

CUCKOO BEES

A diverse group of cleptoparasitic bees that lay their eggs in other bees' nests. No pollen collecting hairs.

Melecta parasitize early flying bees in the pollen pants, Apidae family such as *Habropoda*. **Sphecodes** hunt for the nests of Sweat Bees (Halictidae). A female enters the nest, kills the host egg, and replaces the egg with one of her own. **Nomada** parasitize ground nesting mining bees, such as *Andrena*. **Coelioxys** has a distinctive pointed abdomen. The female parasitizes *Megachile* (Leafcutter) bee nests. She breaks a hole in the leaf-covered nest cell and lays her egg inside. The larva hatches almost immediately and with its large mandible, kills the leafcutter bee larva.



Information compiled by Elaine Sedgman; Designed by Sherry Bennett (Thompson Shuswap Master Gardeners)
Consultation: Lincoln Best, Bee Taxonomist

Photographs: Elaine Sedgman except for:
Lincoln Best: *Bombus occidentalis*, *Bombus insularis*, *Diadasia*, *Melecta*, *Perdita*, *Colletes simulans*, *Osmia bella*
Stephen Cresswell: *Hylaeus modestus* (male)
Lori Weidenhammer: *Anthidium manicatum*, *Bombus sitkensis*, *Sphecodes*, *Hylaeus* (female)

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CITIZEN SCIENCE MONITORING GUIDE



COMMON BEES OF THE SOUTHERN INTERIOR OF BC



Drab reddish-brown honey bees are what most people think of when asked about bees. Or worse, they think of wasps, hornets and yellow jackets and painful stings. In fact, our native bees are colourful, diverse and rarely sting. Seventy per cent of native bees nest in the ground in tunnels carefully excavated and prepared by each female. The rest are opportunistic cavity nesters.

Most bees are solitary, meaning that the female does everything by herself: finding a nesting site, laying her eggs, foraging for food for her eggs and creating chambers to protect her eggs.

Most bees fly only two to four weeks depending on species, weather, and forage. And they fly, at most, the length of a football field looking for food. Exceptions are bumble bees, honey bees, and a few other semi-social bees.

We have over 500 bee species in British Columbia. Because of the range of ecosystems, (Bunchgrass, Interior Douglas-Fir, and Alpine Tundra) the Southern Interior has a high diversity of bee species. This pamphlet focuses on the most common bees that observers might see in their gardens or on hiking trails.



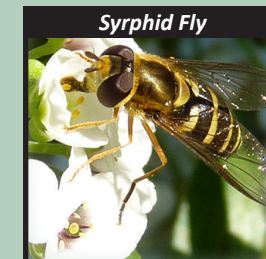
Resources:

Wilson, Joseph S. and Olivia Messinger Carril. *The Bees in Your Backyard*. Princeton: Princeton University Press, 2016.

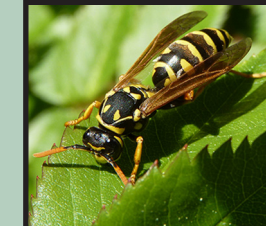
Williams, Paul, et al. *Bumble Bees of North America*. Princeton: Princeton University Press, 2014.

Lincoln Best, Bee Taxonomist – biodiversity.ca

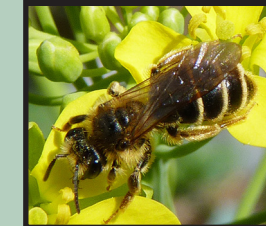
BEE, FLY OR WASP?



Wasp



Bee



FLIES

- ♦ 2 wings
- ♦ Short, thick antennae
- ♦ Ski-goggle eyes
- ♦ Thick waist/chunky body
- ♦ No pollen collecting hairs

WASPS, HORNETS, YELLOW JACKETS

- ♦ 4 wings
- ♦ Long antennae
- ♦ Very narrow waist, often narrow body
- ♦ Spindly, hooked legs
- ♦ No pollen collecting hairs

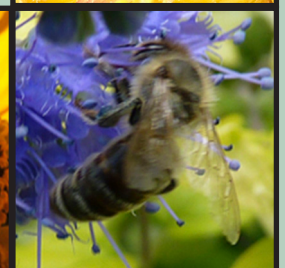
BEES

- ♦ 4 wings
- ♦ Antennae long & elbowed
- ♦ Usually hairy
- ♦ Female has special pollen collecting hairs (scopa) or pollen basket (corbicula)
- ♦ Rounder body than wasp

