ANT

Garden Minibeasts

UP CLOSE

John Woodward

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Contents

Finding ants

Ants can live almost anywhere. They make nests in most gardens, backyards, and even city streets.

Did You Know?

Some plants such as acacia and cecropia trees provide ants with special places to live. In exchange, the ants drive away other animals that eat the plants' leaves.

Ants can get almost anywhere, from deep underground to the tops of garden plants and even tall trees.

Three garden ants struggle home from a kitchen raid. They have stolen a tiny lump of stale bread.

Some, such as the little black ant, rely on people for most of their food. They often raid houses for scraps that they carry back to their outdoor nests.

A few types of ants may even live in houses, burrowing into timber and badly weakening it. Ants are active all year round in warm countries and heated buildings, but they lie low in cold winters.

An ant's body

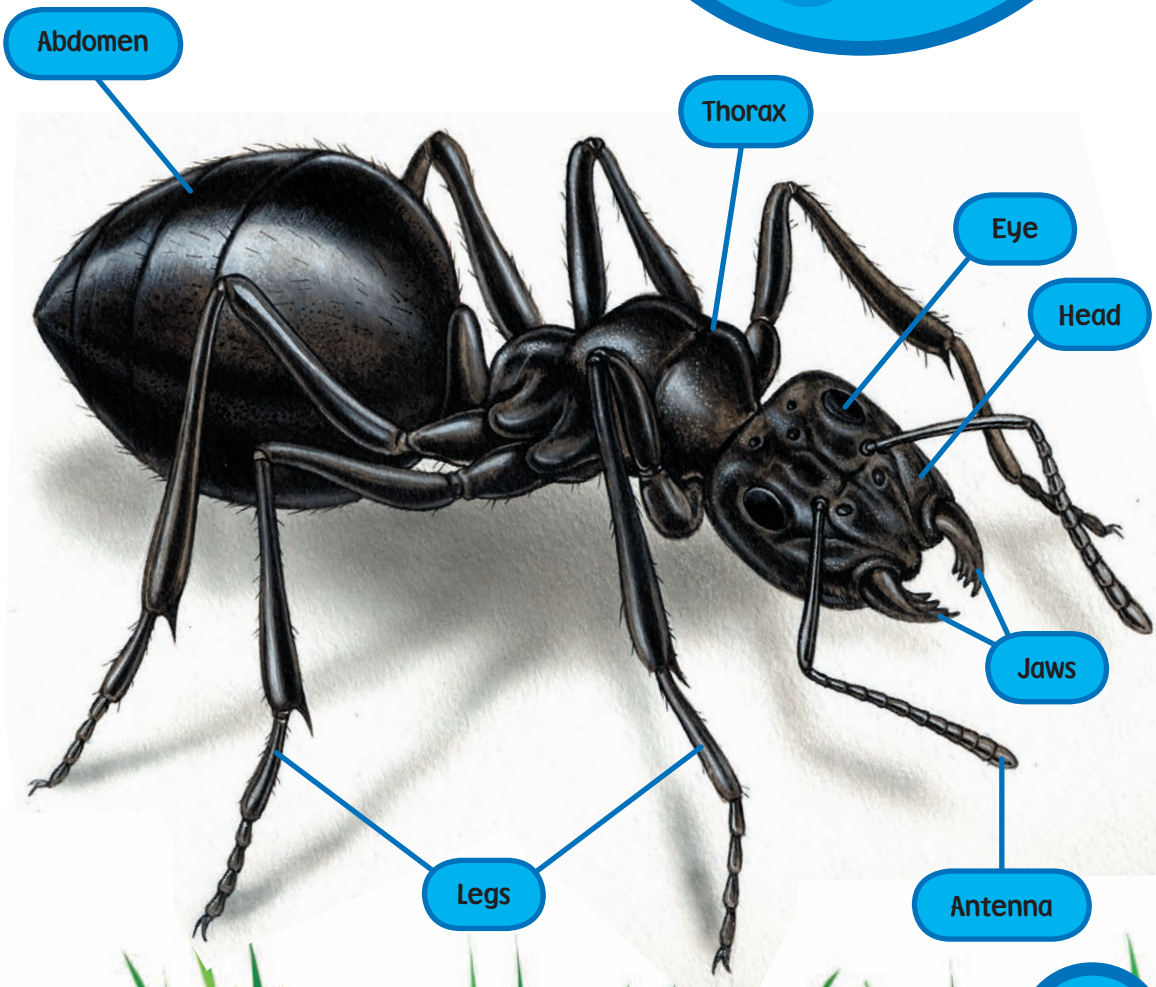
You've probably seen ants scurrying across the ground or disappearing into their nests. An ant's **armored** body is split into three sections. At the front is the head. Here you will find the ants' eyes, jaws, and **antennae**, or feelers. The middle part is called the thorax. All of the ant's legs are attached to this.

