



Native and Solitary Bees in Virginia

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Introduction

Although honey bees are well known for their beneficial pollination and honey production, other native bees found in Virginia sometimes impact humans in various ways that range from beneficial to annoying. Even when their presence is undesirable, native bees are important pollinators for fruits and vegetables.

Carpenter Bees

Carpenter bees, *Xylocopa virginica* (Hymenoptera: Anthophoridae), are large heavy-bodied bees often mistaken for bumble bees (Fig. 1). Their bodies are covered with bright yellow or orange hair, except for the shiny, black abdomens. Adult carpenter bees measure about 2.5 cm (1 inch) long.



Figure 1. Carpenter bee with a sealed gallery entrance hole (Johnny N. Dell, Bugwood.org).

Carpenter bees build their nests in wood siding, the ends of logs used in log frame houses, or other areas where bare wood is exposed. Males and females cut a 1.3 cm (0.5 inch) circular hole into the wood with their strong jaws, then tunnel parallel to the surface of the wood. The female stores food and lays eggs in

individual cells within the tunnel, where the larvae develop.

Carpenter bees can cause extensive damage to wooden structures. Woodpeckers will also peck out the immature bees, causing further damage. When control is necessary, spray an aerosol insecticide into the entrance hole and plug the opening with wood putty. Traps for carpenter bees are also available.

Bumble Bees

Bumble bees, *Bombus* spp. (Hymenoptera: Apidae), are large, hairy bees with stout bodies (Fig. 2). Unlike carpenter bees, their abdomen is fully covered with hairs. They measure about 2-3 cm (0.5-1.5 inches) long and are usually black and yellow. Their somewhat clumsy nature and the buzzing sound in flight is the source of their common name. Currently 14 species of bumble bees are found in Virginia.

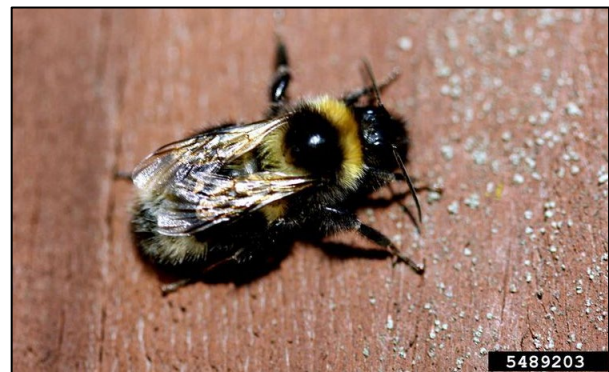


Figure 2. Bumble bee (Whitney Cranshaw, Colorado State University, Bugwood.org).

Bumble bees are often seen foraging on flowers. Some species choose nesting places around houses, or wooden storage sheds and small barns. Bumble bees will sometimes use old nests made by small rodents.

Bumble bees are beneficial insects, performing pollinating services for such crops as tomato, red clover, and blueberries. Many species collect and carry pollen on their hind legs to bring it back to their nest. Because of their beneficial nature, control is not usually recommended for bumble bees. If necessary, find and destroy the nest. Individual bumble bees that stray indoors can be controlled with an aerosol insecticide.

Andrenid Bees

Also known as mining bees, andrenid bees (Hymenoptera: Andrenidae) are one of the first bees seen in the spring (Fig. 3). Andrenid bees are solitary ground nesting bees, but will sometimes nest together in large numbers if they found a suitable patch of soil. They swarm defensively over the ground when people approach their nesting site, but this is more of a bluff because they rarely sting. Andrenid bees are active for only a few weeks during the year when the females are excavating tunnels and provisioning underground cells for their offspring. The immature bees spend the rest of the year underground and emerge as adults next spring.



Figure 3. Andrenid bee (Susan Ellis, Bugwood.org).

These are small to moderate sized bees that look like dark honey bees. They are considered beneficial pollinators of crops and fruit trees and should be left alone if possible. Since they do not like to nest in wet soil, watering their nesting sites during the short nesting time will discourage them from nesting in that spot.

Leafcutter Bees

Leafcutter bees, Hymenoptera: Megachilidae, resemble small dark, honey bees. They are solitary

bees that cut small holes out of leaves (Fig. 4) to line a nesting cells for the immature bees (Fig. 5). They often make nests in door and window frames and can be a nuisance. The nest can be removed if objectionable, but otherwise they are beneficial pollinators and can be left alone.



Figure 4. Leafcutter bee damage to lilac (Joseph Berger, Bugwood.org).

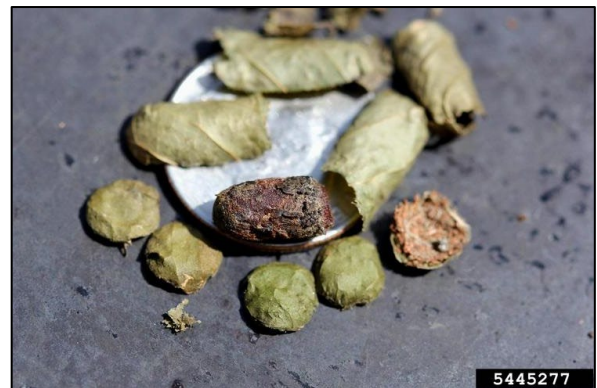


Figure 5. Leafcutter bee cocoons with leaf fragment coverings (Whitney Cranshaw, Colorado State University, Bugwood.org).

Sweat Bees

Sweat bees, Hymenoptera: Halictidae, are noted for their bright, metallic coloration (Fig. 6) and their habit of collecting sweat for the salt. They can sting, especially when caught between clothes and sweaty skin, but they are otherwise beneficial pollinators.



Figure 6. Sweat bee (David Cappaert, Bugwood.org).

Orchard Mason Bees

Orchard mason bees, *Osmia* spp. (Hymenoptera: Megachilidae) are excellent pollinators for home gardens and orchards (Fig. 7). An individual orchard mason bee can visit up to 60,000 flowers in her lifetime. They are also very docile and rarely sting, making them suitable for urban situations. These bees will build their nests in cracks of wood, tunnels made by other insects, or similar places as long as the opening is just barely wider than their body. They are solitary and do not share tunnels, but they will nest near others of the same species.

Naturally low densities of orchard mason bees can be encouraged with bee houses placed around the property (Fig. 8). Bee houses can be purchased, but making one is easy. Use a block of untreated wood measuring 30 x 10 x 15 cm (12 x 4 x 6 inches). On the 10 cm side, drill holes that are 14 cm (5.5 inches) deep with a 5/16 drill bit. Mason bees will only use holes made with a 5/16 drill bit. Drill the holes about 2 cm (0.75 inch) apart in rows.



Figure 7. Orchard mason bee (Joseph Berger, Bugwood.org).

To protect the larvae from woodpeckers, place 1.3 cm (0.5 inch) hardware cloth on one side of the block and curve it around to the other side so that it bows out in front of the entrances. Attach firmly on both sides of the block. Holes capped with mud indicate that orchard mason bees are using the bee house.



Figure 8. Orchard mason bee nesting box with two cells capped with mud (Scott Famous, DoD, Bugwood.org).

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