

Alternatives

A Washington Toxics Coalition Fact Sheet



Protecting Your Home from Carpenter Ants

by Philip Dickey

Most people don't think about carpenter ants until they are told the bad news. Sometimes a homeowner sees ants and suspects a problem which is later confirmed by a pest control operator. Often carpenter ants are discovered during the inspection prior to the sale of a house. Usually the result is the application of pesticides both inside and around the outside of the home.

The shock caused by the discovery of carpenter ants often leads to premature and ill-considered decisions. Despite your vivid image of thousands of ants literally eating your house, the fact is that you probably have plenty of time. Don't panic! There may not even be a nest inside the home. Even if there is, a colony consisting of 200 to 300 worker ants is at least 2 to 4 years old, and in two weeks they won't do much additional damage. Carpenter ants are destructive pests, but you should not feel pressured by a pest control operator to schedule a treatment immediately. Educate yourself about ants and the available control methods. If you decide to hire a professional, look for one who understands your concerns about toxic chemicals and will work with you to select a least-toxic control program. At the same time, plan the repairs and modifications which will prevent recurrence of the problem without additional use of chemicals.

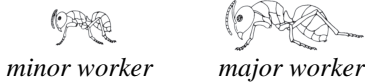
Carpenter Ants

(approximately actual size)



queen

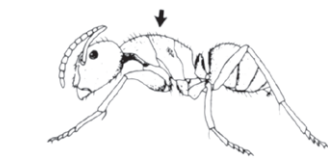
male



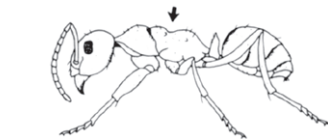
minor worker

major worker

Distinguishing Carpenter Ants from Other Ants



Carpenter ant has a smooth back.



Other ants have notch in back.

Illustrations this page courtesy of WSU Cooperative Extension.

They're Eating My House!

Unlike termites, carpenter ants don't actually eat wood. In order to expand their nests, carpenter ants burrow into wood, hollowing out structural beams and eventually weakening them. It may surprise you to learn that carpenter ants are actually beneficial insects—in the forest, that is, where their excavations help to speed the decomposition of dead trees. In your walls, they are definitely pests with a capital P. Although they are industrious, carpenter ants aren't masochists. They prefer to establish their initial nests in decayed or rotted wood which is easy to excavate, but they will eventually extend their tunneling into sound wood, where they can do considerable damage.

Identification

Carpenter ants are large. Queens are usually about 3/4 inch long, and workers vary from 1/4-1/2 inch. Only carpenter ants which fly to establish new colonies have wings. Several differently colored carpenter ants are found in Washington. Some are black or black and red, the most common being black with reddish legs. WSU Cooperative Extension Bulletin EB 0818 has excellent color photographs of ants and typical damage.

A positive identification requires collecting a few of the largest ants and inspecting them under a magnifying glass. Carpenter ants have a smoothly curved (convex) upper back, while most other types of ants have a notch in this area. Carpenter ants are easily distinguished from termites, too. Termites have thick waists while ants have thin ones. Termites have straight to slightly curved antennae, but ants' antennae have a right angle bend in them. In the Pacific Northwest, carpenter ants are common but termites are rare except in drier areas of the Olympic Peninsula and Eastern Washington.

Besides observation of the insects themselves, other suspicious signs include sawdust and debris, rustling sounds in the walls, and trails of ants between the foundation and decayed wood outside the home.

Biology

The biology of carpenter ants is fascinating in its own right, but you probably don't want to hear that just now. Still, an understanding of the biology is important because it aids in identifying carpenter ants, locating areas of damage, and selecting treatment.

Like all other kinds of ants, carpenter ants pass through four life stages: egg, larva, pupa, and adult. The whole sequence takes about two months in the summer.

Ants are social creatures, living in colonies or nests. Within each nest several distinct types of ants perform different functions. The largest is the queen, of which there is normally only one per colony. She lays eggs, in groups of 15 to 25, after excavating a small cavity and sealing herself into it. When the eggs hatch into larvae, the queen feeds them with fluids in her body. For the first few years, all of the young develop into sterile females called workers. The first generation, fed directly by the queen, remain very small and are called minor workers. When old enough, they forage for food, excavate the nest, and help raise successive broods of young as the queen continues to lay eggs. These later generations, fed by regurgitated food brought back by workers, grow larger and are called major workers. Middle sized workers called intermediates also are found.