These fire ants look like strings of shiny brown beads on legs. Ants all live in **colonies** that can contain many thousands of insects.

Did You Know?

Most ants are tiny. The smallest are less than one-fifth of an inch long. But the **prehistoric** giant ant grew up to two inches long. Modern Australian bulldog ants can be almost as big, with jaws to match!

At the back is a rounded **segment** called the abdomen. In most ants, the abdomen contains a stinger.



Jaws and stings

Even a little black ant has fearsome jaws. They are strong enough to bite another ant in half.

Have you ever been bitten by an ant? All ants have biting jaws. They use these to gather food and build their nests.

Some types of ant have very big, strong jaws. They use them as weapons, or to crush seeds. Many also have stings in their tails that inject a very painful **venom**.

Ants use their jaws and stings to attack and drive away any animals or people that threaten their nests. Some ants also use them to kill **prey**.

Did You Know?

Red ants and carpenter ants do not have stings. They defend their nests by spraying a type of **acid** from their tails.

These red ants are spraying acid from their tails to warn off enemies and defend their nest.

Colonies and queens

Ants cannot survive on their own for long, so they live in big colonies, or families. The **queen** is the mother of the colony. She is the only ant that can lay eggs.

Most of the other ants are "**workers**." They build the nest, gather food, and take care of the young. Often all the workers are the same. Each does a different job depending on its age.

Like most queen ants, this fire ant queen is much bigger than the workers that look after her and her eggs.

Did You Know?

In the southern United States, imported fire ants sometimes form colonies with up to 300 queens. They may each lay over 1,000 eggs per day.

A worker ant feeds the queen mouth-to-mouth. The rich, liquid food is made by ant **larvae**.

Some species have different types of workers. These may include heavily armed "**soldiers**," whose main job is to defend the colony. There is usually just one queen in each colony, but there are thousands of workers.

Nests

Have you ever seen an ants' nest in your backyard? An ants' nest usually looks like a low mound, or a hole. It is surrounded by a rim of soil or sand and looks a bit like a tiny volcanic crater.

It may not look like much, but this hole is the entrance to a huge network of underground tunnels.

Two little brown ants check for danger before leaving the safety of their nest.

Nests can extend several feet underground. They often have many feet of tunnels. These tunnels connect chambers containing the queen, her eggs and young, and stored food. The red ants that live in woods build more impressive nests. These are covered by heaps of sticks and pine needles. Some ants live in trees.

Did You Know?

The legionary ants from southern United States live in temporary nests. Every three weeks or so they move on to a new one, through tunnels made of leaf fragments.

Eggs and young

When a young queen starts a new colony she lays a few eggs and looks after them herself. They eventually become adult worker ants and take over the job of caring for all the other eggs and young. They have a lot to do, because queen ants produce a huge numbers of eggs.

If a nest is damaged or uncovered, worker ants rush to rescue the eggs. They carry them away to a safe place.

Two worker ants feed the blind, legless larvae.

