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Common Name: **Eastern Carpenter Bee**
Scientific Name: ***Xylocopa virginica***

CARPENTER BEE



Introduction. Carpenter Bees get their common name from their habit of boring into wood to make galleries for the rearing of young. These are worldwide in distribution with 7 species occurring in the United States. The eastern carpenter bee is common in Ohio.

Recognition. The eastern carpenter bee, *X. virginica*, is the most common eastern species and its range extends westward to Kansas and Texas. It is about 1" long and closely resembles the bumble bee except that the abdomen is black and shiny instead of at least partially covered with yellow hairs. The male has a yellow rectangle on its face, whereas, the female's is totally black.

Similar Insects. (1) Bumble bees (*Bombus* species) have a hairy abdomen with yellow and/or black markings. (2) Some robber flies (Asilidae: *Laphria* species) resemble bumble bees and carpenter bees but possess only 1 pair of wings. (3) The bumble bee hawk moth or snowberry clear wing (*Hemaris diffinis*) resembles bumble bees and carpenter bees but have coiled siphoning mouthparts and dark fuzz-like scales on the edges of the wings.

Biology. Carpenter bees are not social insects and do not live in nests or colonies. The adults overwinter, typically in abandoned nest galleries. In the spring, the survivors emerge and feed on nectar. Then mating begins and extends into nest-construction time. The mated female may either reuse an old gallery, construct a

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new one by lengthening an old gallery, bore an entirely new one, or extend a gallery from a common / shared entrance hole. The female typically bores a circular hole (same diameter as her body – 3/8 to 1/2 inch in diameter) straight into the wood, across the wood grain, for a distance equal to her body length. Then the gallery takes a right-angle turn, usually with the grain of the wood and parallel to the outer longitudinal surfaces. New galleries average 4 to 6 inches long but galleries developed and used by several bees may extend up to 10 feet.

The female provisions each gallery cell, starting at the closed end of the gallery, with a mass of pollen and regurgitated nectar upon which she lays a single egg. This portion of the gallery is then sealed off with a chewed wood-pulp plug, making a chamber or cell. This process is repeated until a linear series of 5 to 6 cells is completed, about 1 cell per day. Developmental time (egg to adult) for the eastern carpenter bee is about 36 days.

Habits. Females of the eastern carpenter bee will nest in a wide range of woods, but prefer weathered and unpainted wood. Male carpenter bees tend to be territorial and often become aggressive when humans approach, sometimes hovering a short distance in front of one's face or buzzing around one's head. Since males have no stinger, these actions are merely show. However, the female does have a potent sting which is rarely used.

Cultural Control & Preparatory Measures. Carpenter bees rarely attack freshly painted or stained wood. They can be discouraged from using wood by applying a clear water-proofing product or varnish yearly, early in spring.

Carpenter bees have difficulty clinging to smooth, glossy surfaces. Treated and abandoned entrance holes should be patched with wood filler and refinished to help prevent further use by carpenter bees.

Professional Control. A Varmant Guard technician approaches carpenter bee control by treating each individual entry hole and gallery with an appropriately labeled residual insecticide. Aerosol injection systems, compressed air sprayers and dust application equipment are most often used to treat galleries, with or without a ladder, depending on the situation. Treatment efficacy is best on chilly, overcast and rainy days when bees take refuge in their galleries.



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Carpenter bee gallery and damage to fascia board