. Another useful dust formulation is Apicide® (carbaryl). It is a product made to control bees and wasps in wall voids, but, because it is labeled for wall void treatments, it can be used for these situations. It is important to make sure these wall void treatments won't come into contact with humans or pets. Be sure to store any leftover insecticide in its original container with the label intact and throw away the make-shift duster so it doesn't get used around food.

### Transfer liquid insecticides.

There are newer insecticides which do not kill insects immediately, but become transferred to other members of the colony. Termidor®, an insecticide used for termite barrier treatment, has been shown to have this "transference effect." It is labeled for treating trails and entry points where ants enter the home so it may be useful for some carpenter ant infestations. But, according to labeled directions, Termidor® can only be used twice a year for treatments like this, so it should not be used indiscriminately. It cannot be used inside the home. This is a product labeled for use only by licensed structural pesticide applicators.

**Problem applications.** Remember, the most effective carpenter ant treatments are those that target the colony. Some companies may propose expensive treatments which use more insecticide than is needed to control the carpenter ant problem.

1. Instead of spending the time to find the colony, some companies propose to inject dust into every exterior wall void. If the pest control professional or the homeowner can locate the colony, it will be less disruptive, less pesticide used and less expensive.

2. Monthly sprays shouldn't be needed for managing carpenter ants. The company should follow-up treatment of the colony by monitoring to

make sure the treatment worked.

3. Some companies have proposed to inject insecticides into the soil perimeter, similar to a termite treatment. This would be very expensive and is not recommended for carpenter ant infestations.

### Non-chemical Controls.

Carpenter ant management involves eliminating moisture problems associated with interior colonies to correct conditions suitable for colony survival. Colonies can sometimes be eliminated by discarding infested wood or by vacuuming ants. In these situations, no insecticides may be needed.

## Prevention

To prevent further carpenter ant infestations, trim all trees and bushes so branches do not touch the house and correct moisture problems such as leaky roofs and plumbing. Paint and/or seal exposed wood construction before it becomes wet. Replace previously ant- or termite-infested wood, rotted or water-damaged wooden parts of the structure and eliminate wood/soil contacts. Remove dead stumps on the property and store firewood off the ground and away from the structure.

Carpenter ant colonies outdoors should be treated because they may be the source of satellite colonies which invade wall voids during warmer months.

Carpenter ants will not kill living trees, but openings in living trees are attractive to carpenter ants. These openings are likely to be entrances for carpenter ant colonies. For information on caring for damaged trees, contact a certified arborist or visit with your local university Extension staff.

Stacks of firewood and old dead tree stumps also attract carpenter ants. The longer wood remains undisturbed, the more likely it will become infested. It is best to only store firewood you plan to use during one heating season. Store wood on a concrete pad above the soil and away from the house. Spraying of firewood with insecticides is not recommended.