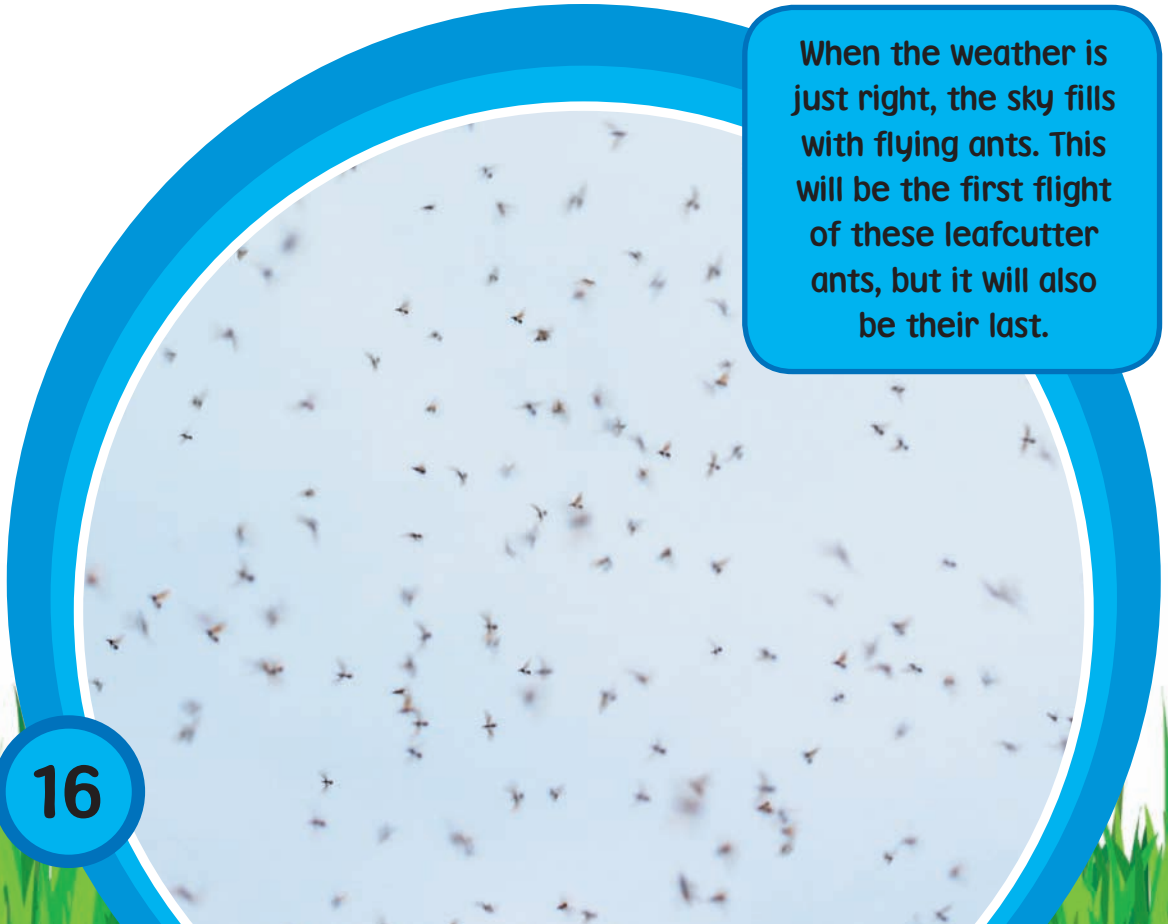
Did You Know?

Some butterfly caterpillars produce a **scent** that fools ants into thinking they are ant larvae. The ants carry them into their nests and take care of them until they hatch.

The eggs hatch as legless larvae a bit like tiny fly maggots. They eat the food gathered by worker ants. Then they spin **cocoons** and turn into **pupae**. Inside its cocoon, each pupa is transformed into an adult ant.

Taking wing

Did you know that some ants can fly? Some of the queen's eggs develop into **breeding** females and males, which have wings. On a warm, still day in summer all the winged ants from every nest in the neighborhood take to the sky. They billow up like clouds of smoke. The ants fly away from the nest to mate, often in the air.



When the weather is just right, the sky fills with flying ants. This will be the first flight of these leafcutter ants, but it will also be their last.

Did You Know?

Some queen ants may live for up to 30 years. Workers only live from one to three years.

This young queen carpenter ant will soon lose her wings. She will not need them again.

When the young queens land, their wings drop off and they scurry away to find nesting sites. But only about one queen in a 1,000 survives to start a colony. The males soon die, too, as their job is done.

Senses

The long, sensitive antennae of this wood ant allow it to follow scent trails. These can lead the ant to food, or back to its nest.

Have you ever watched ants rushing around and bumping into things, or each other?

Many ants have quite big eyes and good vision. Others are almost blind, but they can smell using their antennae. They use these to sniff out food and to pick up scent signals produced by other ants. The scent tells them whether the others are friends or enemies.

Foraging ants also lay scent trails that other ants can follow to find food. This is why you often see ants walking in lines, sometimes with two-way traffic.

Did You Know?

