
CARPENTER BEES

Integrated Pest Management In and Around the Home

Carpenter bees build nests in wood, creating galleries that can weaken structures; however, they rarely cause severe damage. People may be frightened by carpenter bees because of their large size, their similarity to bumble bees, and their annoying noise.

IDENTIFICATION

Most carpenter bees, *Xylocopa* spp., are large and robust insects (Fig. 1) resembling bumble bees. They are usually about 1 inch long and colored a metallic blue-black with green or purplish reflections. They differ from bumble bees in that they have a shiny, hairless abdomen. Males of some species are lighter colored, ranging into golden or buff hues.

LIFE CYCLE

Female carpenter bees bore into sound or sometimes decaying wood to make nests. Nests usually consist of tunnels $\frac{1}{2}$ inch in diameter and 6 to 10 inches deep, partitioned into several chambers, each containing an egg and a supply of food (pollen). Carpenter bees may use old tunnels for their nests, and sometimes enlarge these; several bees may use a common entry hole connecting to different tunnels. Over a period of time, tunnels may extend as far as 10 feet into wood timbers. Tunnels are vacated after the brood's larval and pupal stages complete their development. Development from egg to adult may take about 3 months. Carpenter bees overwinter as adults, often in old tunnels, and there is only one generation a year.

DAMAGE

Carpenter bees cause damage to wooden structures by boring into timbers and siding to prepare nests. Car-

pen-ter bee nests weaken structural wood and leave unsightly holes and stains on building surfaces. Sound, undecayed wood without paint or bark is usually selected for nests. Carpenter bees also frequently attack dead wood on trees or lumber from southern yellow pine, white pine, California redwood, cedar, Douglas fir, cypress, mimosa, mulberry, ash, and pecan trees. They avoid most harder woods. The presence of carpenter bees around buildings and wooden structures can be annoying or even frightening; however, males cannot sting and females rarely attack.

MANAGEMENT

Prevention is the main approach to managing carpenter bees. If possible, susceptible exterior parts of a building should be constructed out of hardwoods not normally attacked by the bees for nests. On all buildings, fill depressions and cracks in wood surfaces so they are less attractive. Paint or varnish exposed surfaces regularly to reduce weathering. Fill unoccupied holes with steel wool and caulk to prevent their reuse. Wait until after bees have emerged before filling the tunnels. Once filled, paint or varnish the repaired surfaces. Protect rough areas, such as ends of timbers, with wire screening or metal flashing.

Carpenter bees are generally considered beneficial insects because they help pollinate various crop and noncrop plants. Under most conditions they can be successfully controlled using the preventive measures described above. If infestation is high or risk of damage is great, insecticides may be used to augment other methods of control. To do this, treat active nests (those containing eggs, larvae, or pupae) with liquid or dust

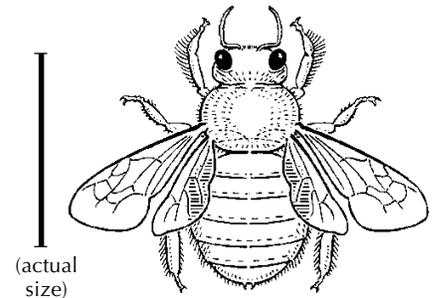


Figure 1. Carpenter bee adult.

formulations of insecticides or desiccant dusts. Liquid formulations containing permethrin and cyfluthrin and dusts containing boric acid and carbaryl are currently labeled for use against carpenter bees. Chlorpyrifos is also registered and available both as a liquid formulation and a dust. This material, however, has the potential for contaminating drain water and is not recommended. Desiccant dusts are inert dusts combined with absorptive powders (diatomaceous earth or boric acid) that destroy insects by abrading their protective outer body cover, causing them to dry out. Desiccant dusts are low in toxicity to people and their pets and do not lose their effectiveness over time, so long as they do not get wet. Avoid inhaling these materials, however, because they can cause serious lung irritation.

After the brood is killed, repair holes with steel wool and wood filler, then repaint or varnish the repaired surfaces.

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EDITOR: B. Ohlendorf
 ILLUSTRATION: D. Kidd
 TECHNICAL EDITOR: M. L. Flint
 DESIGN AND PRODUCTION: M. Brush

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WARNING ON THE USE OF CHEMICALS

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Confine chemicals to the property being treated. Avoid drift onto neighboring properties, especially gardens containing fruits and/or vegetables ready to be picked.

Dispose of empty containers carefully. Follow label instructions for disposal. Never reuse the containers. Make sure empty containers are not accessible to children or animals. Never dispose of containers where they may contaminate water supplies or natural waterways. Do not pour down sink or toilet. Consult your county agricultural commissioner for correct ways of disposing of excess pesticides. Never burn pesticide containers.

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