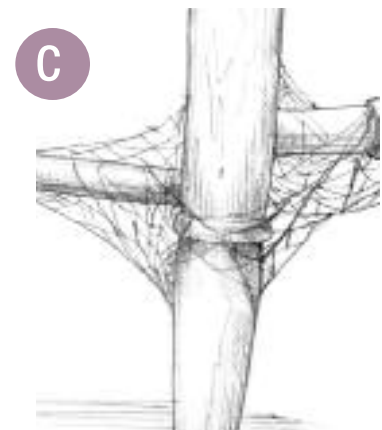


Garden spider

## Match the spider with its web

House spider: \_\_\_\_\_ Funnel-web Spider: \_\_\_\_\_

Black-footed Spider: \_\_\_\_\_ Garden Spider: \_\_\_\_\_



Answers: House spider: c, Black-footed spider: d, Funnel-web spider: a, Garden spider: b

# Controlling Spiders

Using pesticides in or around your home is not a good idea, since such chemicals can be harmful to other species and to your family and pets.

If you have a spider problem, the best way to reduce their population is to reduce the number of insects in the house so that the spiders will naturally go outside in search of food. A damp basement will attract a number of different types of insects and, as a result, spiders. Often, using a dehumidifier is effective in reducing insect infestations in basements. Check the caulking around doors and windows if you have crawling beetles or ants in your house. Reducing clutter may also help. Insects like dark and damp areas, so organizing things into bins and containers will mean that insects have fewer cracks and crevices in which to live.

Instead of squashing spiders that are in your house, capture and release them outside. They are delicate but relatively easy to catch, using a clear glass or cup and a piece of paper. Carefully cover the spider with the glass, taking care not to catch one of its legs under the edge. Slowly slide the piece of paper under the glass, trapping the spider. Turn the cup right side up. The smooth edge of the glass is too slippery for many types of spiders to climb, but just in case, leave the piece of paper on top! Take the spider outside and release it away from where it could be accidentally trampled.

If you have spiders outside your house, for example, around your porch lights, consider changing the type of bulb in the light. Nocturnal insects such as moths are attracted to white lights. Changing to yellow bulbs may reduce the number of nighttime insects, and therefore spiders, inhabiting your porch. If you are concerned about spiders getting inside your house, carefully brush the webs away with a broom, first checking to see that the spider is not in the web.

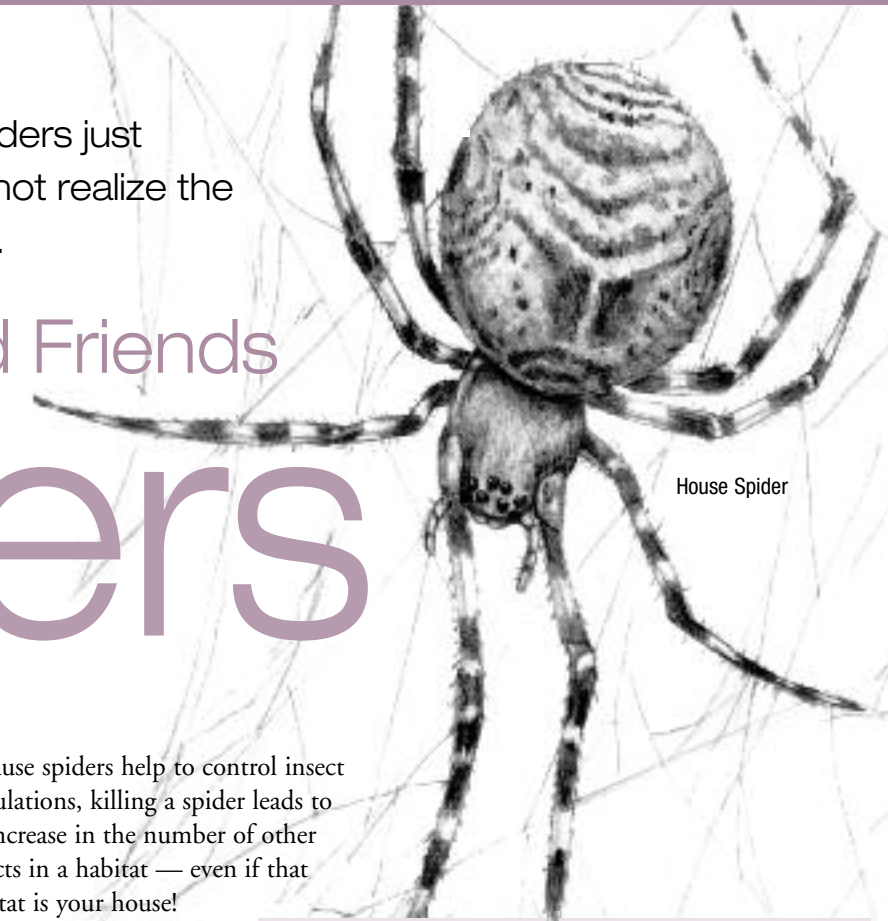
*Did you know...* like a snake, a spider must shed its skin as it grows? Most spiders moult between four and 12 times before reaching maturity.

