Have you heard the BUZZ?

BUMBLEBEES

The ever-working bumblebee is often the first bee we see in spring and the last before the snow falls in autumn.

Bumblebees are between 13 and 25 millimetres in length and have a black head and hairy black and yellow stripes running along their bodies. Their wings are transparent —you can see through them — and have black veins. Females have cup-shaped features like baskets on their hind legs that are used for collecting pollen. You can tell the gender of bumblebees by counting the number of segments on their back: females have six, males have seven. If threatened, a bumblebee can sting several times because it has a smooth, not barbed, stinger. Only the females are able to sting. The males, called drones, do not have stingers.

The bumblebee is a welcome addition to the gardens and fields of many Ontario farmers and gardeners and is often regarded as the most important pollinator. As the bumblebee travels from flower to flower, it transfers pollen from one plant to another, allowing fertilization to occur. Without fertilization, plants cannot produce fruit. **It is estimated that nearly 80 percent of all flowering plants depend on pollinators like the bumblebee to survive.**

Bumblebees tend to be more solitary than other bees, meaning that generally they do not have large hives but live in small groups. Bumblebee hives are usually underground, often in the abandoned burrow of a mouse or mole. To make the burrow cosy, bumblebees line the walls, ceiling and floor of the burrow with wax.

Bumblebees are not large honey producers and create only enough of the sticky substance to sustain themselves in times of a food shortage. The colony dies out in winter. Only the queen survives until spring to build a new colony of workers. In a bumblebee's one-year life span, it spends only a few weeks as the adult bee we see buzzing around the garden. All bees start out in the egg stage and then develop into a larva, then a pupa and finally an adult, which lives for only a few weeks.

Did you know…
the bumblebee visits between 10 and 18 flowers every minute?

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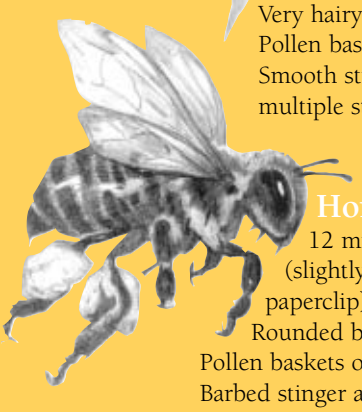
What's the difference between a wasp, a bumblebee and a honeybee?

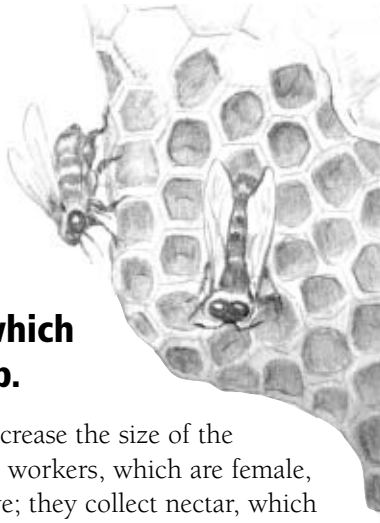
Bumblebee
13–25 mm in length
Thick, stocky body
Very hairy
Pollen baskets on hind legs
Smooth stinger allowing multiple stings



Honeybee
12 mm in length (slightly smaller than a paperclip)
Rounded body
Pollen baskets on short legs
Barbed stinger allowing only one sting

Wasp
10–25 mm in length
Slender, narrow-waisted body
Long legs
Smooth body with little hair
Smooth stinger allowing multiple stings

HONEYBEES



Honeybees are social insects. They live in large colonies in which each member has a specific job.

The queen is responsible for laying eggs to increase the size of the colony. The drones mate with the queen. The workers, which are female, are responsible for all other aspects of the hive; they collect nectar, which is made into honey, they look after the young, they clean the hive and defend it if under threat.

Larvae are fed royal jelly for the first few days. Royal jelly is a vitamin-rich substance that worker bees secrete from their glands. Queen bees eat royal jelly exclusively, but the workers eat only small amounts and the drones rarely, if ever, eat any. When the queen dies, the worker bees simply feed one of the females a diet of royal jelly. This worker bee will then develop into the new queen. In the wild, an individual honeybee can live up to five years, but the hives can continue for many generations.

