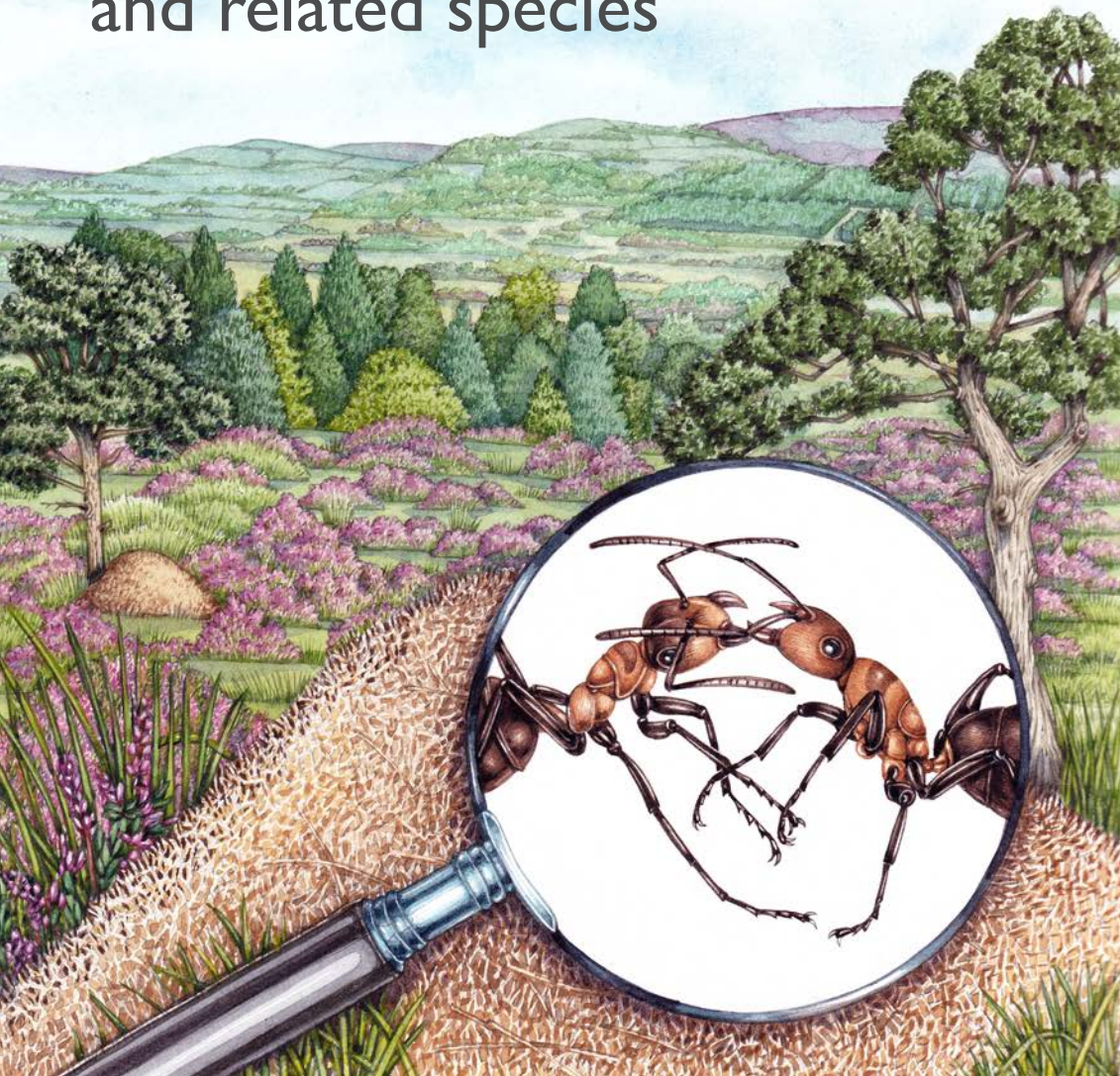
Guide to the Wood Ants of the UK

and related species



Wood Ants of the UK

This guide is aimed at anyone who wants to learn more about mound-building woodland ants in the UK and how to identify the three 'true' Wood Ant species: Southern Red Wood Ant, Scottish Wood Ant and Hairy Wood Ant. The Blood-red Ant and Narrow-headed Ant (which overlap with the Wood Ants in their appearance, habitat and range) are also included here. The Shining Guest Ant is dependent on Wood Ants for survival so is included in this guide to raise awareness of this tiny and overlooked species.

