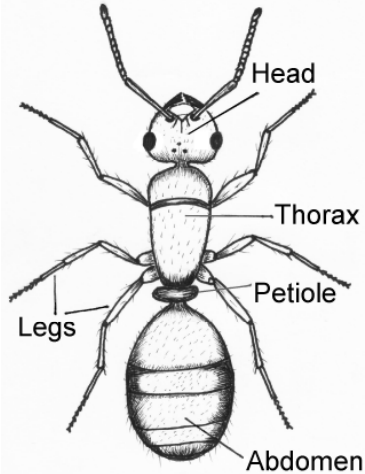


'All good work is done the way ants do things, little by little' (Patrick Hearn)

Ants, bees and wasps all belong to a large order of insects – the Hymenoptera. A feature unique to all Hymenoptera is that they have two pairs of wings which are held together by tiny hooks and work as a single wing on each side. Ants are structurally different from bees and wasps in having a petiole of one or two extra segments (depending on the species) between the thorax and abdomen. This difference places the ants in a family of their own – the Formicidae.



Nearly all female Hymenoptera defend themselves with a sting, including most ants. However, some ant species bite a hole, and then squirt acid into the wound – and it still hurts!

Ants found at Shotover

Fifty species of ant can be found in Britain, but only 9 species have been recorded on Shotover Hill. These are the Black Ant (*Lasius niger*), the Jet Black Ant (*Lasius fuliginosus*), the Yellow Ants (*Lasius flavus* and *Lasius mixtus*), the Negro Ant (*Formica fusca*), the Red Ants (*Myrmica sabuleti*, *M. rubra* and *M. ruginodis*) and *Leptothorax acervorum**.

* not recorded since 1980

The Black Ant (*Lasius niger*)

These ants are actually brown and are the most commonly seen ants on Shotover. They nest underground and will use insects, seeds and honeydew for food. It is this ant species that will invade your house looking for food. Workers are about 4mm long and can live up to 7 years.

Jet Black Ant (*Lasius fuliginosus*)

These shiny black ants have yellow legs and a heart-shaped head. They nest in hedges and stumps and are mostly found in southeast England. They can be seen rushing both ways along the trail they have made. To start a colony, the 'Jet Black' queen takes over the nest of another species. She kills the host queen and her workers gradually replace the host workers.

The Yellow Meadow Ant (*Lasius flavus*)

These pale yellow ants nest in grassy areas creating the well-known ant-hills. They are skilled nest-builders and can control the temperature of the nest and 'farm' aphids for honeydew. Foraging is done underground and so the ants are seen above ground only at mating time, or if disturbed. Yellow meadow ants are widespread in Britain. The workers are very small, only 3mm long and are 'acid squirters'.

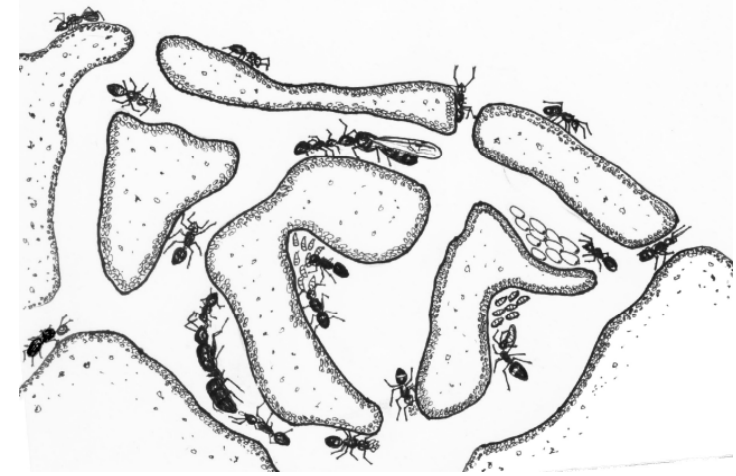
The Negro Ant (*Formica fusca*)

Mainly found in southern England, this large black ant often makes its nest under rotting logs. The worker ants are the biggest on Shotover, up to 7mm long, with about 1000 in one colony.

The Red Ants

(*Myrmica ruginodis*, *M. sabuleti* and *M. rubra*)
These three ant species are widespread throughout Britain. The workers are about 5mm

long and will sting, but only when under threat of being eaten. The colonies of these ants are relatively small with about 100-300 workers.



