



Pest e-alerts



Entomology and Plant Pathology, Oklahoma State University
127 Noble Research Center, Stillwater, OK 74078
405.744.5527

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Carpenter Ant Swarming Season in Oklahoma

B. Kard: Urban and Structural Extension Entomologist

March, April and May are normal swarming months for carpenter ants in Oklahoma. This period coincides with termite swarming season. Therefore, swarming ants are often confused with swarming termites. Because swarming ants and termites are similar in size and color, misidentification can occur. Each spring, the Plant Disease and Insect Diagnostic Laboratory (PDIDL) within the EPP Department receives numerous inquiries concerning ant identification. To better identify carpenter ants and therefore recognize a persistent wood-destroying threat to your home and wooden structures, carpenter ant and termite photos are provided herein. Homeowners should keep an eye out for carpenter ant swarmers as these ants are seeking a wood source to chew into and establish a nesting site. These ants are mobile, and can crawl hundreds of feet in search of a nesting site. Nesting sites range from dead tree limbs to firewood piles to under wooden planter boxes to the walls of your home.

Carpenter ant presence does not mean they are within a structure, but these ants will readily enter into small openings in wooden siding, openings around windows and doors, and crawl beneath vinyl siding or other exterior building components. Depending on species, foraging ants range in size from small (1/8 inch) up to 1/2-inch long without their wings attached. Swarming, flying queens can be 1-inch long including their wings. Antennae are not included in length measurements. Carpenter ants remain active throughout warm weather. They are often found floating in swimming pools, bird baths, and in any collected water such as in old buckets or cans. If you notice carpenter ants around your house or other wooden buildings, baits and insecticide sprays can be used to reduce their numbers and the threat to your home. More on control measures is discussed below. If you notice carpenter ants, determine if they are foraging up to your home and into an entrance point, or just searching for food around your yard. A thorough inspection of the structure is needed to determine if an active carpenter ant infestation exists.

Carpenter ants come in different color variations, from all black to all rusty-orange. They also can be multi-colored, usually with orange and black combinations (Fig. 1). Note the smooth, non-undulating thorax profile (Fig. 1) and the large, pointed single node connecting the thorax and abdomen that is typical of carpenter ants in the photographs provided below (Figs. 2 and 3).



Figure 1. Carpenter Ant Swarmer. 1/2- to 1-inch long including wings. Note **glossy rust** and **black** coloring. [Photo courtesy Joseph Berger, Bugwood.org]

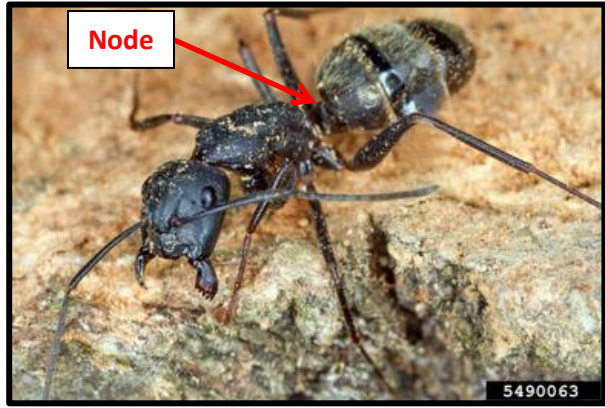


Figure 2. Carpenter Ant Forager. 1/8- to 1/2-inch long. Note **dull black** color and elbowed antennae. Coloring varies. [Photo courtesy David Cappaert, Bugwood.org]



Figure 3. Swarmers come in multiple sizes. Note **glossy all black** bodies. Sizes range from 1/4- to 5/8-inch long without wings. [Photo courtesy Whitney Cranshaw, Bugwood.org]



Figure 4. Evidence of carpenter ant activity. Excavated sawdust discarded from a nesting site. [Photo courtesy Edward H. Holsten, Bugwood.org]



Figure 5. Carpenter ant galleries in building timber or log. Smooth-sided parallel galleries. [Photo courtesy R. Werner, Bugwood.org]

<u>Termites</u>	<u>Ants</u>
Antenna straight; String of Pearls	Elbowed antenna
Equal size and shape front and rear wings	Front wings much larger than rear wings
Waist same width as thorax width	Constricted waist

Table 1. Differentiating ants from termites. Primary body shape differences.

