

# all about

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## WOOD ANTS

*Formica aquilonia*

Wood ants are large ants measuring anything from 5–11 mm long. They live together in huge groups called colonies. Four different kinds of wood ant live in Scotland. The poster shows the Scottish wood ant (*Formica aquilonia*). This wood ant and the hairy wood ant live within native pinewoods. The narrow headed ant and the red robber ant are found at the edges of these woods. Wood ants only live in conifer plantations where there is enough light and food. They are also found in open areas in plantations where there is enough sun to warm the nest and enough food in the trees.

### The nest

Wood ants build large nests on the woodland floor. They pile up dead leaves, pine needles and twigs and weave them together to make a mound which may be as high as a

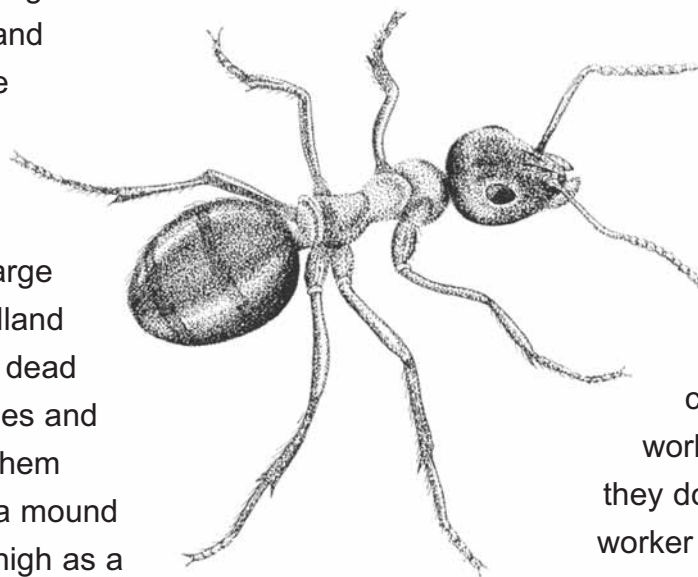
metre above the ground. Hidden away within the mound and extending underground are thousands of tunnels and chambers. The nest is like a town with living accommodation, food stores, road links and even cemeteries for dead ants.

As many as 100,000 ants live in the oldest, largest nests. Colonies often last for many years, spending the winter below ground but coming to the surface again in spring.

### Ant society

There are three types of ant within each single species colony, each depending on the other for survival.

Most of the ants in a colony are workers. All worker ants are female but they do not lay eggs. Each worker has a particular job to do, such as keeping the



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nest repaired or foraging for food outside the nest. One group of workers look after the brood (eggs, larvae and pupae). They lick them clean and feed the larvae grubs on chewed prey. They also move the brood around inside the nest to keep them at the right temperature and to protect them from danger.

Wood ants produce formic acid in glands at the tip of the abdomen. This acid can be sprayed at prey, predators and others that the ants perceive as hostile – including the odd human. Birds such as Jays exploit this by getting the ants to spray acid on their feathers, as it is thought that the acid helps to control feather lice and other parasites.

The other two types of ant in the colony are the male ants and the queen ants. Both sexes have wings when they hatch from the pupae. They leave the nest on a mating flight on a warm summer day. The males then die and the females bite off their own wings and either return to the nest or start new nests in other area. There can be over a hundred queens in a large nest of wood ants.

The red robber ant depends upon taking slaves to build up its colonies. A queen red robber ant will enter a nest of brown ants and steal some of the brown ant pupae, guarding them from the brown ant workers. When the pupae hatch the new brown ant workers think that they belong to the robber ant queen. She then takes over the nest, killing the brown ant queen and using her slave workers to rear her robber ant larvae.

Once the colony is established the robber ant workers raid nearby brown ant nests for pupae to keep up the number of slaves.

## Food and feeding

The ants feed mainly on other insects such as caterpillars. They also eat small worms. When workers leave the nest to look for food they leave a scent track behind them so that they do not get lost and other ants can follow them.

Long established colonies may have foraging trails extending as far as 30 metres from the nest. About 90% of the ant's foraging is in the canopy of the trees around the nest. It is easy to find trails on the trunks of trees near nests. If a wood ant encounters a prey item larger than itself, other ants will gather to help subdue the prey.

Wood ants also search the bark and roots of trees for aphids (greenfly). They use aphids like dairy cows. By gently stroking them with their antennae they get the aphids to produce tiny drops of sugary liquid called honeydew from the end of their bodies. The ants will also eat the aphids but need to keep a balance between eating the aphids and keeping enough alive for milking. This balance can change depending upon the availability of other prey.

## Wood ants and humans

The main threat to wood ants is loss of the woodland that they live in.

Thousands of years ago a large part of the Highlands was covered with pine forests which provided a suitable habitat

for wood ants together with many other animals and plants. Much of this forest has gradually disappeared partly due to burning and felling by man and partly, it is thought, due to climatic change. This greatly reduced the areas in which the wood ants survived.

Wood ants are increasingly scarce. They depend upon sunny spots within woodlands, and the loss of open areas such as rides and clearings may harm them along with a large number of other insects which depend upon these woodland spaces. Similarly, felling all of the trees around nests removes all of the wood ants' food. It is important that a proportion of nests is preserved nearby to allow re-colonisation of these areas as new trees grow.

Many forests are now designed and managed taking wildlife into account as well as timber production. Conservation organisations provide advice for foresters and landowners. Some pinewoods where the ants live are protected as nature reserves.

### [Finding out more](#)

To find out more about wood ants look for books on social insects, animal behaviour and woodland wildlife.

Visit Palacerigg Country Park in Cumbernauld where a small colony of about 3,000 ants live in the visitor centre!

### [How you can get involved](#)

Although it may be tempting, never poke at or interfere in any other way with a woodant nest. The ants spend an

enormous amount of time keeping the mound in good condition as it provides a waterproof cover for their nest. They will even position individual needles in a particular direction. Damaging this protective layer could cause serious problems for the colony.

Contact groups of other people concerned about the future of Scotland's wildlife.

Check your local newspaper or library for information about active groups in your area.

Scottish Wildlife WATCH, part of the Scottish Wildlife Trust, produces a magazine and Scottish newsletter which include information about environmental issues and give you the chance to help wildlife by taking part in projects and surveys.

Contact: Scottish Wildlife WATCH, Cramond House, Cramond Glebe Road, Edinburgh EH4 6NS

To find out more about visiting a forest, contact your local Forest Enterprise Office or local Countryside Ranger Service.

A poster of Wood Ants is available free of charge from either Scottish Natural Heritage or the Forestry Authority. Scottish Natural Heritage, Publications Section, Battleby, Redgorton, Perth PH1 3EW. Forestry Commission, 231 Corstorphine Road, Edinburgh EH12 7AT

## Glossary

### **Antennae**

Pair of feelers on the head which ants use for smell and touch.

### **Habitat**

The place where a plant or animal lives.

### **Larva**

The ant's feeding and development stage, like the caterpillar of a butterfly.

### **Plantation**

An area of planted woodland (often used to describe large areas recently planted, predominantly with conifers).

### **Pupa**

The ant's non-feeding stage of development during which it is surrounded by a case (cocoon).

