

## What is an Ant?

With their distinct body shape and great abundance, ants are one of the most familiar types of animal. Ants are actually highly modified wasps. Ants are descended from a wasp that, about 120-140 million years ago, lost its wings and took to living in colonies with a queen and workers. Unlike bees and wasps, which still have species that live solitarily, all ants are social.



**British ants** a) Nest of *Lasius niger*, the common black ant, under a slab showing b) large cocoons containing queen ants and small cocoons with males and workers; c) foraging trail of *Lasius fuliginosus* from its nest in a hollow tree; d) Ant hill nest of the red wood ant, *Formica rufa*, made of twigs and pine needles; e) Red ants, *Myrmica*, milking aphids for honeydew.

Ants are a success story. They are very numerous both in number of individuals and species. The total mass of ants in tropical forests exceeds that of birds and mammals combined. Nobody knows how many ant species there are. Over 10,000 have been discovered. The total is probably over 20,000.



**Brazilian ants** a) *Cephalotes* ants rip apart another ant; b) Leafcutter ant, *Atta*, cutting a piece from a leaf; c) *Pheidole oxyops* working together to transport a dead cockroach back to their nest; this species has both major and minor workers; d) Worker ant collecting nectar.

Ants are eusocial, meaning that some individuals (the queen) specialize in egg laying and others in working (the workers). In ants, the workers and the queen are very different in body shape. In most species the queens, and also the males, still have wings ("flying ants"). Wings allow young queens to leave the colony they were reared in on their nuptial flight. During her nuptial flight, a queen mates with one, a few, or many males (the number of mates varies among ant species) then establishes a nest. The first thing she does is to break off her wings. She will never need these again. She then lays eggs that she will rear

into workers. The first worker larvae are fed using food reserves from the queen's body. The workers then forage allowing the colony to grow and mature.



**Australian ants** a) Weaver ants, *Oecophylla smaragdina*, dividing a prey insect; b) Part of a weaver ant nest, made of leaves sewn together using silk from the ant larvae; c) Nest of bulldog ant, *Myrmecia*, showing cocoons; d,e) Nest of *Camponotus ephippium* with major and minor workers that look very different but are sisters; the major guards the nest entrance.

Ants are basically predators, but they also feed on nectar and sugary secretions (honeydew) from insects such as aphids. Army ants have taken predation to an extreme, hunting in groups with the colony moving from place to place as they use up the local prey supply. Some ants have become vegetarian, such as by harvesting seeds. A group of ants from tropical America has evolved the ability to farm. They grow fungus in underground chambers on compost made of dead organic material or mashed up leaves. The fungus is their food.

### Did You Know?

- \* Worker ants are all females. Males do not work. Their only role is to mate.
- \* Britain only has about 43 ant species. Our most common species is *Lasius niger*.
- \* Ants have been called the real rulers of Brazil. Go there and you will see why!
- \* When a queen leafcutter ant makes her nuptial flight, she takes some fungus from the nest she was reared in. This is the seed for the fungus garden in her new nest.

### How Amazing!

- \* Some ant queens can live up to 20 years! This is the greatest age of any insect.
- \* A queen stores enough sperm for her whole life from her one nuptial flight.
- \* African army ants, *Dorylus*, have the largest colonies with up to 22 million workers.
- \* The largest ants are the dinosaur ants, *Dinoponera*, from South America. The workers may be 4cm long, but they live in very small colonies of as few as 20 ants.
- \* Bullet ants from South America are so called because the sting is so painful. Young Indian tribesmen prove their manhood by allowing the ants to sting them.