

All about...

# ANTS

## BIOLOGY

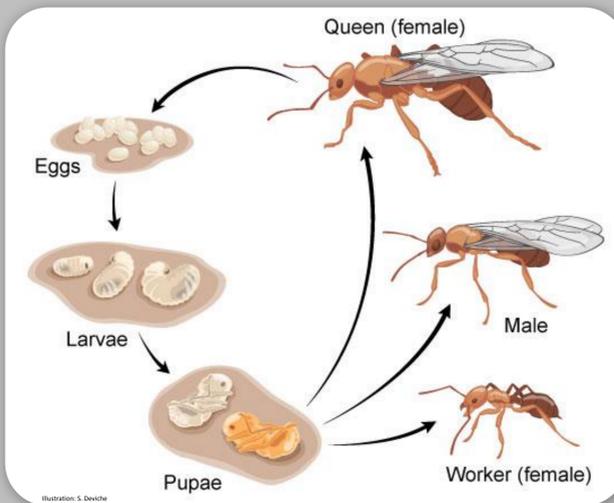
Adult ants **eat** honeydew, a sugary substance excreted by aphids. Many ants tend to aphids in a similar fashion as humans tend to livestock like cows or goats.



Ants have a social stomach. They can **share food** mouth-to-mouth with their fellow workers, the queen and larvae. This food transfer process is called *trophallaxis*.



Ants **communicate** with each other using smell. They perceive these chemical signals (or *pheromones*) with their antennae. Each colony has a distinct smell. If an ant that carries a different smell comes near the colony, it will be attacked.



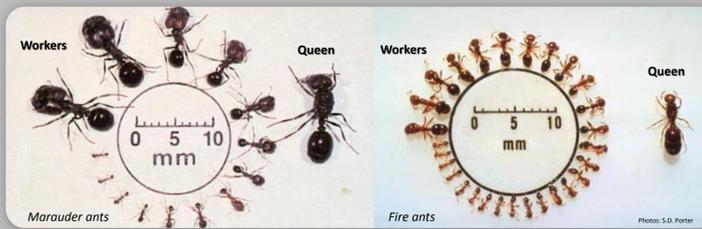
The **life cycle** of an ant has four distinct stages: egg, larva, pupa and adult.

Adult ants belong to one of three **castes**:

**Queens** are larger than workers and lay all the eggs in a colony. They initially have wings and fly to find a mate, but they shed their wings when they start a new colony.

**Workers** are the majority of ants in a colony and are all technically female, but they do not reproduce. All ant workers are sisters and perform jobs like brood care, finding food, and cleaning the nest.

**Males** have wings and their only job is to fly and to mate with queens; they only live a few weeks.



In some ant species, there are huge **size differences** between workers and queens but also within workers. Each size (or *caste*) is equipped to perform a different task in the colony.

## COOL FACTS

The **smallest** ants are less than 1 mm in size (*Carebara* spp.) while the

**biggest** worker

ants are giant carpenter ants (*Camponotus gigas*) and dinosaur ants (*Dinoponera* spp.), 1.2 in (3 cm) in length. The largest queen ants are African driver ants (*Dorylus* spp.) with more than 1.6 in (4 cm) in length.

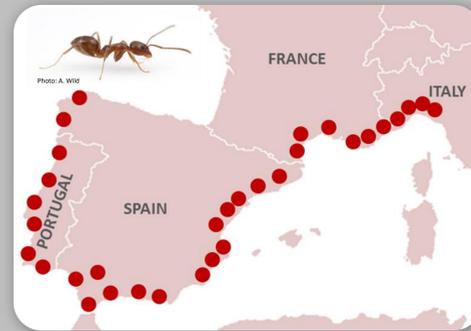


Trap-jaw ants (*Odontomachus* spp.) generate the **fastest** motion recorded in the animal kingdom. They close their jaws at speeds of up to 143 mph (230 km/h) (mantis shrimp punch: 50 mph, cheetah sprint: 75 mph).

The longest-lived ant queen (species: *Lasius niger*) lived **29 years** in captivity.



The **most venomous** insect in the world is a harvester ant (*Pogonomyrmex maricopa*). Their venom is 23x stronger than honeybee venom.



Argentine ants (species: *Linepithema humile*) form **supercolonies**.

One colony in Europe spans 4,000 mi (6,500 km) along four countries on the Mediterranean coast. Another supercolony in California extends over 560 mi (900 km).

Leafcutter ants (species: *Atta laevigata*) construct **giant nests**.

When scientists excavated a nest, they poured in 10 tons of cement. The nest spanned 538 ft<sup>2</sup> (50 m<sup>2</sup>) and went 26 ft (8 m) into the ground. The ants moved 40 tons of soil for its construction. In human terms this is the equivalent of building the Great Wall of China.



Asian weaver ants (species: *Oecophylla smaragdina*) are super **strong**. They can carry more than 100x their own weight. To be able to do this, the ants have adaptations like hairs on their feet that can stick to very smooth surfaces, large muscles in their heads to close their jaws, and light lean bodies.

