

Bee Identification and Safety Guide

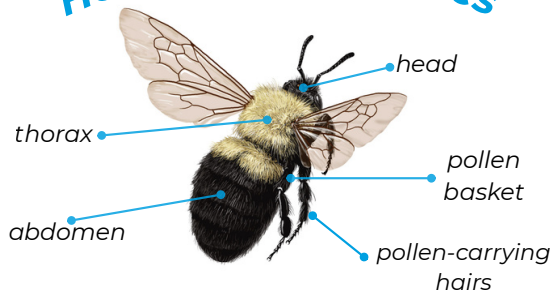
Bees are beneficial insects that pollinate flowering plants by transferring pollen from one flower to another. This is important for plant reproduction and food production. While the honey bee gets most of the credit for providing pollination services, there are actually more than 4,000 species of bees in North America!

Bee stings are rare, but isolated instances occur when humans harass bee nests, step on or pinch them, or when bees become entangled in clothing. To avoid stings, provide 20-30 feet of distance from the nest. If stung, remove any remaining stinger (if any) from your skin, wash the sting with soap and water, and apply hydrocortisone. In the rare case of an allergic reaction (wheezing or nausea), seek immediate medical care.



Protect their lives. Preserve ours.

How to Identify Bees



All bees have three body segments, a **head**, **thorax**, and **abdomen**. The head is where large multi-faceted eyes, long slender antennae, and mouthparts are found. The thorax is the middle segment where the wings and legs attach. Last is the abdomen, which may end in a stinger for some groups of female bees.

Special **pollen-carrying hairs** unique to female bees resemble dense broom bristles, and are commonly found on the rear legs or the underside of the abdomen. Some carry pollen in an almost hairless, flattened **pollen basket** on the rear legs.

Using this Guide

This card provides key features needed to identify 10 types of bees found in home landscapes. The approximate size of each bee is listed in millimeters. The following symbols will help along the way:



Common nesting locations.




Identifying behaviors to look for.



Additional ID features that may be seen with the aid of a hand lens




Bees more likely to sting/be territorial





Honey Bee


Apis mellifera 12-15 mm

Light to dark brown body with pale and dark hairs in bands on abdomen. Pollen basket present. Abdomen barrel-shaped. Head heart-shaped.





 Colonies nest in man-made hives, in the open, and in cavities. Swarm to locate new nest.

 Honey bees have hairy eyes!



Bumble Bee

Bombus spp. 8-21 mm

Black body, extensively covered with black and yellow, occasionally orange and white hairs on all body segments. Pollen basket present. Robust body. Long face.





 Colonies nest underground or at ground-level, commonly in old rodent burrows.

 Bumble bees can pollinate in cool, cloudy weather when most bees are at home.



Leaf Cutting Bee

Megachile spp. 7-15 mm

Black body with light or dark hairs. Pollen-carrying hairs beneath abdomen. Head is as broad as the thorax, with large mouthparts used to cut leaves.





 Solitary, but nest in aggregations mainly in above-ground pre-existing holes, natural or man-made.

 They cut circular pieces from leaves which are used to line their nests!



Large Carpenter Bee

Xylocopa spp. 15-23 mm

Black body with light or dark hairs. Pollen-carrying hairs on rear legs. Similar body shape to bumble bee, but abdomen shiny and mostly lacking hair. Round face.





 Nests are burrowed into wood, often in roof eaves.

 Fly fast and erratically like a humminbird!



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Sweat Bee

Halictidae 3.5-11 mm

Two forms: 1) bright metallic green or 2) black/brown with light bands of hair on the abdomen. Pollen-carrying hairs on rear legs. Slender body.



©Juliana Tuell

Nest in the soil, solitary to communal nesters.

Some are attracted to the salt in your sweat!



©Cideon Pisanty

Small Carpenter Bee

Ceratina spp. 5-8 mm

Dark blue-green and shiny, appearing hairless on all body segments. Pollen-carrying hairs on rear legs. Slender with shield-shaped abdomen.



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Solitary, nest in twigs and stems

Pale yellow marks on face. Females have vertical bar, males have upside-down "T"!



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Mason Bee

Osmia spp. 7-16 mm

Two forms: 1) black body covered in pale hairs or 2) dull metallic green-blue and less hairy. Pollen-carrying hairs beneath abdomen. Head as broad as thorax, robust body.



©Robert Engelhardt

Solitary, but nest in aggregations in above-ground pre-existing holes.

Collect mud to line their nest!



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Mining Bee

Andrena spp. 5.5-15 mm

Black body with black, yellow, and sometimes rust-colored hair on most of the body. Pollen is carried on the hairy back legs



©Luc Vratour

Dig solitary ground nests. Prefer sandy soil.

Shallow depressions between their eyes and antennae hold short velvety hairs!



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Squash Bee

Peponapis pruinosa 11-14 mm

Brown body covered in dense light hair on the thorax and in bands on abdomen. Pollen-carrying hairs on rear legs. Long antennae. Appear to have protruding "nose".



©Nelson Debarros

Ground nesting, mostly near squash and pumpkin fields.

Only collect pollen from squash and pumpkin plants!



©Pennsylvania Department of Agriculture

Long Horned Bee

Melissodes spp. 8-16 mm

Black body with light or dark hairs. Pollen-carrying hairs on rear legs. Similar body shape to bumble bee, but abdomen shiny and mostly lacking hair. Round face.



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Solitary to communal ground nesters.

Fly fast and erratically like a humminbird!

Wasp Identification and Safety

In instances of stings, people often mistake bees for the real culprit: yellow jackets and other social wasp species. Social wasps find excavated areas to build their nests, such as tree hollows, abandoned rodent ground burrows, and building eaves. Wasps can be differentiated from bees primarily by wasp's lack of hair and their sleek, shiny bodies.

Although wasps can be more territorial and prone to stinging than bee species, they typically will not sting unless provoked. Keep a wider distance from social wasp nests than you would for bees. Many native wasps are important predators of pest insects, so nests that are not causing conflicts are often best left alone. If necessary, contact a professional to remove nests in the most humane way possible. Removing food, organic waste, or garbage can also help discourage social wasps from gathering around high-traffic areas.



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©Bomb tea



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Key: 1) Paper Wasp Nest 2) Thread-waisted Wasp 3) Yellowjacket Wasp 4) Bald-faced Hornet

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