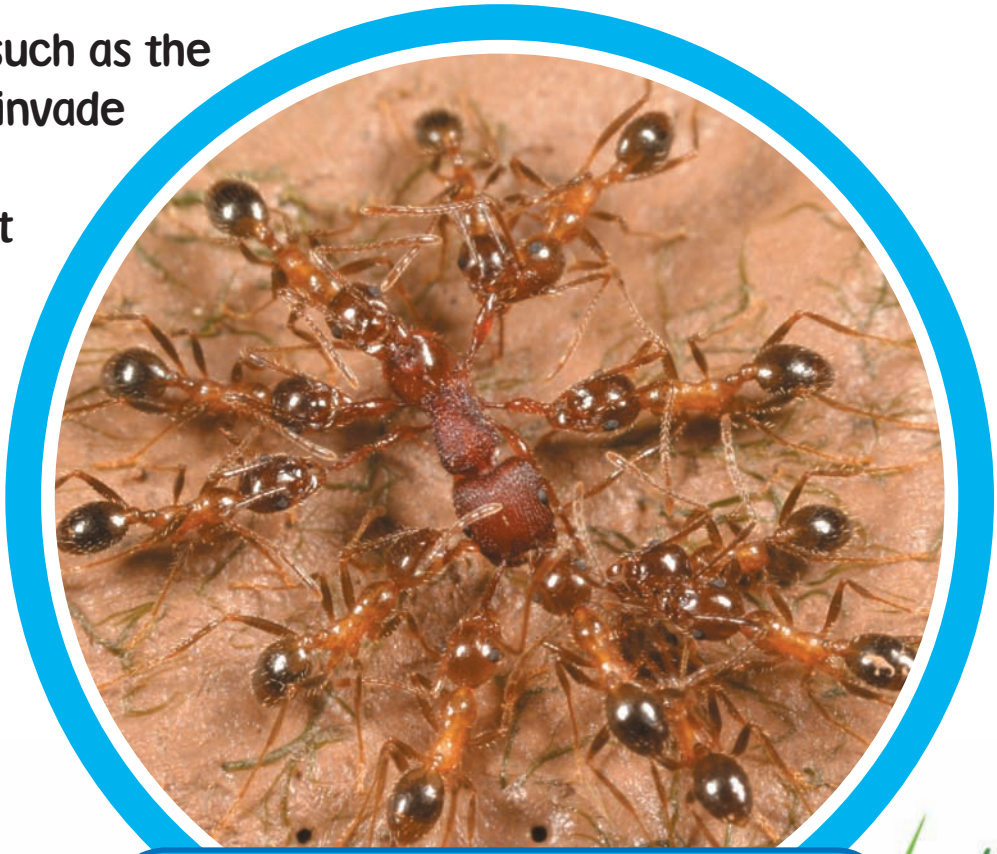
Ants use scent to raise the alarm. A crushed ant releases a special scent that makes other ants rush to the scene and attack any enemy—even a human.

A pair of wood ants check out a lump of sugar. They are able to taste its sweetness with their antennae.

Ant wars

Ants are very aggressive toward other ants that do not belong to their colony. They attack and kill lone ants from other nests and often eat them.

Some species, such as the pavement ant, invade and take over neighboring ant colonies. These raids can lead to sidewalk battles that leave thousands of ants dead.



Although it is bigger than they are, this harvester ant stands no chance against these twelve attackers. They will certainly kill it.

This slavemaker ant is carrying a stolen wood ant pupa back to its nest. When the pupa hatches it will become a slave worker.

Other ants invade nearby colonies to steal eggs or young ants. They carry them back to their own nests and raise them as slave workers.

Did You Know?

Some slave-raiding ants have lost the ability to find their own food. They must capture other types of worker ants to do the job for them.

Hunting for food

Many ants are fierce hunters. They swarm over the ground and up trees and attack other insects such as caterpillars and grasshoppers. They then kill them with their stings or sharp jaws. Ants may even kill bigger animals if they are unable to escape.

A trap-jaw ant drags an unlucky lacewing back to its nest. Unlike some prey, it is small enough to be carried whole.

Did You Know?

Legionary ants are a type of army ant. They have been known to kill hens in chicken houses. The ants swarm over the hen and sting it to death.

Hungry ants swarm over the remains of a crushed snail. Soon only the pieces of shell will be left.

Ants tear their prey apart and carry the pieces back to their nest. They also do the same to any scraps they find, especially around our homes. They can rapidly reduce dead animals to just bare bones.

Food from plants

Some ants such as harvester ants and big-headed ants eat plant material. They especially like seeds, which keep well when they are stored in the nest. This helps the ants to survive when other food is hard to find.

These harvester ants have gathered some juicy green buds to provide food for the colony.

Did You Know?

Ants can lift 20 times their body weight. If a 14-year-old girl was as strong as an ant, she would be able to pick up a small car!

The leafcutter ants of the southern United States and tropical America gather leaf fragments and take them back to their nest. They pile them up in special chambers to form a "garden" used for growing **fungus**. The ants then eat the fungus.