Many spider species will move if their webs are continually destroyed.

Supplement to ONNATURE, Winter 2009

Many people, unfortunately, kill spiders just because they are spiders and do not realize the vital role they play in the food web.

# Our Eight-Legged Friends Spiders



House Spider

On spiderwebs in the garden on a dewy morning, droplets of water glisten like crystals. The spider is nowhere in sight. Why would a tiny arachnid work so hard to create a web only to abandon it? Read on to learn more about the exciting lives of spiders.

Spiders belong to the class *Arachnida*, which includes scorpions, ticks, mites and harvestmen, also known as daddy-long-legs. More than 2,500 spider species are found throughout North America. Nearly every part and habitat of Ontario has many spider species.

Spiders have a sinister reputation and are viewed as dangerous pests. So many people are frightened of these tiny predators that fear of spiders has a name, arachnophobia. Hollywood has perpetuated this fear, making numerous films in which spiders play an evil role. As a result, many people, unfortunately, kill spiders just because they are spiders and do not realize the vital role they play in the food web.

Although most spiders are venomous, few species have fangs that are capable of piercing human skin. Most spider fangs are very small and weak. Of the spiders that may be able to bite people, few have venom strong enough to cause more than the stinging and swelling of a mosquito-bite-like reaction, in people.

Most spiders bite because they are threatened, for example, when you accidentally trap one with part of your body. Spiders may bite to defend their egg sacs, just as many other creatures protect their young.

Because spiders help to control insect populations, killing a spider leads to an increase in the number of other insects in a habitat — even if that habitat is your house!

Although many people think that spiders are just “bugs,” they are not insects and, except for their size, have very little in common with insects. Spiders are arachnids and are more closely related to scorpions and ticks than to insects.

A spider’s head is called the cephalothorax, or prosoma. All eight legs are attached to this body part. The abdomen, in addition to containing the spider’s digestive tract and major organs, also contains silk glands. Spiders produce a variety of different types of silk, each of which is used for different purposes. Sticky silk is used to trap prey, while strong silk strands are used to wrap up prey and to secure the web.

Spiders lay eggs contained in an egg sac, a rounded, usually beige or brown sphere that they wedge safely into a corner or crevice, or that the female may carry. The egg sac contains up to several hundred eggs, and a spider may produce a number of egg sacs in a season.

### SPIDERS

- have 8 legs
- have 2 body segments (cephalothorax and abdomen)
- have up to 8 simple eyes
- do not have antennae
- do not have wings