After a colony has been producing generations of workers for 6 to 10 years and numbers close to 2000, it begins to produce winged reproductive ants, both males and females, in the late summer. After spending the winter in the nest, these winged ants leave for a mating flight in the spring. After mating, the males die, but the females select a site to lay their eggs, thus beginning a new colony and completing the cycle. Before laying her eggs, the female, now a new queen, breaks off her wings.

Carpenter ants eat a variety of foods, including dead insects, the sweet honeydew exuded by aphids and some other insects, plant juices, and sweet or fatty foods in the home. Ants go without food for up to six months during their winter dormancy, but at other times require food and water. They may eat their own larvae and eggs if stressed.

What You Should Do

■ Find the Nest

To assess the extent of the problem and to plan treatment, it is essential to locate the main colony. It is possible that there is no infestation in the house and that the ants you see are merely foraging or honeymooning (engaged on a nuptial flight).

Seventy five percent of all main nests are located outside the structure, where there is abundant moisture. There may be one or more satellite nests inside a nearby structure, such as your house. These satellite nests are most frequently found inside walls, in ceilings, under outdoor siding, in wood near foundations, near downspouts or roof gutters, in floors (particularly bathrooms), or in insulation. Begin by checking the basement, near the foundation and on top of water pipes and electrical lines, which ants may use as pathways. Also check the attic and crawlspaces. Look for the ants themselves and for sawdust-like wood shavings or small slit openings called windows. Invisible damage inside floor joists can be located by tapping with a hammer or metal rod. A nest cavity gives a hollow ring when tapped and is readily penetrated by a knife blade.

Sometimes a nest in the walls can be identified by the rustling sound made by the working ants. It is loud enough to be heard faintly outside the wall. Pounding on the wall should make the sound increase in volume—ants don't feel guilty about their activities, so they won't hush up to avoid discovery. If no nests are found, it may be necessary to lure some ants into open areas with a bait and then see where they go when the bait is removed. A little honey, jam, or jelly works well.

Even if a nest is located, continue the search. There may be several colonies connected by trails, and you must locate the parent colony in order to get good control. Look for these trails or furrows in the grass which may lead to nests outside the house in woodpiles or stumps. Nests have also been found in stacks of newspapers or shingles. Carpenter ants cannot live in a well-functioning compost pile, however, because of the heat generated. Don't neglect tree branches touching the house, which may act as ant bridges. Ants may also use plumbing and wiring to gain entry.

