

Montana Bee Identification Guide



Casey M. Delphia¹, Kevin M. O'Neill¹, and Scott Prajzner²

¹Department of Land Resources & Environmental Sciences, Montana State University, Bozeman, MT

²Department of Entomology, Ohio State University OARDC, Wooster, OH

In cooperation with Pollinator Partnership



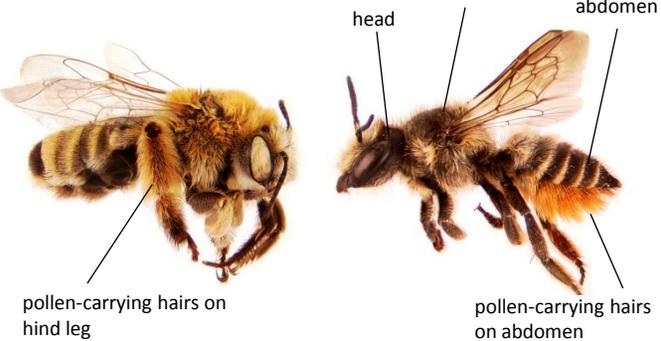
Bees play an important role in natural and agricultural systems as pollinators of flowering plants that provide food, fiber, animal forage, and ecological services like soil and water conservation. In fact, approximately three-quarters of all flowering plants rely on pollinators to reproduce. In addition to honey bees, native bees provide valuable pollination services. Though unknown, the number of native bee species in Montana is likely in the hundreds.

This guide provides information for identifying 10 types of bees commonly found in Montana including descriptions of key characters, size (mm), nesting habitat, and other identifying behaviors.

Bee Identification

Bees, like other insects, have three body segments: a **head**, **thorax**, and **abdomen**. The **head** consists of the compound eyes, antennae that are segmented and bent, and mouthparts that include jaws for chewing and a tongue for drinking nectar. The **thorax** bears the legs and four wings (two forewings and two hind-wings). The **abdomen** contains the sting in female bees. Female bees also have special **pollen-carrying hairs** or other structures commonly found on the hind legs or the underside of the abdomen. For example, honey bees carry pollen in a pollen basket which is an area on the hind leg that is bare and surrounded by incurving hairs.

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Honey bee (*Apis mellifera*)

Family: Apidae. Heart-shaped head; hairy eyes; black to amber-brown body with pale and dark stripes on abdomen; barrel-shaped abdomen; pollen basket on hind legs; 10-15mm.

- *Social colonies; live in man-made hives and natural cavities like tree holes; swarm to locate new nests.*
- *Honey bees are managed for crop pollination and honey production.*



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Leafcutting bees (*Megachile* spp.)

Family: Megachilidae. Head as broad as thorax; large jaws used to cut leaves; black body with pale hair bands on abdomen; pollen-carrying hairs on the underside of abdomen; 7-15 mm.

- *Solitary; nest in natural or man-made holes such as beetle tunnels or wood nesting blocks.*
- *Females cut circular pieces from leaves and use them to line their nests.*



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Bumble bees (*Bombus* spp.)

Family: Apidae. Robust, hairy bees; black body covered with black, yellow, orange, or white hairs in bands; pollen basket on hind legs; 10-23 mm.

- *Social colonies; often nest underground in small cavities like old rodent burrows.*
- *Bumble bees can buzz-pollinate, which is important for plants that require vibration to release pollen.*



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Sweat bees (Family: Halictidae)

Many forms including: dull black/brown body with light abdominal hair bands, bright metallic green, dull metallic blue, copper, or green, and black with a red abdomen (parasites of other bees); pollen-carrying hairs on hind legs (except in parasitic bees); 3-11mm.

- *Solitary, communal, and semisocial soil nesters; some are attracted to the salt in your sweat.*



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Small carpenter bees (*Ceratina* spp.)

Family: Apidae. Shiny, dark metallic blue-green body; sparsely haired; distinctive cylindrical abdomen; pollen-carrying hairs on hind legs; 3-10 mm.

- Solitary; nest in dead twigs and stems.
- Yellow or white markings on face (females have a vertical bar, males have an inverted T).



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Mason bees (*Osmia* spp.)

Family: Megachilidae. Robust body; broad, round head and abdomen; usually metallic green or blue; pollen-carrying hairs on underside of abdomen; 5-20 mm.

- Solitary; nest in natural or man-made holes like beetle tunnels, wood nesting blocks, or reed stems.
- Use mud or chewed-up leaves/petals for nest walls.



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Yellow-faced or masked bees (*Hylaeus* spp.)

Family: Colletidae. Slender; almost hairless; black body with yellow or white markings on head, thorax and legs; no pollen-carrying hairs; 5-7 mm.

- Solitary; nest in twigs, stems, and existing tunnels in wood.
- Carry pollen and nectar in a special storage structure of the digestive system called a crop.

Mining bees (*Andrena* spp.)

Family: Andrenidae. Black or dull metallic blue or green body; fairly hairy; pollen-carrying hairs on upper parts of hind legs (resemble "armpits"); 6-15 mm.

- Solitary; nest in the ground; prefer sandy soil.
- Andrenids are very abundant in the spring as they are one of the first bees to emerge each season.



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Long horned bees (*Melissodes* spp.)

Family: Apidae. Robust; hairy; black body with pale hair bands on abdomen; dense pollen-carrying hairs on hind legs; males have very long antennae; 7-16 mm.

- Solitary to communal ground nesters.
- Some are especially attracted to asters, sunflowers, and daisies.



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Cuckoo bees (*Nomada* spp.)

Family: Apidae. Wasp-like; sparse branched hairs; red or black body with yellow or white markings; relatively thick antennae; no pollen-carrying hairs; 5-15 mm.

- Females visit flowers for nectar, but do not collect pollen for their young.
- Females are cleptoparasites—they lay eggs in nests of other bees thereby stealing the nests and food.

A Bee or Not a Bee?

There are two major groups of insects that are commonly confused with bees—flies and wasps. In fact, many flower-visiting flies are actually **bee mimics**. By mimicking bees in appearance, they are able to gain protection from predators and even act as bee parasites. So how do you tell them all apart?

Fly Identification: Flies have only two wings, while bees have four. Flies have short, stubby antennae with long hairs or feathery antennae and sucking or sponging mouthparts. Many flies have large eyes that almost meet at the top of their heads.

Wasp Identification: Similar to bees, wasps have four wings, chewing mouthparts, a sting, and long antennae. But, while bees are usually very hairy, wasps are usually smooth and almost hairless. Wasps also have a typical, slender "wasp waist" and rarely have pollen-carrying hairs because most are carnivores and don't eat pollen. Wasps are important predators of many pest insects including cutworms, aphids, and grasshoppers. Additionally, some wasps make paper nests in trees or on buildings.

Now that you know how to tell the difference between bees, wasps, and flies, try identifying these insects. Answers are at the bottom.



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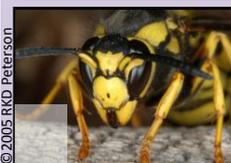
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Answers: 1) Wasp 2) Fly 3) Fly 4) Wasp 5) Sweet bee 6) Cuckoo Bee 7) Leaf cutting bee 8) Wasp 9) Fly

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