A further related species, *Formica pratensis* is not included in this guide. It has been considered extinct on mainland Britain since 2005 and is now only found on Jersey and Guernsey in the British Isles.

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Contents

What are Wood Ants?

Wood Ants are large, red and brown-black ants and in Europe most species live in woodland habitats. They are known around the world as thatch or mound ants due to the mounded nests they build. There are 13 described species of these ants in Eurasia and 19 species in North America. Like all ants they are social and cooperate to look after the brood, care for the nest and source food.

Biology and ecology

Wood Ants build large thatched mounds in which to live and aggressively defend both their nest and food resources. As their name suggests, they are associated with woodland; coniferous forest, mixed and broadleaf woodland with well drained soils being favoured. Nests are usually south or south-east facing to maximise the amount of sunlight warming the nest.

Nest mounds vary tremendously in size and shape, ranging from fist-sized to 2m tall. What you see above ground is at least mirrored (and sometimes exceeded) underground. Internally the nest contains a series of tunnels and chambers containing the queen, a nursery for the brood and food stores. Tunnel entrances can be opened or closed to maintain optimal temperature and humidity.

On the surface, the 'thatch' is made of organic materials such as pine needles, small twigs, moss, heather, dried grass and even pieces of lichen. The thatch acts like a solar panel to raise the temperature of the nest above that of its surroundings (a high temperature is crucial for brood development). The thatch also acts as an umbrella so that rain water trickles away from the nest, keeping it dry.

All species of ants in the UK hibernate over the winter. In mound-building ants, they retreat to the underground parts of their nests where the temperature is stable and free of frost. The best time to look for active nests is from spring to autumn. Ants emerge from hibernation once temperatures are consistently above freezing and 'swarm' on the surface of the nest in sunny weather to warm themselves (and boost the temperature of the nest). The movement of the ants swarming on the nest surface in spring actually makes an audible sound.

Swarming behaviour of Wood Ant workers on the nest surface in spring. Queens rise to the surface at this time and can be identified by their larger size in relation to the workers and their large glossy abdomens.

Diet

Wood Ants are omnivorous and prey on a wide range of other invertebrates. Caterpillars, aphids, spiders, beetles and many others (including other ants) are taken, their diet changing to suit local abundances of different prey. Workers subdue their prey by biting and spraying formic acid. A small proportion of their diet includes seeds, tree sap and berry juices. They will also scavenge on dead invertebrates.

Between 60% and 90% of the diet of the workers comes from honeydew produced by aphids feeding on the sap of trees and shrubs. This sap is high in sugars and as the aphids feed they excrete excess sugars as honeydew. Ants 'milk' the aphids of their honeydew, and in return protect the aphids from predators and even move them to better feeding grounds. The Blood-red Ant is predominantly predatory on other ants but will also feed on seeds, berries and take honeydew from aphids.

A Southern Wood Ant *(Formica rufa)* worker guarding a collection of aphids.

Ants 'milk' the aphids of their honeydew, and in return protect the aphids from predators and even move them to better feeding grounds.

Why are they important?

Not only are Wood Ants fascinating and beautiful insects in their own right, but they perform a number of important roles in the forest ecosystem, earning them the status of "ecosystem engineers".

Wood Ants:

- Affect tree growth through their relationship with aphids in the tree canopy and through removal of insect herbivores (e.g. moth caterpillars)
- Accumulate huge amounts of organic material and minerals in their nests, particularly nitrogen and phosphorus (the nests not only increase the amount of mineral nutrients but also make them more available to plants)
- Help distribute the seeds of plants, including some plant species which have sugary coatings on their seeds to make them attractive to ants
- Are used by a range of bird species to remove parasites (behaviour known as 'anting' – birds aggregate the surface of the nest, causing the ants to spray formic acid onto the bird's feathers which kills parasites)

In addition Wood Ants are a food source for vertebrates such as Capercaillie, Badger and Pine Marten to name a few. Some species specialise in feeding on Wood Ants, such as the Green Woodpecker and the Gallows Spider.

