

## Least-toxic Control of Carpenter Ants

Carpenters are important decomposers of decaying trees in forests, but, as one of the most efficient wood-destroying insects in the US, in our homes they are damaging, expensive pests.

Carpenter ants come in a variety of sizes and colors. They range from 1/8 - 1/2 inch (7-15 mm) long and can be red, red and black, or all brown. They have two distinguishing characteristics: they have only one node between their thorax and abdomen, and their thorax is evenly rounded in profile, with no spines.

The damaged wood in carpenter ant nests has smooth, clean galleries that feel as if they have been polished with fine grit sandpaper. There will be no frass, sawdust, mud, mastic or any other debris in the nest. The galleries normally follow the grain of the wood and are excavated in the softer portions, with connecting passages through the harder wood. The galleries are wide and irregular in shape, and often have rounded edges. Carpenter ants often have multiple nest sites.

Unlike termites, which burrow into the wood to feed upon it, ants burrow only to construct their nests. Nests are often kept clean by ants pushing wood bits and other debris out of the nest through a crack or slit, called a "window," into a dump pile of "frass." Carpenter ants have distinctive dump piles. Since they are simply excavators, their frass is mostly small, irregular piles of wood and look very much like sawdust. The frass will also contain ant feces, bits of soil, gravel and other debris, leftover pieces of their food (seed coats and the indigestible parts of other insects), and dead carpenter ants.

Carpenter ants will usually nest in water-damaged or softened, decaying wood – where there have been plumbing leaks, where wood has been repeatedly soaked by rain or condensation or where wood meets soil. They often begin their nests in decayed wood and then move to dry, sound wood. They can also nest in insulation, small voids or hollow doors.

### Prevention

- Reduce moisture within the structure. Repair all roof and window leaks. Adequately ventilate damp areas such as basements and crawl spaces. Properly grade soil around the home to drain water away from the structure.
- Prune tree and bush branches so they are not against the house walls.
- When doing repairs or creating new structures, use a naturally resistant wood such as cedar, cyprus or jarrah.

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## Monitoring

- Watch the ants to find the location of their nest. Use jelly or honey as bait to find entrances in walls.
- Ascertain the extent of the infestation. You can hire a pest control company to do this, but make sure you are not obligated to enter a treatment contract along with the inspection.
- You can also conduct your own inspection. Use a flashlight to inspect the entire structure. Look for signs of wood boring activity such as sawdust, cracks, holes and mildew, as well as frass (insect droppings).
- Use a screwdriver to carefully probe suspicious looking hollow places.
- Determine if the infestation is active. How fresh are the frass and sawdust? If you spot live ants, you definitely have an active infestation.

## Control

- Since carpenter ants can only survive in a narrow temperature range, **manipulation of the temperature** provides a non-toxic control. Various pest control companies may offer to tent and heat the house, or provide an alternative freezing method.
- **Boric acid** provides a least-toxic alternative for control. Both Timbor™ and BoraCare™ offer control, but must be handled with care, as boric acid is a poison. BoraCare™ can only be used by a pest control applicator.
- Insecticidal dusts such as **silica aerogel and diatomaceous earth** are another least-toxic option. Beware that some varieties of the products that contain these dusts also include pyrethrins. When applying insecticidal dusts wear goggles, gloves and breathing protection. Do not apply insecticidal dusts where they may accumulate in water runoff, as these chemicals are toxic to fish. Both silica aerogel and diatomaceous earth are inorganic and will remain effective for a long time. Keep any areas treated with these chemicals marked for future reference.

## References

Beyond Pesticides/NCAMP. "Least Toxic Control of Pests In the Home & Garden: A series of pest control & chemical factsheets." Washington, DC.

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