

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 their abdomen is shiny with fringes of hairs on some segments. Males of some species are lighter colored, ranging into golden or buff hues.

LIFE CYCLE

Female carpenter bees bore into sound wood or sometimes into decaying wood to make nests. Nests usually consist of tunnels $\frac{1}{2}$ inch in diameter and 6 to 10 inches deep that are partitioned into several chambers, each containing an egg and a supply of food (pollen). Carpenter bees may use old tunnels for their nests, which they sometimes enlarge; 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 tim-

bers and siding to prepare nests. The 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

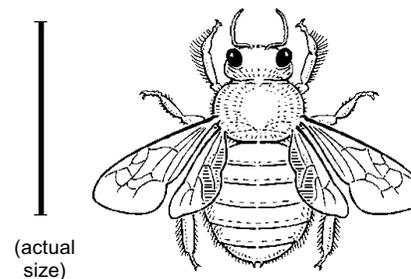


Figure 1. Carpenter bee adult.

do this, treat active nests (those containing eggs, larvae, or pupae) with liquid or dust formulations of insecticides or desiccant dusts. Liquid formulations containing permethrin and cyfluthrin and dusts containing boric acid are currently labeled for use against carpenter bees. 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 animals 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.

COMPILED FROM:

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

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



This publication has been anonymously peer reviewed for technical accuracy by University of California scientists and other qualified professionals. This review process was managed by the ANR Associate Editor for Pest Management.

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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.

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 or vegetables ready to be picked.

Do not place containers containing pesticide in the trash nor pour pesticides down sink or toilet. Either use the pesticide according to the label or take unwanted pesticides to a Household Hazardous Waste Collection site. Contact your county agricultural commissioner for additional information on safe container disposal and for the location of the Household Hazardous Waste Collection site nearest you. Dispose of empty containers by following label directions. Never reuse or burn the containers or dispose of them in such a manner that they may contaminate water supplies or natural waterways.

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