HONEY BEES

Family: Apidae | Genus: *Apis mellifera*

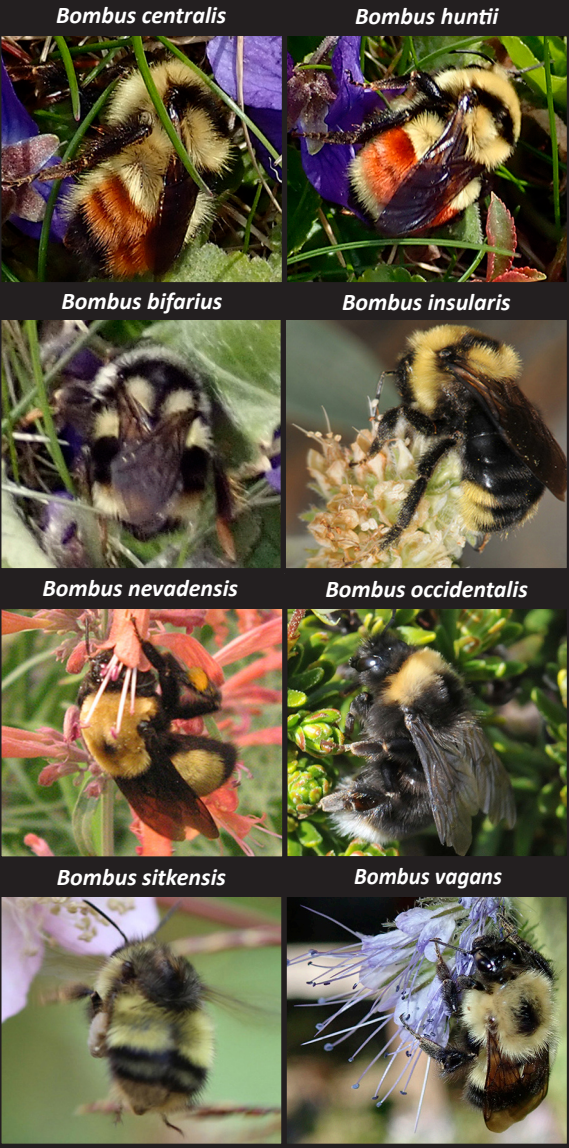
Highly social, managed, non-native bee. Abdomen is torpedo-shaped and striped; fuzzy thorax. Colour can range from orange/brown/yellow to almost black. Carries pollen as a moist clump in a pollen basket on hind legs.



BUMBLE BEES

Family: Apidae | Genus: *Bombus*

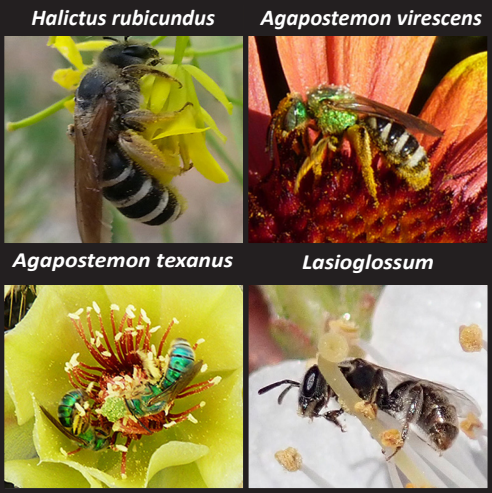
Medium to very large, social bees. Entire body is fuzzy. Carries pollen as a moist clump in a corbicula on its hind legs. A queen might recycle an abandoned mouse burrow, bird box, or a warm area under logs for a nest. There are over 35 species of bumble bees in BC. *B. nevadensis* is our largest; *B. sitkensis* is a mountain/coastal bee; *B. insularis* is a cleptoparasitic bee (Cuckoo Bee), laying her eggs in other bumble bee nests.



POLLEN PANTS BEES

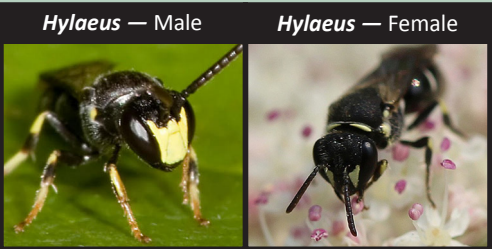
Family: Halictidae (Sweat Bees)

Small to medium sized, black to dark brown or brilliant green. Carries pollen on hind legs. Ground nesting bees with life cycles ranging from solitary to social. *Halictus* have bands of white or cream-coloured hairs at the bottom edge of each abdominal segment. *Agapostemon*, a metallic green Sweat Bee, is very common. *Lasioglossum* (*Dialictus*), the tiny dark metallic bee, is our smallest Sweat Bee.



