

You Can Help Pollinators!

- ✓ Create new pollinator habitat by planting shrubs that have a variety of flower sizes, shapes, and colours, and that bloom at different times of the year to provide consistent food sources.
- ✓ Maintain patches of bare soil, leaf litter and decaying logs and snags for nesting sites for both ground and tunnel nesting species.
- ✓ Make a bee hotel to provide nest sites for bees that nest in cavities.



www.ealt.ca/protecting-pollinators

Get Involved!

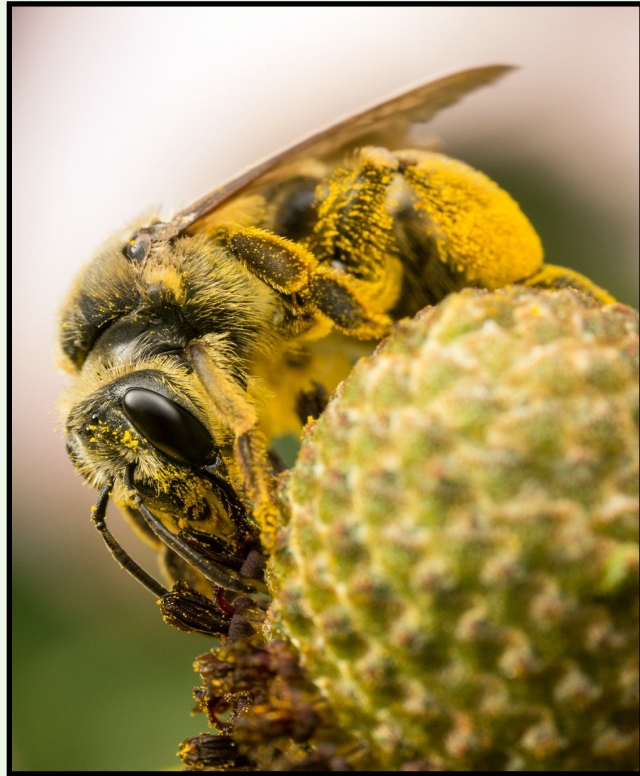
EALT protects ecologically significant land which is important habitat for many bee species as well as other pollinators. You can support EALT by volunteering or donating. Visit www.ealt.ca for more information.

Thank You!

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Bee Identification Guide



Introduction

The Edmonton and Area Land Trust works to protect natural areas to benefit wildlife and people, biodiversity and all nature's values, for everyone, forever. We steward these special places with volunteers and neighbours, who are critical to our work, and we educate the public to protect nature for future generations.

On our conservation lands, it is common to see members of the Hymenoptera order. Bees, wasps, and flies are all part of this group. These incredible species are responsible for pollinating 1/3 of our food!

There are two main differences between wasps and bees:

- 1) Bees are generally hairy and wasps are less so
- 2) Bees only eat pollen and nectar, whereas wasps also eat other insects.



Only female bees have stingers, and only the stingers of honeybees are barbed.

Unlike bees, flies have only two wings. Their antennae are also much shorter than those of bees, and their eyes are bigger and closer together.



There are over 300 species of bees in Alberta. This guide includes a summary of several of the most common groups, by genus.

Apis – Honey Bees

Brought to North America from Europe, the Honey Bee is a non-native social bee known for storing honey within their nest made of wax. There are three types of honey bee: the queen, worker, and drone.

The **queen** is the largest bee in the colony. She goes on a mating flight and mates with several drones before returning to the hive. After mating, the queen can lay around 2,000 eggs per day.



Queen surrounded by worker bees
Hadel Go, www.discoverlife.org

Worker bees are the smallest and all are females. They do everything for the hive, from cleaning to feeding the larvae. They can live up to 45 days. When they fly from flower to flower, they 'wet' the pollen so it sticks to their legs during the flight back to the nest.



Female honey bee
USGS Bee Inventory

Drone bees are all males, and are the middle sized bee in the colony. Their sole job is to mate with queens from other colonies. They can live up to 90 days but die immediately after they have mated with the queen.

Andrena – Miner Bees

Nest: In ground

Identification: Medium sized and often black-brown with some red. They have facial fovea (depressions beside each eye)

Area: Worldwide

Interesting Fact: Dig tunnels in the soil to lay eggs. Sub-social and live in loose groups, but raise own young



Bombus – Bumblebees

Nest: In ground in a group

Identification: Very large bodied and fuzzy. Make a loud buzzing sound

Area: Worldwide

Interesting Fact: A colony will produce multiple new queens who overwinter and establish new colonies the following year. The queen and workers of the pre-existing colony die



Lasioglossum – Sweat Bees

Nest: In ground

Identification: Sweat bees are variable in size with many very small species. They often have a metallic body colour and weak wing venation

Area: Worldwide

Interesting Fact: Like to land on people and lick the sweat off their skin



Nomada – Cuckoo Bees

Cleptoparasite: Lay eggs in another bee's nest so the other bee provides for their young

Identification: Wasp like bees with distinct colourations, often red, with yellow and black banding

Area: Worldwide

Interesting Fact: Do not make nests or provide for their young



Anthophora — Digger Bees

Nest: In ground

Identification: Smaller and narrower than bumblebees, and often have light coloured hair

Area: Worldwide except Australia and SE Asia

Interesting Fact: These bees do better in cool weather than other species, and are good at "shivering" to warm themselves up



Hylaeus – Masked Bees

Nest: In cavities, secrete cellophane-like substance for nests

Identification: Very small, primarily black, wasp-like bees, with yellow markings on face, shoulders and legs. Very few hairs on body

Area: Worldwide

Interesting Fact: Store pollen internally in their crops (nectar stomach) not on their bodies



Megachile – Leaf cutter Bees

Nest: In cavities, using cut up leaves to build nests

Identification: Scopal hairs (pollen-collecting hairs) on bottom of abdomen, two submarginal cells (part of wing membrane) in wings, large sharp mandibles (jaw-like)

Area: Worldwide

Interesting Fact: During pollination, pollen sticks to the underside of the abdomen



Osmia – Mason Bees

Nest: In cavities, using mud to build nests

Identification: Metallic blue bees with scopal hairs (pollen-collecting hairs) on bottom of abdomen. Have two submarginal cells (part of wing membrane) in wings

Area: Worldwide

Interesting Fact: Females use horns on face to pack mud