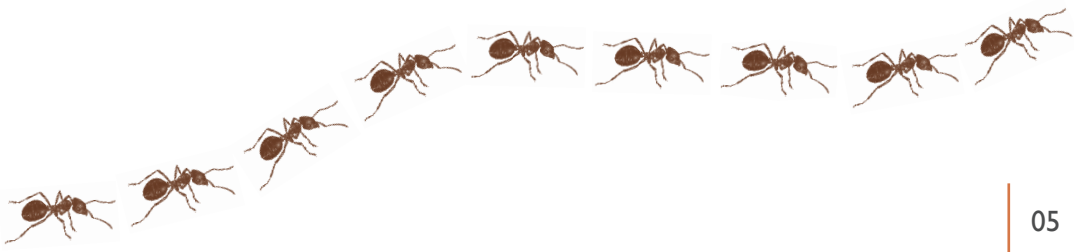
The Wood Ant's nest is home to a unique community of specialist invertebrates. This includes the Shining Guest Ant but also specially adapted beetles, moths and even woodlice which live inside ant mounds and nowhere else. There is also a concentration of micro-organisms within Wood Ant nests which breakdown unwanted food and nest materials.

Larva of the beetle *Clytra quadripunctata* with its case made of plant material. The larvae wander about on the surface of Wood Ant nests feeding on plant debris and use their case as protection from the Wood Ant workers.

The Wood Ant calendar

This is generalised across the species in this guide and timing of events will vary between species and parts of the UK, nest altitude, local climate etc.

November – February/March	June – September
Hibernation	Raising worker offspring
March – April	**May – June**
Spring swarming (Wood Ants only, timing dependent on ambient temperature and levels of sunshine). In southern UK, Wood Ants can emerge as early as February, depending on weather. Activity of the workers begins when the internal nest temperature rises to between 25-30°C.	Raising queens and males (from eggs laid in late winter/ early spring).
May – October	**June – August**
General worker activity – foraging, aphid farming, repairing and building nest. Number of active workers involved in foraging peaks in mid-summer. Size of individual workers varies greatly within the colony and depends on the quality of diet during the larval stage.	Emergence of virgin queens and males, mating flights take place. This is usually confined to a relatively short window of 2-3 weeks. In southern England can be as early as May, in northern Scotland may be as late as July-August



Colony establishment and life cycle

1 Mating

Queens and males undertake mating flights. Queens drop their wings soon after mating.

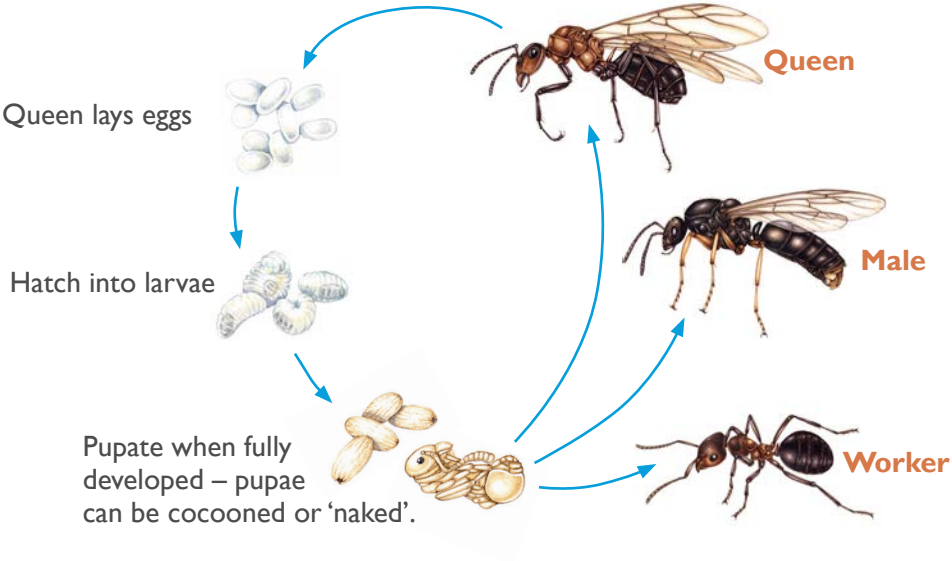
2 Colony establishment

Social parasitism
Establishes a new colony by parasitising the nest of a different ant species

Mated queen returns to natal nest

Nest budding takes place
When there are multiple queens in a single nest

3 Lifecycle of an ant



1 Mating

Newly emerged queens and males take to the wing. Males usually emerge first and disperse to reduce chances of mating with queens from their own nests. Takes place in the morning on still, warm days.

