CARPENTER ANTS

Integrated Pest Management In and Around the Home

Several species of carpenter ants, *Camponotus* spp., are capable of damaging wood in buildings and other structures. Carpenter ants cause problems mainly in mountainous areas and in forested rural areas along the central and northern coastlines of California; they may also invade buildings in urban locations.

IDENTIFICATION

Most carpenter ants (Fig. 1) can be easily distinguished from other species of ants by their large size, up to 1/2 inch long. Common species are dark, often black. Carpenter ants cannot sting but if handled can inflict a painful bite with their powerful jaws. They emit a noxious excretion of formic acid when disturbed. Winged ants, which leave the nest to mate and establish new colonies, are sometimes confused with termites (Fig. 2).

LIFE CYCLE

Carpenter ants feed on both dead and living insects, aphid and scale honeydew, and juices of ripe fruit. Carpenter ants enter buildings in search of food and may construct nests containing several thousand individuals somewhere within the building. Nests constructed indoors may be satellite colonies of a larger nest located outside near the building, usually in trees. As many as twenty satellite colonies can be associated with a single main colony that contains the queen(s).

DAMAGE

Although ants do not eat wood, they bore into wood to make their nests, which consist of extensive networks of galleries usually begun in areas soft from decay. Indoor carpenter ant nests are bored into wooden parts of the building, sometimes causing serious structural damage. They also nest in wall voids, hollow doors, cracks and crevices, furniture, and termite galleries. Infestations can occur in new buildings when land clearing in the area disturbs existing native colonies. In the wild, carpenter ants nest in soil and beneath rocks; they bore into living and dead trees and stumps.

MANAGEMENT

Exclude carpenter ants from buildings by caulking cracks and blocking other entrances whenever possible. Trim branches and limbs of trees and shrubs that touch the building to keep ants from gaining access to these routes. Eliminate food sources inside the building or prevent access to suitable food by keeping it in ant-proof containers. Use a mulch, such as gravel or stones, around the perimeter of the building to discourage nest building. Locate and destroy colonies in tree stumps and other nearby places. Eliminate damp conditions that promote wood decay. Replace decayed or damaged wood and correct problems that caused the decay, such as clogged rain gutters. Increase ventilation to damp areas beneath the building and in attics. Store firewood up off the ground and several feet away from buildings to discourage carpenter ant colonies.

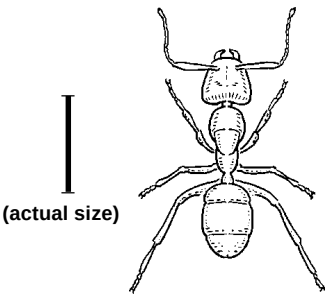

Figure 1. Carpenter ant adult.

Search for nesting sites in the building. Nests may be located by observing ant activity and following their trails, especially during the night because many species are nocturnal. To attract the ants, set out food such as a mixture of sugar and milk or sliced up crickets and then follow the workers back to the nest. Try to find the gallery open-

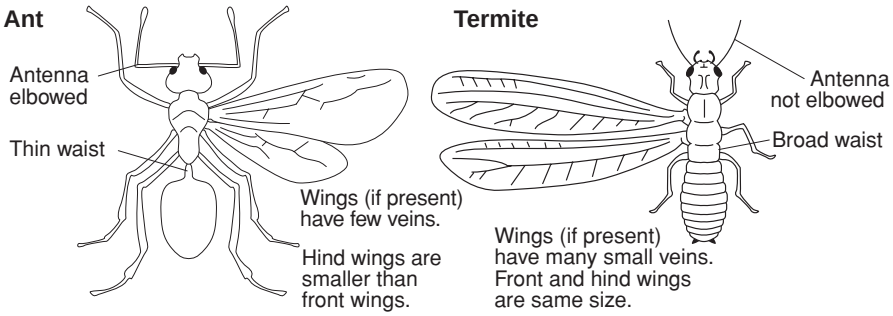

Figure 2. Distinguishing features of ants and termites.