The Worker Ants

All worker ants are female and are smaller than the queens and males. The vast majority of ants in the nest are workers, and they do all the work: maintaining and expanding the nest, caring for the queen, tending the eggs and gathering food. They will also defend the nest.

The Queen Ant

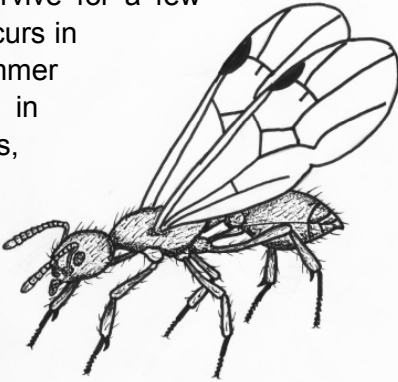
After mating, a queen ant will establish a new colony and spend the rest of her life laying eggs. Initially she can fly, but once in the nest she loses her wings. A queen is much larger than the workers and only needs to mate once to produce fertile eggs for the rest of her life.

The Male Ants

Male ants have wings, and when the right time arrives, can be seen in abundance around the nest on warm humid days. It seems that the sole purpose of the male is to mate with a queen – and then die!

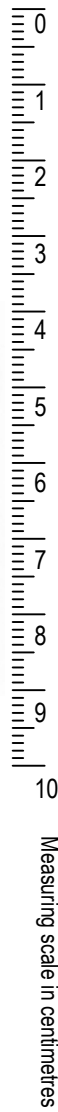
The Colony Cycle

After queens have mated they establish a new colony by excavating a chamber in a suitable place or finding a nest to take over. In the new nest the queen lays eggs that hatch into larvae and are fed and reared into workers. Eventually there are enough workers to take over all of the nest work. If at any time the queen dies, the colony will only survive for a few months. Mating occurs in the warm summer months, and in anticipation of this, the dynamics of the colony change to produce males and new queens.



The many 'guests' in an ants' nest

There are very many guests in an ants' nest: some welcome, others not, and some tricksters. One trickster is the caterpillar of the Large Blue butterfly, which gives off a scent and changes shape to mimic the ants' own larvae. The butterfly larvae are taken back to the nest where they eat ant larvae until ready to leave and become butterflies. Other guests are more useful and important to the ants. The White Woodlouse will eat the ants' waste, and it is amazing how ants 'farm' and feed aphids in order to 'milk' them for their sweet honeydew. There is also a small beetle that is so adapted to spending all its life in the colony that it has no eyes and the antennae are used as handles for the ants to move them around!



Measuring scale in centimetres

Ants and plants on Shotover

Ants play a very important part in wildlife ecology, from gardens to nature reserves. However, on Shotover they have a particularly special relationship with some of our scarcer plants.

Heath Milkwort, Heath Wood-rush and Violets all have a gland on their seed that produces a nutritious substance that the ants can't resist. Without harming the seed, the ants take them back to their nests, and in so doing, spread the seeds to new locations and hide them from harm. Interestingly, Gorse seed also has this gland, but the substance from the rarer plants seems to be more delicious and their seed gets harvested in preference.

Shotover Wildlife is an independent voluntary organisation founded to research and communicate the importance of Shotover Hill for wildlife

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Related leaflet titles:

Bees and Wasps Butterflies
Heathland Flowers Habitats
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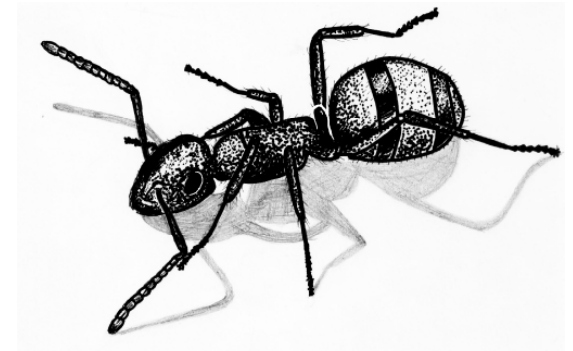
Leaflet written by Dave Powney

Illustrated by Bonnie Collins

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