2 Colony establishment

Social parasitism

A newly mated queen flies from her natal nest and establishes a new colony by parasitising the nest of a different ant species – in the UK the host species are *Formica fusca*, *F. lemani* and *F. cunicularia*. The Wood Ant queen enters the nest of the host, kills or excludes the queen and then uses the host workers to raise her own offspring. This creates a mixed colony until eventually the host workers die off and only the Wood Ants remain. This method of colony establishment is very risky and not always successful. Social parasitism is the only way Narrow-headed Ant and Blood-red Ant establish new nests.

Mated queen returns to natal nest

Wood ant and Narrow-headed Ant nests can contain a single queen (monogyny) or multiple queens (polygyny). In some parts of their range, nests can be monogynous, while in other areas the species can be polygynous. The number of reproducing queens within a polygynous nest can vary from 2-20 in Hairy Wood Ants, or to hundreds in Scottish Wood Ants. Queens from monogynous nests are thought to be better at long-range dispersal and this strategy can lead to rapid colonisation of new habitats.

Nest budding takes place

Instead of dispersing, queens can return to their natal nest and then establish a new nest by budding. This results in a new nest mound which contains workers and a queen which is related to the natal nest. By forming satellite nests in this way, Wood Ants and Narrow-headed Ants can exist in 'super colonies' which comprise of multiple mounds (known as polydomy, which means 'many homes'). Workers moving in between them to exchange resources. Nest budding allows a gradual dispersal through a habitat, and allows the colony to be adaptable to changes in habitat and food resources.

3 Life cycle of an ant

Only queens lay eggs. Eggs hatch into larvae and then undergo complete metamorphosis to become adult ants. Larvae are fed a protein rich diet (insect prey, particularly caterpillars). Workers move larvae and pupae around the nest to the warmest areas to optimise development.

Depending on diet at the larval stage and whether the egg has been fertilised, the larvae will become one of three adults:

Worker (fertilised egg)

Workers are always female and closely related, being daughters of a queen or queens which themselves are related. Young workers are involved in brood and queen care. As they age, they become involved in nest maintenance and repair. The older workers are those that forage for food away from the nest. Most workers live for about a month, though workers that overwinter with the queen live for several months.

Queen (fertilised egg, special diet)

Studies suggest a single queen can live for over a decade. In polygynous nests, queens succeed each other, which allows single nests and colonies to survive for several decades.

Male (unfertilised egg)

Emerge for only a short period of time to mate and then die shortly afterwards. Queens and males may not be produced every year – only healthy nests are able to support production of sexual stages.

Scottish Wood Ant *(Formica aquilonia)*

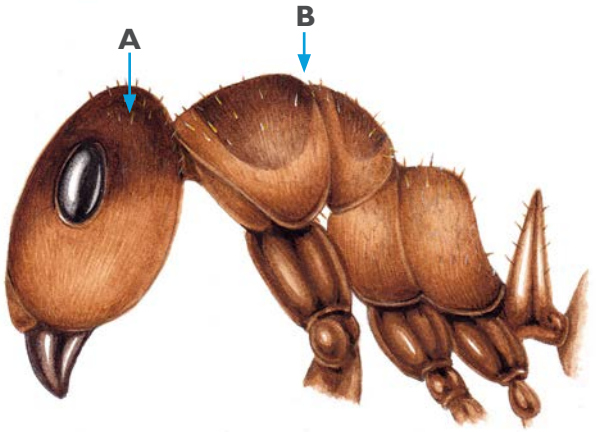
General appearance

Worker showing distinctive black-red coloration.