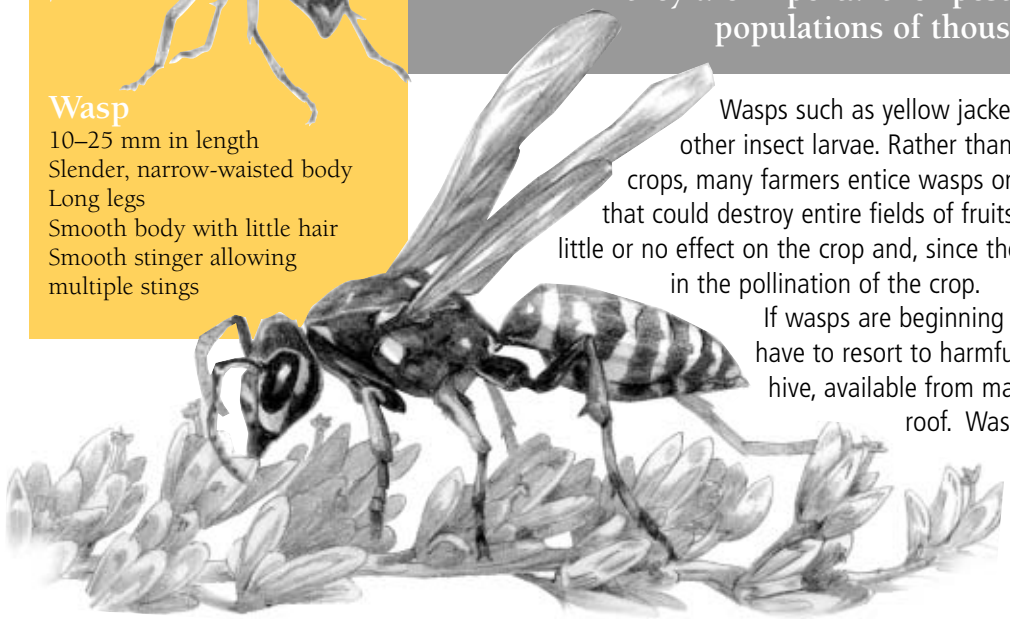
Honeybee hives are intricately constructed from honeycomb. It is made of wax that the honeybee secretes from four glands on its abdomen. The workers join six-sided wax cells together to form the honeycomb. It is believed that the individual cells are hexagonal (six-sided) in shape to reduce the amount of wax needed to construct them. A single egg is laid in certain honeycomb cells while nectar, which will be transformed into honey, is placed in others. When filled with either an egg or nectar, the honeycomb cell is capped with a protective layer of wax.