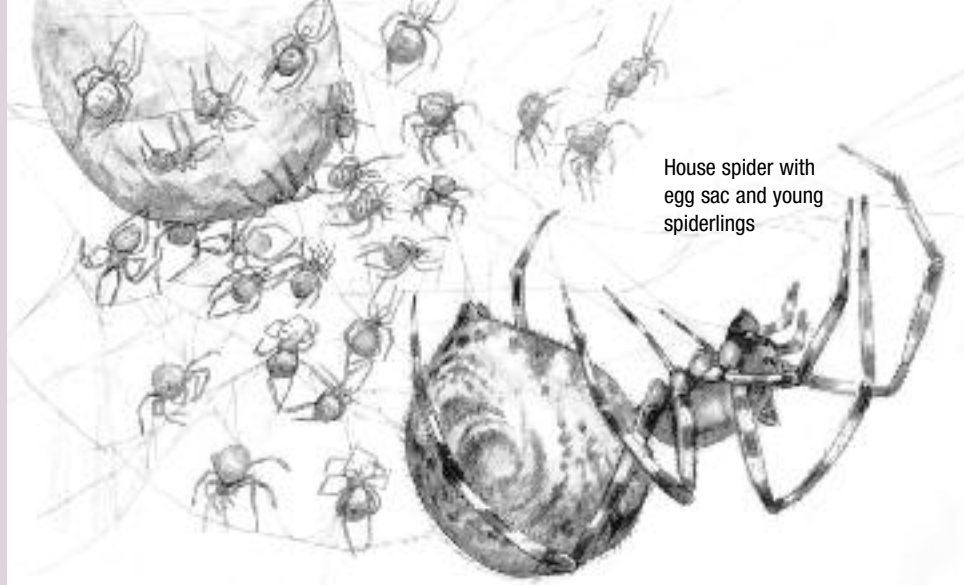
### INSECTS

- have 6 legs
- have 3 body segments (head, thorax, and abdomen)
- have 2 compound eyes
- have antennae
- may have wings



The fly is an insect

Spider silk, also called gossamer, is produced by the spinnerets at the back end of the spider. The silk is liquid but quickly hardens when it comes into contact with air. Silk is used to capture and hold prey, to make egg sacs and to make shelter. Young spiders, called spiderlings, spin long silk threads that act like sails, carrying them on air currents to other locations. Because of the look of the silk threads coming out of the back of the spider, this process is sometimes called ballooning. Some spiders create a safety line of silk similar to the ropes and harnesses mountain climbers use. The spider attaches a line of silk thread to a stationary object and then lowers itself gently and safely to an object below. Spider silk is incredibly strong but also lightweight. A strand of spider silk long enough to circle the earth would weigh less than 450 grams, just a little less than the weight of a pound of butter.



House spider with egg sac and young spiderlings

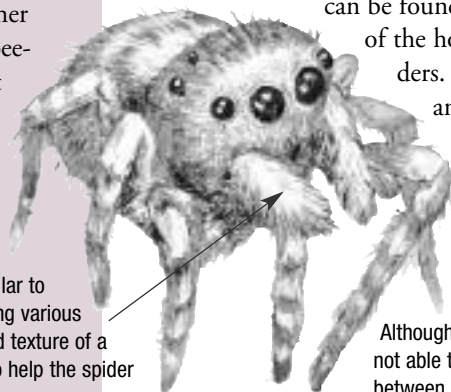
# Spiders in Your Home

Your home is great habitat for spiders; it's warm, cozy and usually has at least some insects living in it no matter how much you clean!

The two most common household spiders in Ontario are the **black-footed spider** and the **house spider**. The black-footed spider is only about one centimetre long and is pale yellowish beige with black fangs. As its name suggests, this species has black feet, but the colour is not usually visible without magnification. This spider is a great nocturnal hunter, spending its days in a bivouac, a cocoon-like structure that the spider often spins in the crevice between a wall and the ceiling. These two spider species help rid homes of pests, as they hunt both flying and crawling insects. The black-footed spider will bite people only if threatened.

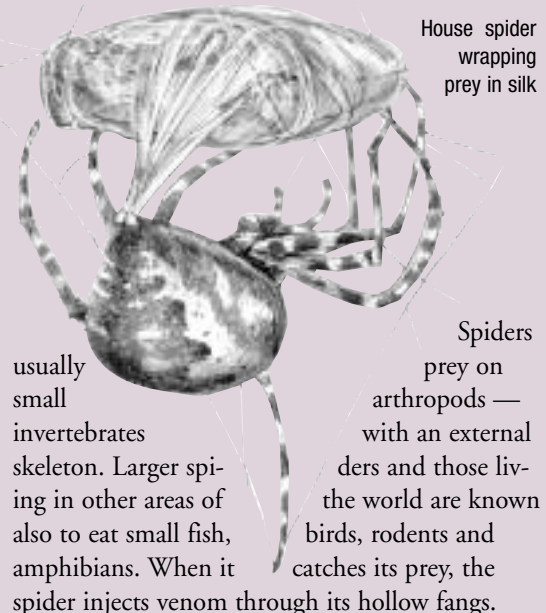
House spiders are not aggressive and rarely move about their habitat unless disturbed or looking for a new place to build their web. Their appearance is unremarkable; they are small, about half a centimetre long, and of various shades of brown. They blend in well with their environment and often go unnoticed. The house spider is responsible for making most of the cobwebs found in buildings.