Size and coloration varies within a nest and cannot be used reliably for identification.

4.0mm → 8.5mm

Actual size of workers, showing size range



Side view of a worker when viewed with a x20 hand lens. At least 5 individuals should be checked as hairs vary from individual to individual.

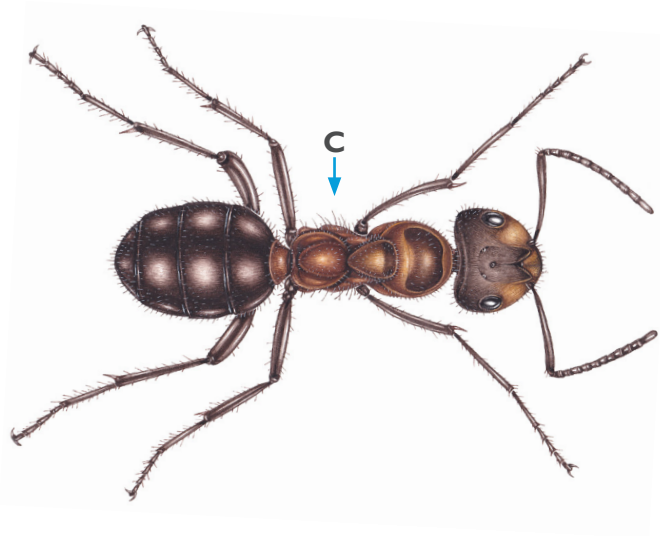
Diagnostic features

A. Sparse, short hairs around top of head which do not reach the eyes

B. Hairs sparse and short along top of thorax compared to Hairy Wood Ant

There is some evidence to suggest that Scottish Wood Ant can hybridise with Hairy Wood Ant where the two species occur side by side (Scotland only in the UK). This means that some colonies will have traits of both species and will be impossible to separate based on morphological characteristics.

Hairy Wood Ant *(Formica lugubris)*



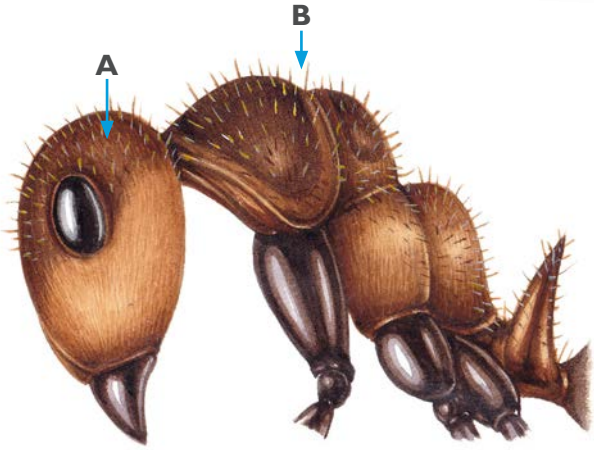
General appearance

Worker showing distinctive black-red coloration – often appear darker compared to the other species.

Size and coloration varies within a nest and cannot be used reliably for identification.

4.5mm → 9.0mm

Actual size of workers, showing size range



Side view of a worker when viewed with a x20 hand lens. At least 5 individuals should be checked as hairs vary from individual to individual.

Diagnostic features

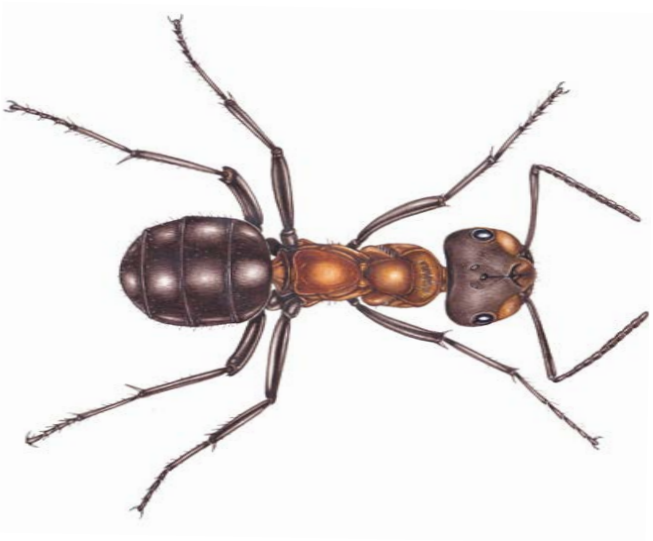
A. Row of short hairs around the top of the head reaching the eyes

