Amazing ants

By Shauna Dobbie

Some ants have mandibles powerful enough to bite you.

Every summer, there is one question that pops up quite a bit: what can I do to get rid of ants in my garden? And the first thing I think is, why – just so you know from the outset of this article where I stand. Nonetheless, after I've tried to get you as excited as me about ants, I will offer some eradication methods.

Wonder

This is an amazing insect. It is extraordinarily plentiful; some estimates say that they make up as much as 20 percent of land-dwelling species in terms of mass. They form social communities that work better than our cities, they problem-solve, and they communicate with each other.

They belong to the same order as wasps (*Hymenoptera*) and there are around 22,000 species. In Canada, there are 100 species, though you probably come across only about 10.

Ants move at least as much and possibly more soil to the surface than earthworms. They are integral to the mixing, drainage and aeration of soil. They also act as food to various animals, from birds to bears. The summer excrement of brown bears contains about 16 percent ants.

Some plants depend on ants to disperse their seeds. Seeds with elaiosomes – a fatty and protein packed cap on the seed – are carried away by ants, back to the colony. The ants eat the elaiosme and discard the seeds in their middens, along with dead ants and other nutritious (to plants) garbage. There the seeds sprout. This plant strategy is called myrmecochory and is practiced by plants including trilliums, violas, bleeding hearts and corydalis.

Some ants have become farmers of some sap-sucking insects, most notably aphids. These ants are after the honeydew, or sugary waste, the aphids excrete, and they will actively stimulate the excretion by stroking the aphids with their antennae. Some species of aphids have lost the ability to excrete independent of ants! The ants protect the aphids, defending them, eating the eggs of predators like ladybugs, and moving them from one plant to another. (Incidentally, you can skip the poisons to control aphids; just spray them off a plant with a stream from the hose. No, you won't kill them, and yes, they will find their way back up the plant – often with the help of their ant over lords! – but you will have slowed down the destruction. Do it often enough to keep the plant healthy.)

Ant with aphids.

Eradication

To get rid of ants coming into your home, you must find out where they're getting in. You can try to seal that area, but these creatures are very small and very determined. Surround the area with some kind of powder like salt or baby powder. The ants (probably) won't cross the powder.

Carpenter ants are big ants, 5/8 inch long. They require some attention if you find many of them in your home because they build their nests in wood by gnawing through it. Not a big deal in an old tree stump but definitely a big deal in your wall studs. To get rid of them yourself, it is recommended that you find the nest, drill 1/8-inch holes every 6 inches in the infested wood and, using a bulb duster, puff boric acid into the holes. For myself, though, with anything that is eating the biggest investment of my life, I'd be inclined to call an exterminator to make sure they are gone.

The tips of castor bean seeds have elaiosomes, fatty caps loved by ants.

If you need to get rid of ants in the garden, find the colony and kill the queen or queens. (Many species have more than one queen.) An often-recommended solution is to pour boiling water into the ant hill. You will need to do this several times with plenty of water because ant colonies can go 6 feet deep or deeper. The queen or queens will be well inside the hill, and if you don't kill them they will be moved even deeper, further away from harm. University of Florida has found that this method works on fire ants 20 to 60 percent of the time. You will also be killing everything else that gets touched by the boiling water, so this is a last resort kind of solution.

You can try various other things, like surrounding the ant hill with diatomaceous earth. Diatomaceous earth is made of sharp, microscopic exoskeletons that will cut up and dry out ants. The ants can't go through the stuff to forage for food, so theoretically, the whole colony should die. In reality, you'll need to reapply it every time it rains a bit. You'll also need to look for other exit holes the ants may have developed.

Ants love peonies.

For the record

Ants are attracted to peony buds because they are sweet with nectar. The ants do not help peonies to open, neither do they hurt peonies.

If you cut peonies to bring them indoors, chances are some of the blooms will have ants on them. You can cut your peonies when they're at the marshmallow stage, when it's easy to pick the ants off. Or you can cut peonies after they open and plunge them in a bucket of water for a couple of hours. It won't kill the ants, but they should float on the surface of the water.

You can mix borax with sugar and put that around the ant hill; ants will take the borax-sugar back to the colony and feed it to others, including the queen. This can take quite a while too. It is worth noting that some ant species don't eat solids so they will never consume the borax-sugar.

Remarkable feats of certain ants

The bullet ant of Central and South America has the most painful sting of any insect. It isn't usually fatal to humans, though the sting of the jack jumper ant of Australia can be.

The mandibles of army ants are used as sutures in Africa and South America. A cut is held together and the ants are placed along it; their mandibles close and their bodies are cut off.

Trap jaw ants and Dracula ants have mandibles that snap shut at 143 miles per hour and 200 miles per hour, respectively.

One species deals with flooding in the nest by drinking the water and excreting it outside.

Honeypot ants store nourishment inside themselves. The storage receptacle ants hang from the ceiling deep underground, available for other worker ants to come and collect food for themselves and others. I'm not sure how they get the nourishment out of the ants….

Scan me

Check out a video about hang gliding, ant style!

https://www.nsf.gov/news/news_videos.jsp?org=NSF&cntn_id=102807&media_id=66507

All ants use various methods of navigation. They leave a trail of pheromones for other ants to know where a source of food is. They return to the nest by knowing how many steps they took away from it and they find direction by the position of the sun or by the Earth's magnetic field; some use visual landmarks to guide them. But some species can have their way blocked, in which case they form an ant mill, whereby they follow each other around in a circle endlessly until they die.

An ant in India can leap a couple of inches. Another, which lives in trees in the South American rainforest, can direct its fall from a tree back toward the tree. It looks like it's flying, though it has no wings. Watch the video by following the QR code.

There is a genus of ant, the Polyergus genus, that cannot raise its own broods or feed itself. It exists by enslaving a Formica ant colony. A Polyergus queen will invade a Formica colony, replace its queen, and start laying eggs. The Formica workers care for the eggs and feed all the ants. What do the Polyergus workers, raised by the Formica ants do? They go raid other Formica nests to keep their enslaved population going.

The lemon ant of the Amazon rainforest lives in a particular tree, the *Duroia hirsuta*. They will kill other plants around their colony by injecting formic acid into the leaves, killing them and creating what is known as a Devil's garden.