**The zebra spider** is also commonly found in houses. This small jumping spider can be found on walls, windowsills and other sunny, warm areas of the house. Zebra spiders have the best eyesight of all spiders. They are easily recognized by not only their brown-and-white-striped backs but also their prominent, headlight-like eyes. Their striped pattern makes them well camouflaged in their environment. Rather than spinning webs to catch their prey, zebra spiders stalk and pounce with cat-like precision, despite seeming skittish in their regular movement.



Zebra jumping spider

Although most spiders have eight eyes, they are not able to see colour and can distinguish only between light and dark.



House spider wrapping prey in silk

usually small invertebrates. Larger spiders in other areas of the world are known to eat small fish, birds, rodents and amphibians. When it catches its prey, the spider injects venom through its hollow fangs. The venom often paralyzes the prey and begins to digest the creature. Spiders do not have incisors or teeth and therefore cannot eat flesh. They are on a liquid-only diet. Once the prey is immobilized, the spider injects more digestive enzymes into it and, after a period of time, sucks out the liquefied food.

Although spiders are predators, they are also prey to other species. Birds, amphibians, reptiles, fish, small mammals, such as shrews, and other arthropods, such as wasps, praying mantis, beetles and ants, are all known to attack and eat spiders. In addition to predators, spider populations are also affected by people, storms, cold weather and fungal diseases.

Palps are small leg-like structures attached to the spider's head. They perform tasks similar to those of an insect's antennae, such as sensing various chemicals and feeling the physical space and texture of a surface, and some palps are even adapted to help the spider hold its prey.

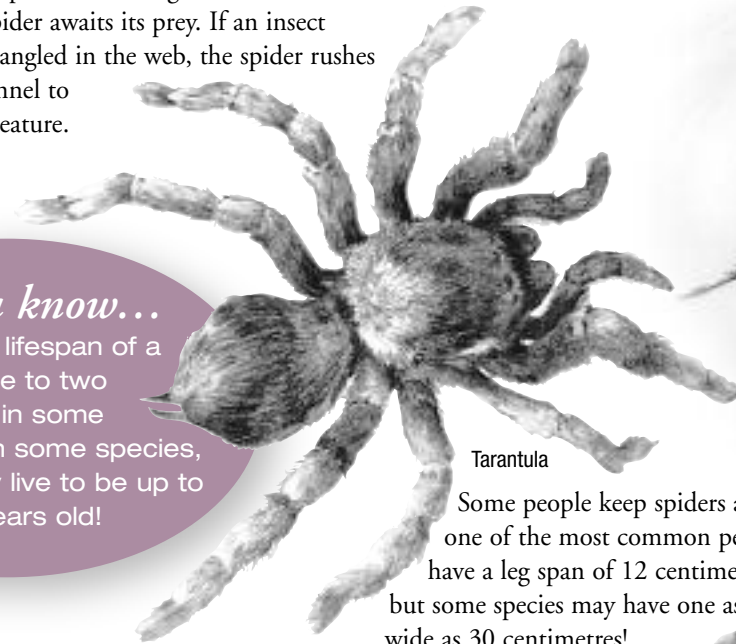
As its name suggests, the **long-bodied cellar spider** is often found in the corners of ceilings and along baseboards in basements of buildings. This spider has a thin, brown body and long slender legs. When disturbed, it spins quickly in a circular motion, giving it the name "vibrating spider." Unlike other spiders, this species does not clean and repair its webs but simply adds to them continually, making a large network of entangled silk threads.



Long-bodied cellar spider

The **funnel-web spider**, often found on windowsills or in crevices of basements and garages, is a large and hairy but harmless spider. It spins a cone- or funnel-shaped web leading back to a short tunnel, where the spider awaits its prey. If an insect becomes entangled in the web, the spider rushes out of its tunnel to attack the creature.

