

# Southern Vancouver Island Bee Identification Guide

Adapted from guide developed by Scott Prajzner and Mary Gardiner, Department of Entomology, The Ohio State University OARDC, Wooster, OH in cooperation with Pollinator Partnership

**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. In fact, pollinators are responsible for 1 out of every 3 bites of food you eat. While the honey bee gets most of the credit for providing pollination, they are not native to North America. There are actually about 450 bee species native to British Columbia!

**Using this guide:** This card provides key features needed to identify 10 types of bees found in home landscapes. The following symbols will help along the way:



Common nesting locations.



Identifying behaviors to watch for.



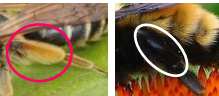
Additional ID features that may be seen with the aid of a hand lens.

## 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 cutting mouthparts are found. The **thorax** is the middle segment where the wings and legs attach. Last is the **abdomen**, which for female bees ends with a stinger. 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 bees carry pollen in an almost hairless, flattened pollen basket on their rear legs.



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### Honey bee (*Apis mellifera*) 12-15mm

Light golden to dark brown body with pale and dark hairs in bands on the abdomen. Pollen basket present. Important agricultural pollinators native to Europe.



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



Honey bees have hairy eyes!



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### Leaf cutting bee (*Megachile spp.*) 7-15mm

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



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



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



Rob Bowen



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### Bumble bee (*Bombus spp.*) 8-21mm

Black body, extensively covered with black, yellow, and sometimes orange hairs on all body segments. Pollen basket present. Robust body.



Colonies nest underground, commonly in old rodent burrows.



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



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Tyson Harrison

### Mason bee (*Osmia spp.*) 7-16mm

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.



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



Collect mud to line their nests!

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**Sweat bee (Halictidae spp.)** 3.5-11mm  
Tiny to medium size. Two forms: 1) bright metallic green or 2) black/brown with light bands of hair on the abdomen. Pollen-carrying hairs on rear legs.

- Nest in the soil, solitary to communal nesters.
- Some are attracted to the salt in your sweat!



**Yellow-faced bee (Hylaeus spp.)** 5-7mm  
Small dark bees with distinct yellow/white facial markings and wasp-like appearance. They carry pollen internally rather than on their body and are not hairy.

- Solitary, nesting in twigs and tunnels they excavate or existing tunnels.
- Line their nests with cellophane-like material!



**Parasitic bees** 5-14mm  
Often mistaken for wasps. Have little hair but can be distinguished from wasps with a bit of practice. Notice bee-like body shape and wide back legs.

- Lay their eggs in other bees' nests including ground and tunnel nesting bees
- Can be distinguished from wasps by presence of branched hairs

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**Small carpenter bee (Ceratina spp.)** 5-8mm  
Dark blue-green and shiny, appearing hairless on all body segments. Pollen-carrying hairs on rear legs. Slender with shield-shaped abdomen.

- Solitary, nest in twigs and stems.
- Pale yellow marks on face. Females have vertical bar, while males have upside-down "T"!



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**Mining bee (Andrena spp.)** 5.5-15mm  
Black with light or dark hairs. Slender. Pollen-carrying hairs on rear legs and side of thorax, appearing to carry pollen in its "armpit".

- Dig solitary ground nests. Prefer sandy soils.
- Shallow depressions between their eyes and antennae hold short velvety hairs!



Annie Pang

**Digger and long-horned bees (Anthophora, Mellisodes etc spp.)** 10-20mm  
Robust, large, bumble bee-shaped bees. Carry pollen on dense hairs on the back legs. Large 'nose' or clypeus with yellow markings on some males.

- Solitary ground nesters, but often in large aggregations.
- Male long-horned bees have really long antenna!

# A Bee, or not a Bee?

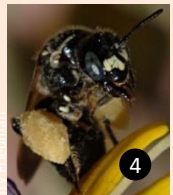
Some insects that you will see visiting flowers are **bee mimics**. While they **are not bees**, they may resemble them in appearance. But don't despair! Simple characteristics will allow you to decide if what you are looking at is indeed a bee.

Common bee mimics are **flies** and **wasps**. A **fly** has only 2 wings, while a bee has 4. They have sucking mouth parts, without the jaw-like mouthparts of a bee, and their antennae are not long and slender like a bee, but short and stubby or feathery. Many flies are easy to spot because their eyes meet at the top of their head.

A **wasp** has 4 wings, chewing mouthparts, a stinger, and long antennae like a bee. However wasps are smooth and almost hairless, while bees are generally covered with hair on their bodies and legs. Wasps also tend to have slender waists and they will never have pollen-carrying hairs. Certain wasps make paper nests that hang from trees or buildings, while bees do not.

A final clue: If your insect is eating another insect, it may be a fly or wasp. Bees are vegetarians and only eat pollen and nectar from flowers!

Now that you are a bee and bee mimic expert, try your hand at identifying these insects! Answers are at the bottom.



For more information, visit us online at:  
**www.pollinatorpartnership.ca**  
To join **the Island Pollinator Initiative** of Vancouver Island and the Gulf Islands see us on Facebook

Answers: 1) Wasp nest 2) Fly eating lady beetle 3) Fly 4) Bee 5) Wasp 6) Bee 7) Fly 8) Wasp 9) Leaf cutting bee