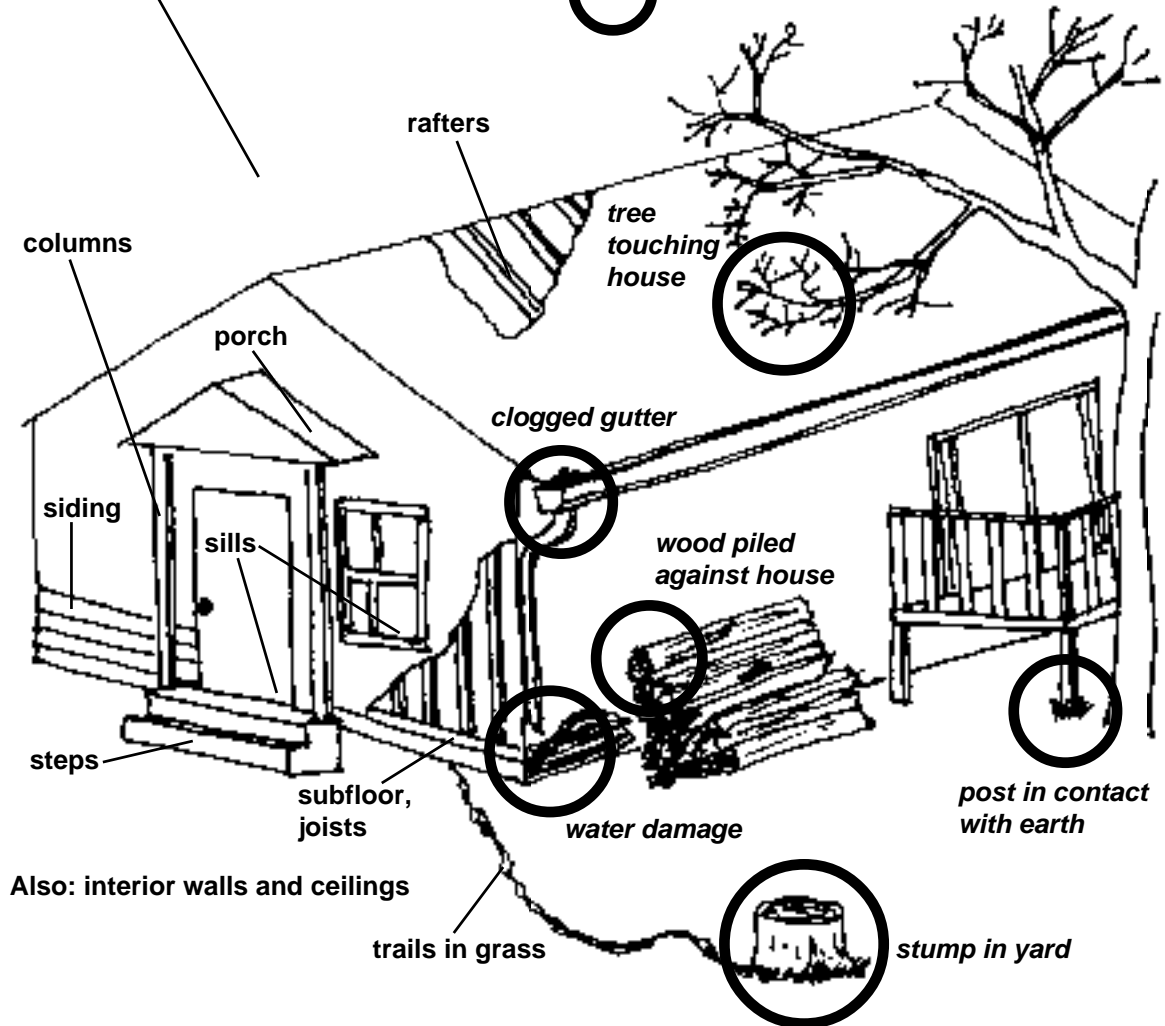
Carpenter Ants are Industrious



Suspicious signs include sawdust-like debris and rustling sounds in the walls.

Where to Look

Invitations to Carpenter Ants



■ Prevention and Cultural Control

The steps discussed below are important both to prevent carpenter ants initially and to make sure they don't return. No control program can be effective if the conditions which allowed the carpenter ants to invade in the first place are not eliminated.

1. Eliminate Sources of Moisture. Repair any rotten or weather-damaged wood and make sure that attic and crawl space ventilation is adequate. Inspect gutters and downspouts to be sure that they work and do not leak, and that water is being properly diverted away from the house. Clean out the gutters before the rainy season begins. There should be no wood in contact with soil at any part of house, porch, deck, etc. Soil should be kept away from wooden structures, particularly supports for decks and porches and door frames. Deck supports should rest on cement.
2. Store Firewood Properly. Firewood piled against the side of the house invites carpenter ants. Firewood should be elevated off the ground and kept as far from the house as practical. Before bringing wood into the house, knock off any insects, and check carefully for any small nests or tunnels.
3. Maintain Trees and Shrubs. Trees and shrubs should be pruned back so that they do not touch the house or garage, including roofs. Stumps should be completely removed. Be aware that decorative bark and driftwood brought into the yard may harbor carpenter ants and provide nesting sites.

■ Physical Controls

If all nests can be located and removed, stray ants captured, access points caulked, and all damaged wood replaced, no chemical treatment is required. This sounds like a tall order, but if the infestation is accessible and has not spread too far it can be an option. It is particularly appropriate if nests are in accessible voids rather than in the wood itself. A good shop vacuum can be used to capture most of the ants.