*Did you know...* the average lifespan of a spider is one to two years, but in some cases, and in some species, a spider may live to be up to 20 years old!



Tarantula

Some people keep spiders as pets. The **tarantula** is one of the most common pet spiders. It can grow to have a leg span of 12 centimetres, but some species may have one as wide as 30 centimetres!



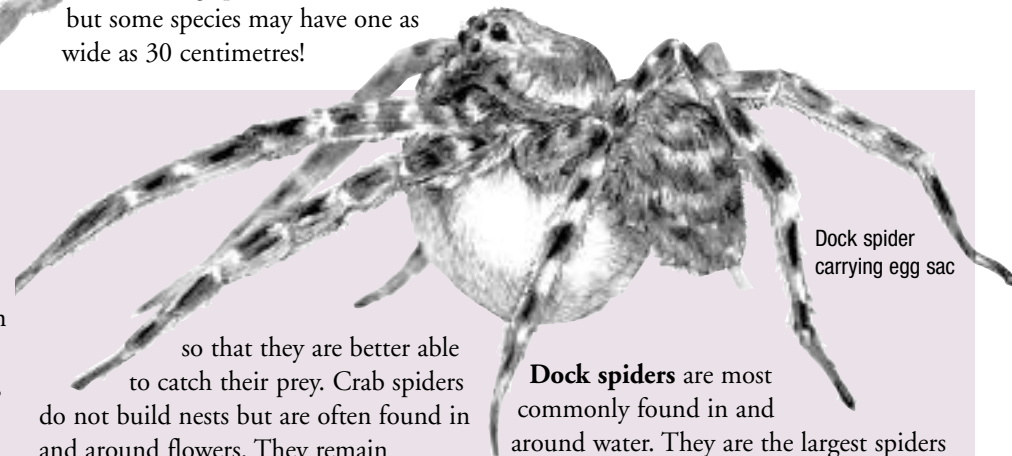
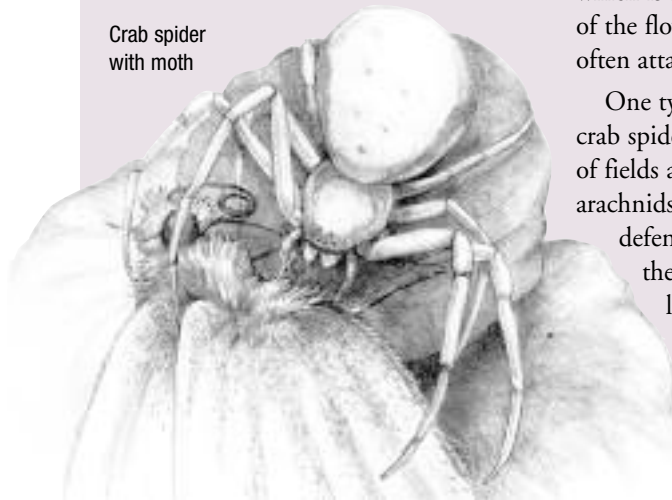
Funnel-web spider

*Did you know...* a strand of spider silk is stronger than the same thickness of steel?

# Spiders Outdoors

**Crab spiders** are usually found outside in vegetation. As its name suggests, the crab spider has long legs stretching out widely, making it appear clumsy, resembling a crab. Some crab spiders can change colour, blending into the background

Crab spider with moth



Dock spider carrying egg sac

so that they are better able to catch their prey. Crab spiders do not build nests but are often found in and around flowers. They remain motionless until they ambush their prey, which is attracted to the pollen or nectar of the flower. These small spiders will often attack much larger wasps and bees.

One type of crab spider, the running crab spider, lives primarily in the grasses of fields and prairies. These small beige arachnids have developed a unique defence mechanism: when frightened, they stretch themselves along the length of a blade of grass and remain motionless until the threat has passed.

**Dock spiders** are most commonly found in and around water. They are the largest spiders in Ontario, with a leg span of up to six centimetres. Although insects are their usual prey, dock spiders are able to dive beneath the water to catch small fish. These spiders will also eat small invertebrates and are known to have captured and eaten small rodents such as mice. Luckily for sunbathing cottagers, dock spiders hide in cracks and crevices during the day and usually come out to hunt only at night.