These leafcutter ants have grown a crop of fungus on a bed of rotting leaves.

Honey farmers

Ants love **nectar**, honey, and other sweet liquids. They are especially fond of the sugary **honeydew** produced by insects such as **aphids**. Ants look for groups of aphids feeding on plants. They then "milk" them like cows to collect their honeydew.

Did You Know?

Honeypot ants stay in the nest and eat lots of honeydew brought by the workers. They store the honeydew in their own bodies. This causes them to swell up like balloons. These ants supply the other ants in the colony when food is scarce.

A hungry ant has just lapped up some sweet honeydew from the back end of an aphid.

The ants defend the aphids from enemies such as hungry ladybugs. They also build shelters to protect the aphids from the weather. The Texas shed-builder ant, for example, protects its aphid herds with shelters of chewed plant material.

Ants and people

Some ants are very destructive. Harvester ants can wreck farm crops, and carpenter ants sometimes burrow into timber buildings, just like termites.

The tiny pharaoh ant nests in houses. It is a serious nuisance in hospitals where it attacks food and even the wounds of injured patients!

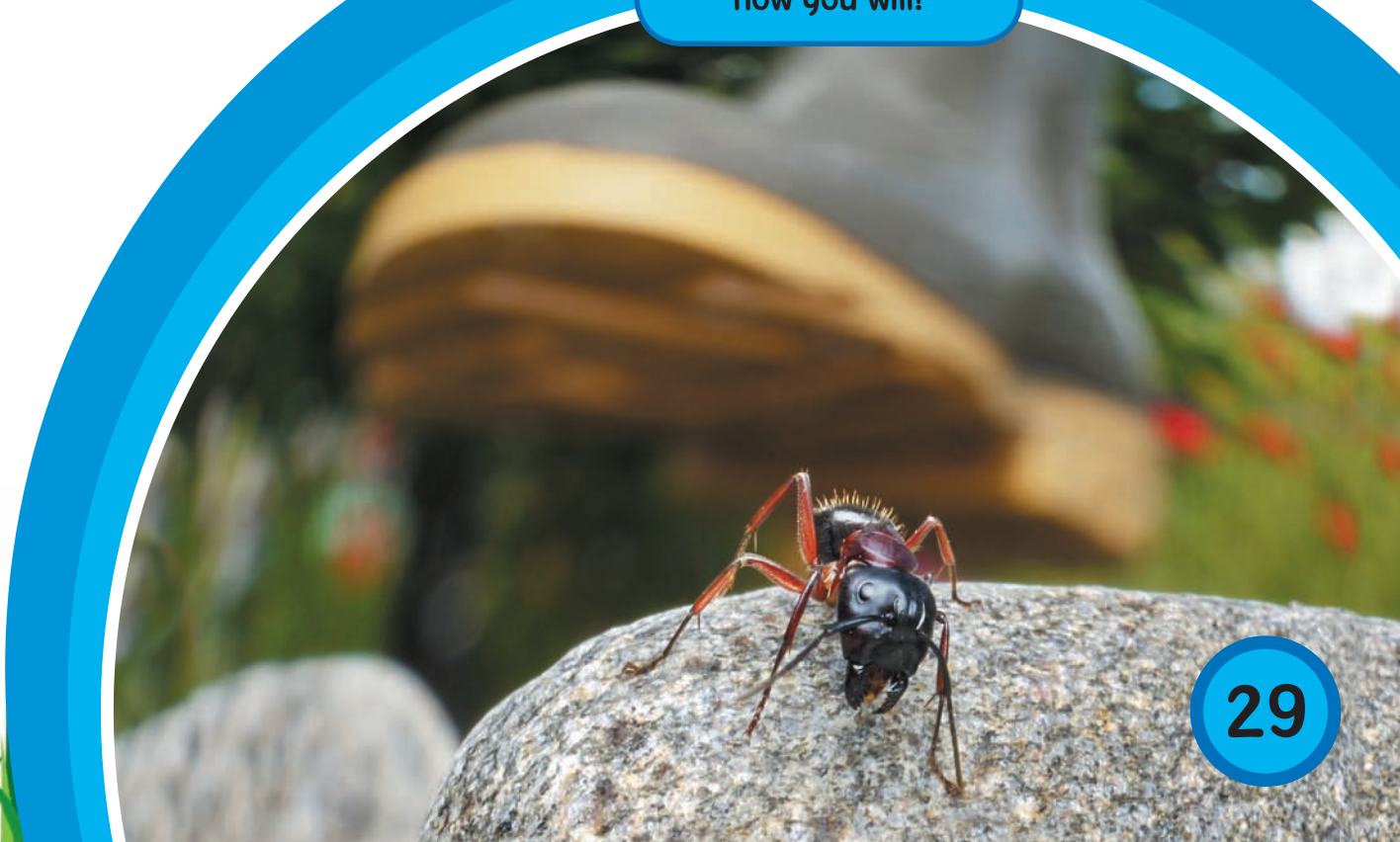
Although ants can cause problems, we admire them for their hard work and ability to act together as a team. These ants are carrying seeds back to their nest.