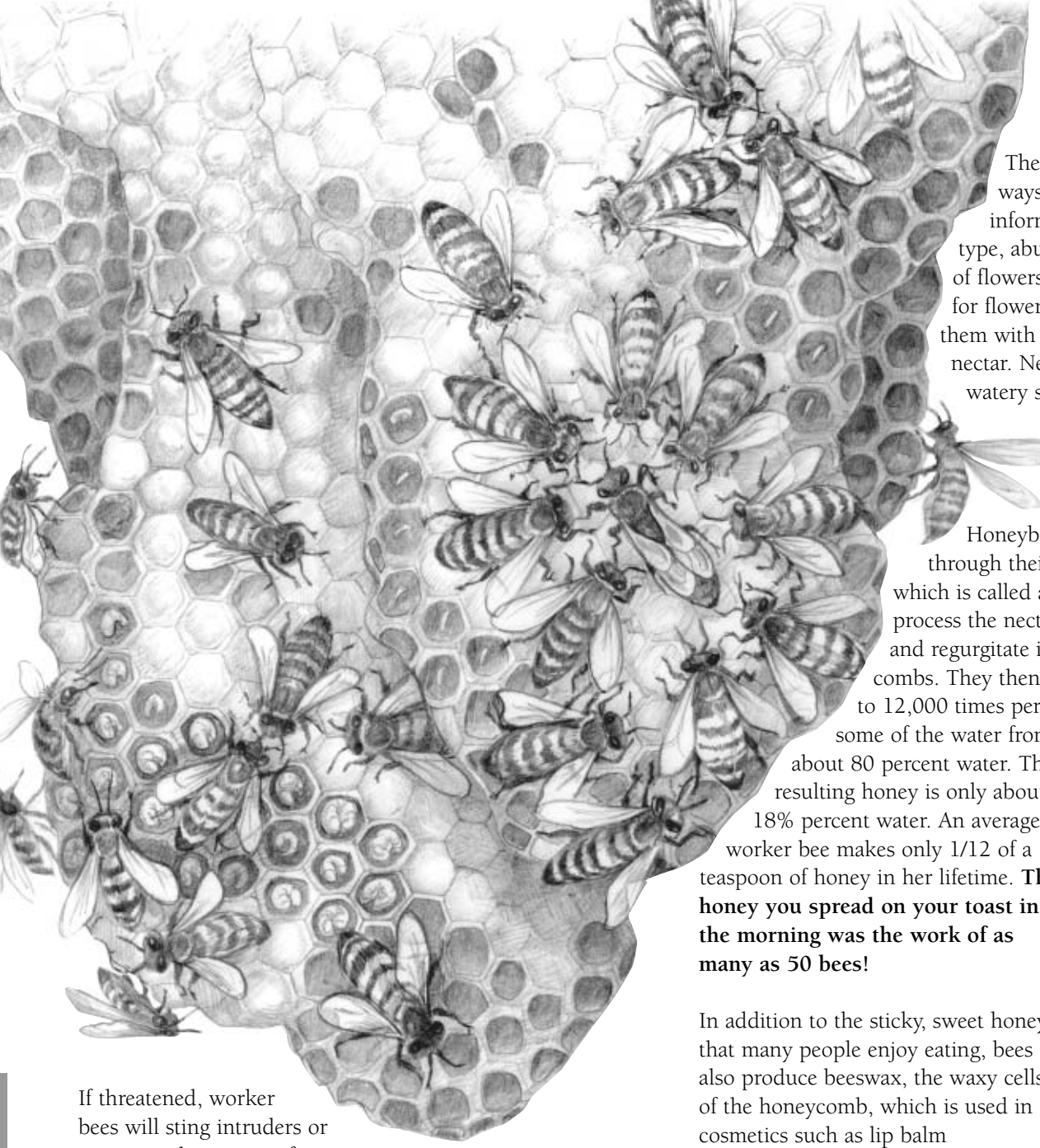
WASPS

Since most wasps are parasitic — they prey on other insect species — they are important for pest control, because they limit the populations of thousands of other insect species.

Wasps such as yellow jackets and paper wasps prey on caterpillars and other insect larvae. Rather than spraying harmful chemicals onto their crops, many farmers entice wasps onto their land to help reduce pests naturally that could destroy entire fields of fruits or vegetables. The wasps themselves have little or no effect on the crop and, since they also feed on nectar, may actually assist in the pollination of the crop.

If wasps are beginning to buzz around your backyard, you don't have to resort to harmful chemicals to get rid of them. Hang a fake hive, available from many hardware stores, in a tree or from your roof. Wasps are very territorial and will often leave if they see another hive in the area.





The bees move in specific ways to convey different information, such as the type, abundance and location of flowers. Honeybees search for flowers that will provide them with a sufficient supply of nectar. Nectar is a sweet, watery substance that bees, other insects and birds such as the hummingbird gather from flowers. Honeybees lap up the nectar through their straw-like tongue, which is called a proboscis. The bees process the nectar in their stomachs and regurgitate it into their honeycombs. They then beat their wings, up to 12,000 times per minute, to evaporate some of the water from the nectar, which is about 80 percent water. The resulting honey is only about 18% percent water. An average worker bee makes only 1/12 of a teaspoon of honey in her lifetime. **The honey you spread on your toast in the morning was the work of as many as 50 bees!**

In addition to the sticky, sweet honey that many people enjoy eating, bees also produce beeswax, the waxy cells of the honeycomb, which is used in cosmetics such as lip balm and lipstick, or to make candles.

Did you know…

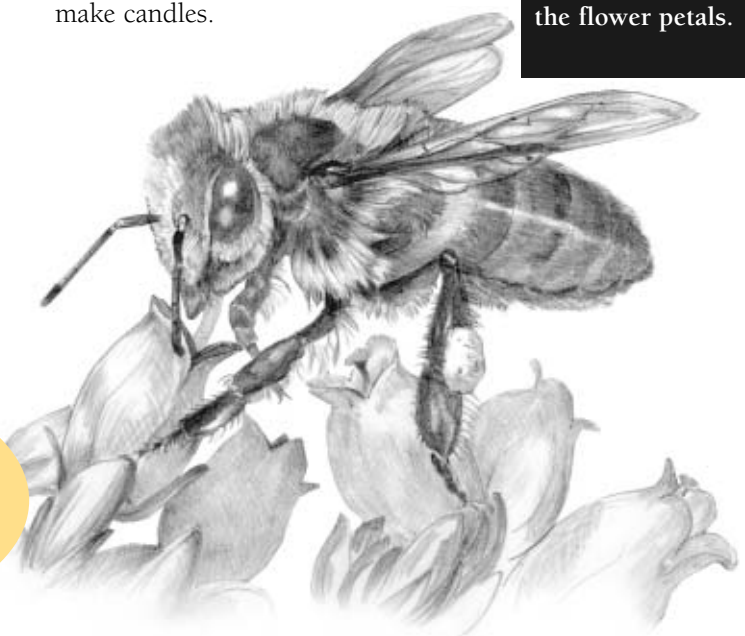
Bees see ultraviolet light and are naturally attracted to violet and blue flowers. Scientists believe that it is not only the colour of the flower that attracts bees but also the pattern of the flower petals.