Figure 6. Termites. Many Workers; 5 Soldiers; 1 Swarmer. Note black body of the winged swarmer (alate; reproductive). Soldiers have large, dark orange heads. Each antenna looks like a single string of pearls. [Photo courtesy C. E. Konemann] Worker=1/5-inch long; Soldier=1/4-inch long; Swarmer=2/5- to 1/2-inch long with wings. [Antennae not included]

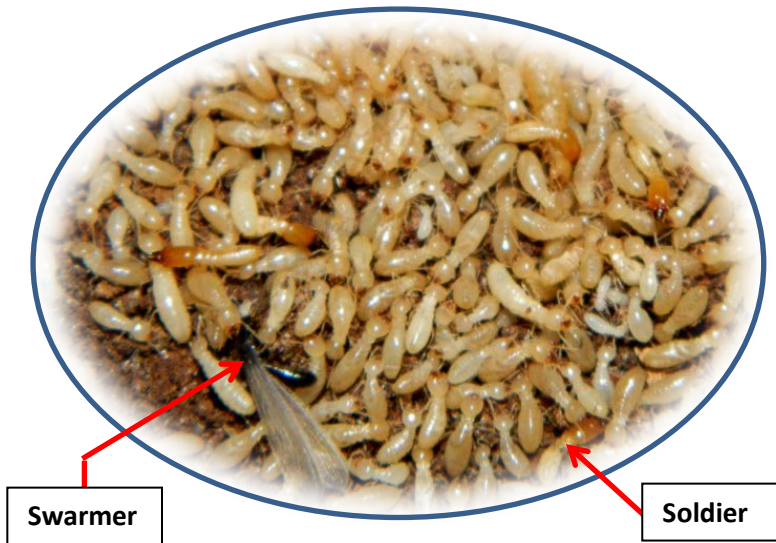


Figure 7. Destruction of a pine stump by Carpenter Ants and decay. Stump about 2-feet tall. [Photo courtesy C. E. Konemann]

Carpenter Ant Behavior

Carpenter ants prefer to locate their nesting sites near moist wood and a water source. Indoor moisture sources due to a small water leak in a wall or high humidity within building crawl spaces produce favorable conditions for colony proliferation. They hollow out wood to create nesting sites and after a few years satellite colonies can also form, compounding the infestation (Fig. 4). Tunnels (galleries) generally run parallel with the grain of the wood and are connected with cross-tunnels (Figure 5). However, the galleries are not packed with mud as is done by termites. In addition, carpenter ant galleries do not contain small sand-like pellets (drywood termites) or powdered or granular frass that are deposited by wood-boring beetles. Carpenter ants also nest in hollow voids in walls and inside wood building components, or behind wall insulation.

Foraging and Feeding Activity

Carpenter ants forage actively at night, but also continue to forage to a lesser extent during the day when they would be more visible to predators such as birds and lizards. They create foraging trails between the main and satellite colony nest sites, as well as trails to main food resources such as 'honeydew' producers. They often follow guidelines like edges of landscape timbers, edges of concrete patios, or planter box wall bases. They may follow water lines or water hoses lying on the ground. Carpenter ants are broad-spectrum feeders, utilizing many food resources including dead insects. They readily eat the sweet honeydew excrement of aphids, scale insects, and mealybugs that feed on ornamental shrubs and garden plants. Protein and sugar sources are also exploited. Garbage can food waste contents are also utilized.

Carpenter Ant Management

a. *Moisture Control, Sanitation, and Exclusion.* Wet conditions and availability of dead wood around a home or other wooden structure create conducive habitats for carpenter ant proliferation. Ensuring that rainwater drains away from a structure, and that old rotting firewood and dead tree limbs are removed and burned or discarded reduces the threat of an infestation. Firewood should be stored in dry conditions away from the structure. Water leaks must be repaired, rain gutters kept clean, and water emitted from downspouts directed to drain away from the structure. Extensions that fit onto the bottom outlet of downspouts are commercially available. Landscape timbers and plant bed mulch create ant habitat, and thus require regular inspection.

Poor ventilation in attics and crawl spaces creates high humidity that is favorable to insects. Poor attic ventilation coupled with clogged rain gutters or leaky roofs can keep wood beneath shingles and behind rain gutters wet, providing habitat for many types of ants, termites, centipedes, and numerous arthropod pests. Wetness also creates conditions favorable to wood-rot damage. Tree limbs or shrubs touching exterior walls provide pathways for ants to enter the structure. Trimming back limbs and shrubbery is beneficial. Remove all debris that can act as nesting sites.

Seal all cracks, holes, and dried and cracked old caulk areas, using new high quality caulking around window and door frames and pipes extending through exterior walls. Small rectangular pieces of window screen can be placed over weep holes in brick façade exterior walls and attached using caulk. This will allow moisture to escape from inside the walls while excluding many ants and other pest home invaders. In addition, some insecticide use is usually needed as described below.

Initially, a thorough inspection of structures and their surrounding outside yard and patio areas is necessary to locate ant nesting sites. Locating all nesting sites in and around structures and eliminating conducive conditions is essential for successful control as well as reducing the possibility of re-infestation. Then, control measures, including insecticides and baits, can be more effectively employed directly to active carpenter ant nests.

b. *Insecticides and Baits.* Two primary strategies for preventing carpenter ant attack or eliminating an active infestation within or around a structure have been effective. The first is applying insecticide directly to the ants and their nesting sites. The second is implementing a baiting program. Insecticides and insecticide baits are designed for both outdoor and indoor use.

