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In the Garden

Native Bees in the Garden

Canada is home to more than 800 species of native bees. As pollinators, native bees play an important role in every aspect of the ecosystem. They support the healthy growth of trees, flowers, and many plants; which serve as food, shelter and nests for large and small animals. Native bees contribute to complex, interconnected ecosystems that allow a diverse number of different species to co-exist, including humans.

A favorite place for native bees to hang out is in home and community gardens. The wide variety of fruit and vegetable flowers they offer makes for an inviting buffet for foraging bees.

Native bees help to pollinate three-quarters of the crop species in agriculture fields around the world. This amounts to one-third of the global crop production by volume, (many staples like wheat and corn are wind-pollinated).

For some food crops, native bees are more effective pollinators than honeybees. Bumblebees are paramount in crops such as tomatoes, blueberries and cranberries. For these crops, flowers need to be shaken with a precise frequency to release their pollen. "That frequency is provided by the bees' buzz," says entomologist Sydney Cameron of the University of Illinois Urbana-Champaign.

It's not just farm-grown fruits and vegetables that rely on pollinators to ripen and thrive. Many species of wild plants depend on pollinators as well. Native bees are responsible for the production of many seeds, nuts, berries and fruit, which serve as a food source for humans and wild animals.

There is no doubting the importance of native bees to our local food supply. In high winds honeybees tend to stay in their hives, native bees continue to visit and pollinate crops, plants and trees. Plants and native bees have evolved in such close, specialized mutual association that they rely directly on each other. When one declines or disappears, the other follows.

Native bees themselves are also part of the food chain. Species of birds, including the ruby-throated hummingbird, prey on bees. Many spiders and insects, like dragonflies, eat bees as well.

Protecting our native bees is critical and requires us to examine our assumptions about wildlife and to value native biodiversity. The most pressing threats to long-term native bee survival are:

- **climate change**
- **habitat loss and fragmentation**
- **invasive plants and bees**
- **low genetic diversity**
- **pathogens spread by commercially managed bees**
- **pesticides**

In order to create an attractive garden for native bees it's important to appreciate these powerful pollinating creatures. A few of their behaviors might surprise you….they dance to show each other where to find food. Our native bees have relationships with microorganisms, parasitoids, plants, birds and mammals that we have barely begun to understand.

Native bees do not make honey. Many of them do not sting, except for the queen bee. You might not even realize that native bees are in your garden because they exist in an array of colors, including blue, green and common yellow-and-black bands. They can be quite small and are often mistaken for flies.

You know the term "busy bee?" Well, it couldn't be more true--native bees are extremely busy. Most female native bees are active as adults for two to six weeks. During this time, they are collecting pollen to create as many loaves and lay as many eggs as possible. Most do not live in hives but are solitary, living in the ground or hollow stems of plants or they burrow into dead wood. Inside these nesting sites, the female bee creates a pollen loaf, lays a single egg on it, then starts a new nesting site and repeats the process. To create a safe habitat for this type of nesting, it's essential to support areas of undisturbed, loose ground.

When cutting back your plants in fall, leave behind foot-long lengths of pithy (spongy tissue in innermost stems), raspberry canes or hollow stems for the tunnel nesters. Cavity-nesting bees will also use those stems the following year. To create natural bee houses, bundle together hollow stems and place them in your yard. Fallen wood, brush piles or old fence posts also provide good nesting sites. Native bees tend to like well-drained south-facing slopes.

Bee on Douglas Aster

To make foraging for pollen less arduous for our native bees, provide a diverse selection of flower shapes, heights and colors that bloom from early spring until fall. To attract bees in the garden:

- **plant in masses and choose colourful native plants (e.g. douglas aster)**
- **provide flowering plant species which bloom in early spring (e.g. willow) and in late fall (e.g. goldenrod)**
- **pick a sunny spot and provide a muddy area or shallow trough for water**
- **avoid pesticide use**

Let's celebrate the incredible diversity of our native bees and pollinator communities and be more creative in the ways we encourage others to protect and enhance the native bee population.

Bee on Hardhack. R. Rudland

Bee covered in pollen. BeeAware

Birds & Blooms/Gardening for Bees
knowablemagazine.org
canadiangeographic.ca
davidzuuki.org

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