Family: Colletidae (Polyester Bees)

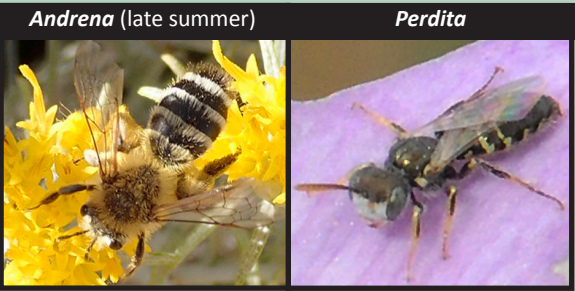
Colletes are solitary, ground nesting bees that waterproof their nests with a lining made of secretions from a specialized gland. *Hylaeus* are small bees with white or yellow markings on the face and legs. Very little hair; no scopa. Unusual for our bee fauna, females eat the pollen and nectar and regurgitate it in the nest. They nest in small cavities and hollow stems, which they also waterproof with secretions.



POLLEN PANTS BEES

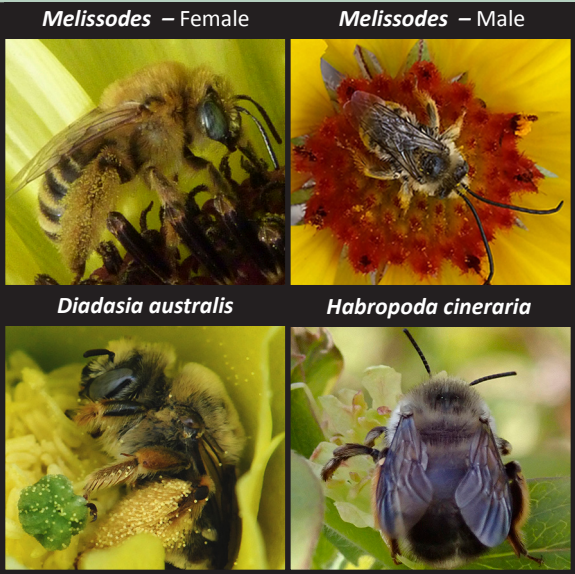
Family: Andrenidae (Mining Bees)

Andrena are solitary ground nesting bees. A diverse genus, species emerge in early spring to late summer. Females have silver, velvety hairs located in a depression on the inside of their compound eyes (facial fovea). They carry pollen on their back legs and at the base of their thorax. The smallest BC bee is the *Perdita* (Fairy Bee), a metallic blue or green bee with white or yellow stripes on its abdomen and facial markings.



Family: Apidae

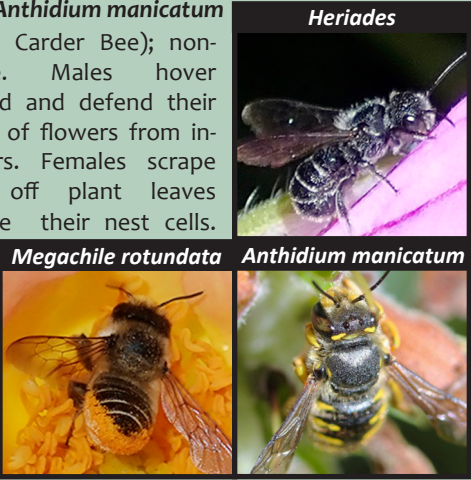
These bees are in the same family as bumble bees, but instead are solitary ground nesting bees that collect pollen on big brushes on their hind legs. *Melissodes* (Long-Horned Bees) are summer bees. *Diadasia australis* (Cactus Bee) specialize on cactus flowers. *Habropoda cineraria* are quick, spring flying bees. Females carry their pollen on orange-coloured scopa on their hind legs.



STRIPED HAIRY BELLY BEES

Family: Megachilidae

Are often black with white/silvery abdominal hair bands. Scopa located on the underside of the abdomen. Species nest in pre-existing tunnels and are all solitary bees. *Heriades* have puffy abdomen segments; females use resin to construct egg cell partitions. *Megachile rotundata* (European Leafcutter Bee); very common non-native. *Anthidium manicatum* (Wool Carder Bee); non-native. Males hover around and defend their patch of flowers from intruders. Females scrape fuzz off plant leaves to line their nest cells.



METALLIC HAIRY BELLY BEES

Family: Megachilidae

Solitary opportunistic cavity nesting bees. Scopa located on underside of abdomen. Colour ranges from metallic blue, green to black. Abdomens are rounded. There are over 60 species of *Osmia* in BC. Many females use chewed up leaves to partition their egg cells. *Osmia lignaria* (Blue Orchard Mason Bee) uses mud instead. *Hoplitis fulgida* can be mistaken for a Mason Bee, but its body is more elongated.