Did You Know?

The maricopa harvester ant has the most poisonous insect venom in the United States. Being stung by just one is like being stung by 12 honeybees at once.

Many ants such as harvester ants and fire ants also have very powerful stings. Disturbing their colonies can be as dangerous as stirring up a hornets' nest.

We don't normally take much notice of ants—but maybe now you will!



Glossary

acid: A strong chemical that can burn through materials such as skin and metal.

antennae: The "feelers" on the head of an ant, which it uses to pick up scents and to feel its way around.

aphids: Small bugs such as greenfly that suck the sugary sap of plants.

armored: Covered in a tough outer layer to protect the body.

breeding: Able to multiply by producing young.

cocoon: A protective covering made of silk fiber that an insect produces from its own body.

colony: A group of animals that live together and often cannot survive by themselves.

foraging: Searching for food.

fungus: A type of living thing that feeds on the remains of other living things. It is not a plant. A mushroom is a type of fungus.

honeydew: A fluid produced by sap-sucking bugs that contains a lot of sugar.

larva: The young life stage of an insect, when it does most of its feeding. A caterpillar is a butterfly larva.

nectar: The scented, sugary fluid produced by flowers to attract animals such as insects.

prehistoric: Existing at a time in the past before anything was written down.

prey: An animal that is attacked and eaten by another animal.

pupa: The life stage of an insect when it changes from the young form (larva) to an adult.

queen: A female ant, wasp, bee, or termite that is able to produce eggs. Usually there is just one in each colony.

scent: A strong smell.

segment: A section of an insect's body that has no joints in it.

soldier: An ant with extra-large jaws. Some use these to defend their nests.

venom: A poison that is used by animals such as ants, wasps, and spiders to kill their prey or defend their nests.

worker: A non-breeding ant, wasp, bee, or termite that builds the nest, gathers food, and cares for the young.

Further resources

Books

Birch, Robin. *Ants Up Close.* Chicago: Heinemann-Raintree, 2005.
This book investigates the anatomy, features, and behavior of ants.

Hipp, Andrew. *Gardening Ants.* New York: Rosen Publishing, 2003.
A close look at the amazing leafcutter ants that grow fungus gardens in their enormous underground nests.

Markle, Sandra. *Army ants.* Minneapolis: Lerner Publications, 2005.
Find out about these tropical ants that are part of nature's clean-up crew.

Prischmann, Deirdre. *Ants.* Mankato: Capstone Publishers, 2005.
Find out all about ants, including where they come from, what they eat, and how strong they are.

Twist, Clint. *Army Ants.* New York: Gareth Stevens Publishing, 2006.
This book explores the incredible world of army ants.

Web sites

The University of Arizona, "Ant Information," ***http://www.insected.arizona.edu/antinfo.htm***
Learn about ant biology and behavior, with information on how to collect them for study.

Pestworld For Kids, "Ants," ***http://www.pestworldforkids.org/ants.html***
Learn about different types of ants, what they eat, what they look like, and where you might find them.

Dale Ward, "Ants of the Southwest" ***http://www.tightloop.com/ants***
This Web site contains lots of close-up pictures of the ants that live in the Southwest.

The California Academy of Sciences, "Antweb," ***http://www.antweb.org/***
This Web site features a slide show with close-up images of different ants from around the world.

A. San Juan, "Leafcutter Ants," ***http://www.blueboard.com/leafcutters/***
An excellent site devoted to the leafcutter ants that have solved the problem of feeding their huge colonies by creating their own fungus gardens.

National Geographic Kids, "Trap-jaw Ants," ***http://www.kids.nationalgeographic.com/Stories/AnimalsNative/Trapjawants***
Learn about the Trap-jaw ant—the animal with the fastest snapping jaw. Also, follow the link to watch a video of leafcutter ants at work.

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