PEST NOTES Publication 7416

University of California
Division of Agriculture and Natural Resources

Revised November 2000

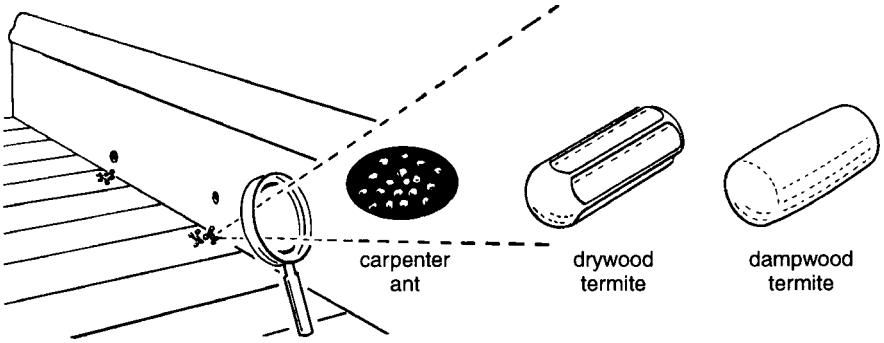

Figure 3. The sawdust produced by carpenter ants is distinctly different from pelletized frass produced by termites.

ings, which are usually small oval holes. Look for sawdust accumulations associated with these openings. Carpenter ant sawdust is considerably different from the pelletized frass left by drywood termites (Fig. 3). Once colony openings are located, apply insecticide formulations (containing materials such as permethrin, cyfluthrin, boric acid, or disodium octaborate tetrahydrate) or desiccant dusts through these openings and other holes drilled into the galleries. Desiccant dusts are inert dusts combined with absorptive powders (diatomaceous earth or silica gel) that destroy insects by absorbing their protective outer body cover, causing them to dry out, or desiccate. Of the desiccant dusts, diatomaceous earth is readily available in retail stores, but silica gel may only be applied by a licensed pesticide applicator. Desiccant dusts are low in toxicity to people and do not lose their effectiveness over time, as long as they do not get wet. Avoid inhaling these materials, however, because they can cause serious lung irritation. Also, avoid the use of chlorpyrifos and diazinon; landscape and residential use of these materials in urban areas has been identified as a source of pollution for California's creeks and rivers.

If you use toxic baits, be sure to use slow-acting formulations so that the ants carry it back to reproductives and larvae deep inside the nest. This is important because fewer than 10% of the worker ants are out foraging at any one time. Boric acid baits that have a low concentration (less than 1%) of the active ingredient and are formulated in a sweet liquid are slow acting and nonrepellent. Because carpenter ants can be finicky eaters, first attract them to a nontoxic food like a sugar-milk solution or sliced crickets. Once they are feeding from this food source, replace it with several different toxic baits that are labeled for ant control, and let them choose the one they prefer. When selecting any insecticide, be sure it lists ants on the label.

COMPILED FROM:

Marer, P. 1991. *Residential, Industrial, and Institutional Pest Control*. Oakland: Univ. Calif. Agric. Nat. Res. Publ. 3334.

For more information contact the University of California Cooperative Extension or agricultural commissioner's office in your county. See your phone book for addresses and phone numbers.

CONTIBUTORS: M. Rust and J. Klotz
EDITOR: B. Ohlendorf
TECHNICAL EDITOR: M. L. Flint
DESIGN AND PRODUCTION: M. Brush
ILLUSTRATIONS: **Figs. 1, 3:** D. Kidd; **Fig. 2:** Adapted from UC DANR Leaflet 2532, *Termites and Other Wood-Infesting Insects.*

PRODUCED BY IPM Education and Publications, UC Statewide IPM Project, University of California, Davis, CA 95616-8620

This Pest Note is available on the World Wide Web (http://www.ipm.ucdavis.edu)

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.

This material is partially based upon work supported by the Extension Service, U.S. Department of Agriculture, under special project Section 3(d), Integrated Pest Management.