■ Chemical Control

A chemical pesticide is always the last resort, but chemical controls are often required for carpenter ants. Usually these chemicals are applied by professional applicators. Choosing the least-toxic chemicals that will do the job is not always easy, particularly since applicators may claim that they use only “safe” or “EPA approved” chemicals. (An informed consumer needs to know that pesticides are registered, not approved, on the basis that the benefits outweigh the risks. Registration is not a guarantee of safety, and it is a violation of federal law to claim that any pesticide is safe.)

Many applicators will propose treating the house and also applying a perimeter spray outdoors, usually more than once, to prevent reinfestation. We don’t recommend that approach because the perimeter treatment is ineffective if the nest hasn’t been destroyed and unnecessary if it has. Instead, we suggest you work with a company that is committed to least-toxic methods and has experience using the materials described below. The more localized a pesticide application can be, the lower the risk.

Boric acid is a powder which can be placed into wall voids. It is moderately toxic and does pose a risk to children and pets if accessible to them. Placed in wall voids, however, boric acid does not enter living spaces because it does not evaporate. Another new reduced-risk chemical that can be used in walls is eugenol, a derivative of clove oil.

Recently, baits have become available for carpenter ant control. Baits tempt ants with various food attractants, and some are designed to be taken back to the nest by foraging ants, thus increasing the effectiveness of control. The active ingredients currently used in baits are boric acid, fipronil, and avermectin (abamectin). All have human toxicity and should only be used in ways that minimize human or pet exposure. The use of bait products can be effective and can reduce the risks of exposure to pesticides. Ask your pest control operator about a control program that includes baits, especially when used either in bait stations or in crack and crevice applications where human contact is unlikely.

Chemicals called pyrethroids are also frequently used for carpenter ant control. Pyrethroids include chemicals such as cyfluthrin, cypermethrin, permethrin, and bifenthrin. While less toxic than older chemicals like diazinon and chlorpyrifos that are no longer used, pyrethroids should be considered the last resort. Don’t be fooled if an applicator tries to tell you that pyrethroids are made from dried flowers. Pyrethroids are synthetic chemicals that are distant cousins of pyrethins, the naturally occurring insecticides that do come from chrysanthemum flowers. Some pyrethroids are much more toxic and environmentally persistent than pyrethrins.

Choosing a Pest Control Operator

If you hire a professional pest control operator (PCO), it is important to find one who will be receptive to your concerns about pesticides. We have heard of PCOs who make outrageous claims of pesticide safety, overapply pesticides, don’t do the job right and then charge for on-going service, and have even sprayed the wrong house! There are many reputable companies, however. Don’t be pressured to make a quick decision. Don’t accept claims of safety at face value. Ask questions. If the company gets impatient with you, look elsewhere. You might also want to call your local better business bureau to find out if the PCO has a good record. To help you in your selection, we suggest you request the information shown in the box at the right.

Ask for a written report following the inspection, **before** you make your decision. This report should explain the severity and extent of the problem and outline the control

Information Your PCO Should Provide

1. Target pest, scientific and common names.
2. Product used
3. Active and, if available, inert ingredients in the product
4. Dates of use
5. Amounts of total mixture applied
6. Locations where applied
7. Person making the application
8. Relevant information about conditions at the site at the time of application
9. Antidote, if an accident with the material should take place

methods and materials to be used. It should also include the price and clearly state any guarantees the company is making. Having this information on paper makes it easier for you to assess any potential health impacts from the treatment and helps in comparing bids from different contractors. Some companies have several different types of chemical treatment available. Discuss with them the possibilities of using dessicants or boric acid rather than organophosphate or carbamate insecticides.

Finally, try to find a company that is willing to do more than just apply chemicals. They should identify structural problems that may be attracting carpenter ants or allowing entry. A pest control company should be able to caulk or otherwise block entry holes, and they should indicate carpentry or masonry repairs that would help prevent a repetition of the problem.

For more information on chemical pesticides and for referrals to companies using least-toxic alternatives, contact the Washington Toxics Coalition at 206-632-1545. At present, few PCOs use dessicants and boric acid, but we expect their numbers to grow, particularly if demand is expressed for such services. ■