



Carpenter Bees

Xylocopa species; Family: Anthophoridae; Subfamily: Xylocopinae

Injury: Carpenter bees bore into wood to make a home for the young. In preferred sites, bees can drill a large number of holes. A common species in the Northeast, *Xylocopa virginica*, drills holes 1/2 inch in diameter. Often the same nesting sites are used year after year, and the same tunnels are reused. The damage is primarily to fascia boards. Nail holes, exposed saw cuts, and unpainted wood are attractive nesting sites to these insects. Porches, garages, shed ceilings and trim, railings, roof overhangs and outdoor wooden furniture, are all common nesting sites. Continued borings may weaken some wooden structures, and the yellow "sawdust and pollen" waste materials may stain cars, clothing, or furniture.

Behavior: The males are territorial, and in the spring they often guard the potential nest sites. They discourage intruders by hovering or darting at any moving thing that ventures into the nesting area. This can create a "human annoyance" factor, and it is one that often startles and concerns the homeowner.

However, male carpenter bees do not sting. The female carpenter bee, like many other bees, can sting - but it is uncommon for her to do so.



Fig. 1. A carpenter bee visiting a flower. Note the yellow hairs on the thorax and the shiny black abdomen, which is hairless. (Photograph Tom Murray www.pbase.com/tmurray74)

Description: Carpenter bees of the genus *Xylocopa* are large black and yellow insects about one inch long that closely resemble bumblebees (**Fig. 1**). The thorax is covered with yellowish hairs. The abdomen is mostly a shiny black, with few hairs (in contrast, bumblebees often have a band of yellow or orange hairs on the abdomen).

Carpenter bee species of a different kind, in the genus *Ceratina*, are much smaller (about 1/4 inch long), and dark bluish green in color. Those carpenter bees makes tunnels within the pith of plant stems, rather than in solid wood

Life Cycle: *Xylocopa* Carpenter bees nest in dry wood. They overwinter as juvenile adults in the tunnels from the previous year. Those that survive the winter mate in the spring (April to June) and then begin nesting activities. They

often refurbish old tunnels in preference to boring new ones. The tunnel constructed by the bee may be a foot or more in length. The eggs are placed in cells within the tunnel (**Fig. 2**). In each cell the female places nectar and pollen she has gathered from flowers as provisions for the young. The larvae hatch and feed on the pollen and nectar and then pass through the pupa stage. New adults emerge before cold weather sets in during the early fall.



Fig. 2. A section of wood cut in half to expose the chambers or cells constructed by a carpenter bee. (USDA Forest Service Archive, USDA Forest Service, www.Bugwood.org)

Management: Remember, carpenter bees are pollinators of flowers, and therefore are considered beneficial. If they are not in a place where they are bothering anyone, they can be left alone. The majority of the tunneling damage is just to fascia boards. Some people remove the boards with the bees in them, placing them out of the way, and replace with new boards. New boards should be painted or finished promptly to discourage carpenter bees taking up residence.

Well-painted finished structures are a deterrent to carpenter bees. Sometimes, however, the bees persist and it is necessary to treat. Treatment with an insecticide and sealing of the tunnel is recommended. Treatment is usually best done before nesting activity gets underway - nesting and the rearing of young occurs in the late spring

or early summer in most years. Treat when the bees are seen early in the spring. Some commercial wasp and hornet sprays list carpenter bees on the label, and are effective and easy to use. The material should be applied after dark on a cool evening (when the bees are less active) to the tunnel entrances and along exposed surfaces.

Products registered in New York State in 2009 to treat nest holes in structural wood outdoors include: bifenthrin, carbaryl, deltamethrin, lambda-cyhalothrin, permethrin, or tetramethrin (with other ingredients).

Whatever the treatment that you choose, after activity is no longer observed, repairs should be made to the wood. A few days after application, if no activity is observed, the holes should be plugged deeply with putty, caulking compound, or stainless steelwool. If the tunnels are plugged without first killing the insects, carpenter bees trapped inside will bore new openings.

Reprinted from *Carpenter Bees* prepared by Carolyn Klass, Senior Extension Associate and Edgar M. Raffensperger, Professor, Department of Entomology, Cornell University, 6/72.

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The Pesticide Management Education Program (PMEP), in cooperation with the New York State Department of Environmental Conservation (NYSDEC), maintains a web site with a searchable database for pesticide products currently registered in New York State. Individuals who have Internet access can locate currently registered products containing the active ingredients suggested above at <http://pims.psur.cornell.edu/> (NYS PIMS).

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available, and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (NYSDEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional NYSDEC office. Read the label before applying any pesticide.

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