



Radio receivers will be fitted to a thousand ants in world first experiment probing their habits and means of communication

By [Daily Mail Reporter](#)

One thousand ants are to be fitted with tiny radio receivers in a world first experiment to find out how they communicate and travel between their complex nests.

The three-year project by researchers from the University of York will take place on the National Trust's Longshaw Estate, Derbyshire, a hotspot for the northern hairy wood ant.

The unique site contains more than a thousand nests and is home to up to 50million workers from Britain's largest ant species, which are internationally protected.

Experts will carefully catch them and in a few seconds attach a 1mm radio receiver to each. The ants are the size of an adult thumbnail but researchers say the process will not interfere with or harm them in any way.

With the receivers attached, scientists will be able to examine how the ants communicate with each other in their colonies, which are housed in several nests connected by a network of ant highways, with multiple queens spread between them.

The findings from the research will then be used by National Trust staff on the Longshaw estate to manage the ancient woodland, made up of oak and birch trees, where the ants can be found. Samuel Ellis, a biologist from the University of York, who will be carrying out the research, said: 'This research is about trying to find out how the ants communicate and commute between the vast network of nests and how they travel in this environment.

'The radio receivers act like a barcode to mark out each individual ant. A single ant is not particularly clever but is part of an elaborate system that is clearly performing very effectively at Longshaw.

'The way the ants use this network has important implications for how they interact with their environment. And the way information is passed through the network may even have implications for our information and telecommunications networks.'

Findings will influence the land management of Longshaw. The ants depend on sap-sucking aphids that favour oak, birch and pine trees but northern hairy wood ant populations struggle in dense woodland of this kind.

HAIRY WOOD ANT FACTS

- Hairy wood ants (*Formica lugubris*) are a northern species in the UK, but can be found as far south as mid-Wales.
- The hairy wood ant is named so because of its hairy 'eyebrows' visible through a microscope.
- They can defend themselves from predators by spraying formic acid a smelly substance about as strong as vinegar which can blister the skin.
- Queens can live for up to 15 years, whereas workers live for about a year.

- They are aggressively territorial, and will often attack and remove other ant species from the area.
- The wood ant is the largest native ant species of the British Isles. Workers can measure from 8-10mm in length.
- The ants are carnivorous and workers can find food by hunting and scavenging, they locate prey by vibration although they can see for up to 10cm.

The ants use the honeydew produced by gently stroking these aphids to feed their young and in return the ants protect the aphids.

Chris Millner, National Trust Area Ranger at Longshaw, said: 'It is fascinating to sit and watch the ants as they go about their business and they are easy to spot on a sunny day as they gather in vast numbers around their nests at this very special site.

'We will be carrying out some forestry work over the next few years, removing lots of conifer trees from modern plantations which will create a larger area of wood pasture, ideal for the ants to move into.

'The study will give us a real picture of where the ants are and how we can improve the habitat for them and other wildlife without causing disturbance.'

The northern hairy wood ant has an international near-threatened conservation status with the two main populations in England found in the Peak District (including Longshaw) and in the North York Moors.