Insecticides. Standard insecticide dusts, aerosols, and liquid sprays have been successful in reducing or eliminating several pest ant species including carpenter ants. Insecticide label directions must be strictly followed, and insecticide re-applications accomplished as directed. Inspection intervals and refreshing baits in a timely manner increases success. Locating the primary nest, which is usually outside of the structure in dead tree stumps and limbs or firewood, or hidden in a sheltered location is important for elimination of the colony.

When the nests are inside walls or other building components it is necessary to drill holes to reach into the ant galleries and inject insecticide dusts or release an aerosol insecticide. In open voids that are not filled with building insulation, dusts are most appropriate, whereas within insulated voids aerosols are most effective. When it is possible to vacuum ants out of hollow rods (curtain or

shower rods) this is helpful. Then follow-up with insecticide dusts to prevent re-infestation. Infested firewood should be discarded or burned. Outside nests and foraging ants can be sprayed with a liquid insecticide labelled for ant control. Exterior insecticide applications around the entire building perimeter are beneficial as they reduce many pests in addition to carpenter ants. Label directions must be strictly followed for all insecticide applications.

Baits. Baits can be used outside and inside structures, and have been effective in eliminating carpenter ants. Bait manufacturers continue to develop effective baits. Bait formulations can be gel or granular depending if they are sugar-based or protein-based. Baits have the advantage of easy placement and providing a continuous source of toxicant to foraging ants, therefore eliminating them in large numbers. Baits must be monitored and replenished according to label directions and they must be placed where carpenter ants will encounter them, but where pets, wild birds, and other animals do not have access. Several commercial baits are currently on the market: 1. Advance® Carpenter Ant Bait, 2. Advion® Ant Gel Bait, 3. Gourmet® Liquid Ant Bait, 4. Intice® Ant bait, and 5. Maxforce® Carpenter Ant Bait Gel, to name a few. Search the web for information on many commercial ant baits [www.carpenterantbaits.com]. A building owner can also hire a pest management professional to handle their carpenter ant control and other pest problems.

c. Multi-step Program for Managing Carpenter Ants.

1. Inspection. Several different types of ants can be simultaneously infesting the same building. When a complete building and surrounding exterior area inspection has been conducted and the pest is identified as carpenter ants, it is important to determine where they are nesting inside and outside of the structure, and locate their main and satellite nests. Ant trails lead to their nests.

2. Eliminate Conducive Conditions. Implement moisture reduction, sanitation, and exclusion actions. Remove all debris and materials that can become favorable nesting sites.

3. Insecticides and Baits. Apply control measures to active carpenter ant nests and foraging sites. In conjunction with sanitation and exclusion measures such as moving firewood stacked against the structure away and elevated off the ground, insecticides and baits are rapidly effective.

4. Monitor Results and Modify Management Program. Regular follow-up evaluations must be conducted to ensure the carpenter ants are eliminated, and to treat for new or repeat infestations. When baits are employed, follow-up evaluations are especially important as baits can be lost, removed, affected by adverse weather, and spoil and decompose over time. The management program requires regular maintenance, additional bait stations as needed, concurrent insecticide applications, and treatment of carpenter ant survivors or additional new colonies that have invaded the area.

d. Summary

If you determine that your home is infested with carpenter ants, it is necessary to take quick management actions as these ants are persistent and will continue to chew into wood and expand their main nest and add satellite nests. As discussed above, there are several do-it-yourself actions that can be done and many pest control products are available on-line or at local merchant's stores. There are also several over-the-counter insecticides and baits available to the general public for controlling carpenter ants.

For professional help contact a pest management company to schedule an inspection and discuss treatment options with the goal of eradicating carpenter ants from your home and other wooden structures. Ant management requires specialized equipment and professional knowledge and experience for success in defeating this persistent wood-damaging pest.

References

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Hedges, S. A. 1998. Field Guide for the Management of Structure-Infesting Ants (2nd edition). Pest Control Technology, G.I.E. Inc., Publishers, Cleveland, OH 44113. 304 pp.

To access OSU Fact Sheets on many household, horticultural, and agricultural pests, go to <http://osufacts.okstate.edu>. Click on “Insects and Diseases-Topical List”, then click on “Integrated Pest Management-Insects” or “Home & Garden” and scroll down to EPP-7312, *Household Pest Control*. This publication provides additional general information about ant and other household pest management methods.

Editors: Eric Rebek, Ph.D., and Justin Talley, Ph.D. Oklahoma Cooperative Extension Service.

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