If threatened, worker bees will sting intruders or enemies. The stinger of a honeybee has small hook-like structures called barbs, which become lodged in the flesh of whatever the insect stings and cause the stinger to break away from the bee. The stinger has its own set of muscles, which continue to pump venom into the victim after the initial sting. Unfortunately, the bee dies after it loses its stinger. If a honeybee stings you, it is important to remove the stinger as soon as possible and seek medical treatment to ensure that the wound does not become infected. You can apply a paste made of baking soda and water to the site of the sting to help lessen the pain.

Honeybees communicate with one another through movements called dances.

Did you know…

bees are the only insect in the world that make food suitable for human consumption?



PLEASE SAVE THE BEES

Habitat loss is one of the greatest threats to the survival of bees, just as it is to that of many other Ontario species.

In housing developments, native vegetation is replaced by gardens and large expanses of lawns. Natural habitat is also lost due to road construction and large-scale development projects.

Reductions in the bee population across Ontario have many farmers concerned about the future of their crops and livelihood.

Many bees are also killed through the use of pesticides and insecticides on lawns, gardens and agricultural fields. Although many people do not directly target bees as pests, non-specific insecticides harm most flying, creeping or crawling species, including bees.

What you can do to keep bees buzzing

- Plant flowering plants that are native to your area to encourage bees to visit your yard. Also provide a clean water supply to keep them coming back.
- Do not use pesticides or insecticides in your garden. It will be a safer place for both the bees and you!
- Bees are so busy buzzing from flower to flower, collecting nectar and pollen, that that barely have time to notice you. They are unlikely to sting unless they are threatened. Do not swat at a bee or go too close to bees that are congregating, which they may do if you are near their hive.
- Avoid walking barefoot outdoors, as some Ontario bees make their hives in the ground.
- Avoid wearing bright or patterned clothing that may confuse the bees into thinking that you are a giant flower.

Honeyed lemonade

Enjoy your own sweet and refreshing honey drink. Make this lemonade in a microwave oven.

You'll need:

- a microwave-safe measuring cup, some plastic wrap, a two-litre jug and a wooden spoon.
- 1/4 cup lemon juice (fresh or bottled)
- 1/4 cup honey
- Ice cubes and lemon slices

Directions:

Pour the lemon juice and honey into the measuring cup. Cover with plastic wrap, leaving a small hole through which steam can escape. Microwave on High for one minute. Pour the mixture into the jug, and rinse the measuring cup with water, pouring the water into the jug until it is full. Add ice and lemon slices, and stir. Refrigerate until cold. Enjoy!

HONEY

Humans have eaten and used honey for centuries. Cave paintings nearly 10,000 years old show images of people collecting honey.

For nearly 3,000 years, humans have used honey to treat wounds. It is a natural antiseptic and antibacterial agent and is often used with lemon as a remedy for sore throats and to treat laryngitis.

Honey does not need to be refrigerated and will last for up to three years when stored in a cupboard. Over time, honey will crystallize, especially if it gets cold. You do not need to throw out honey that has crystallized. Simply place the container in a shallow pot of warm water and the honey will become liquid again.

In Ontario, honey is produced during the late summer and early fall. Beekeepers take only excess honey from the hives and make sure to leave their winged friends plenty to sustain them over the autumn and winter, when there are no flowers from which they can get nectar.

Honey comes in different colours and has slightly different flavours, depending on what type of flowers the honeybees have collected nectar from. White honey is usually made from the nectar of clover, basswood trees and canola plants, whereas golden honey is produced from nectar from goldenrod and other fall flowers. The darkest and strongest flavoured honey is made from the nectar of buckwheat flowers.

We use honey mainly in cooking and baking, often in place of sugar. Many people start their day enjoying honey spread on toast. Honey can also be made into a sweet wine called mead. This was a common drink in ancient times throughout much of Europe.

Supplement to ONNATURE, Spring 2009

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Copy Editor: Sarah Webber, Reviewer: Jimmy Blackwood, Printing: DTP Inc.

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