B. Hairs form an almost continuous line along the top of the thorax to the waist and appear longer than those of Southern Red Wood Ant and Scottish Wood Ant

C. Long hairs emerging from sides of the thorax when viewed from above

There is some evidence to suggest that Hairy Wood Ant can hybridise with Scottish Wood Ant where the two species occur side by side (Scotland only in the UK). This means that some colonies will have traits of both species and will be impossible to separate based on morphological characteristics.

Southern Red Wood Ant *(Formica rufa)*



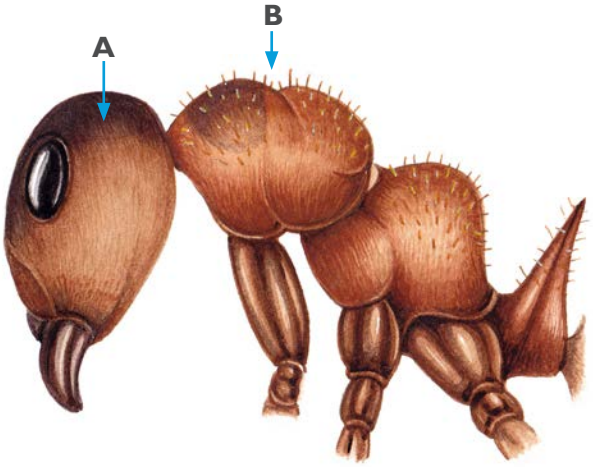
General appearance

Worker showing distinctive black-red coloration.

Size and coloration varies within a nest and cannot be used reliably for identification.

4.5mm → 9.0mm

Actual size of workers, showing size range



Side view of a worker when viewed with a x20 hand lens. At least 5 individuals should be checked as hairs vary from individual to individual.

Diagnostic features

A. Shows (almost entire) absence of hairs around top of head in between the eyes

B. Few, short hairs along top of thorax

Blood-red Ant *(Formica sanguinea)*

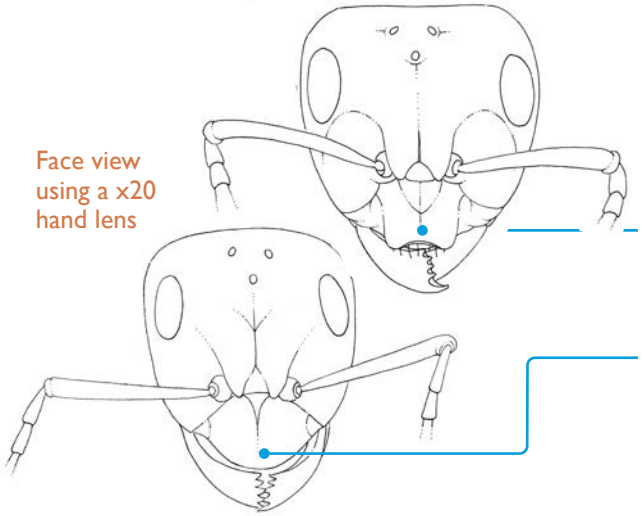
General appearance

Worker showing brighter orange-red coloration compared to workers of Wood Ants – often larger than the workers of the other species.

Size varies within a nest and cannot be used reliably for identification.

6.0mm → 9.0mm

Actual size of workers, showing size range



Face view using a x20 hand lens

Diagnostic features

Blood-red Ant showing distinct notch in the middle of the clypeus or 'lip'

Hairy, Scottish and Southern Red Wood Ant showing distinct round 'lip' in comparison

This species is known as a social parasite; queens raid the nests of smaller black ant species (in the UK *Formica fusca* and *Formica lemani*), killing the resident queen and using the workers to establish their nest. In established Blood-red Ant nests, workers carry out 'raiding parties' and take larvae and pupae of *F. fusca* and *F. lemani* to rear and boost numbers of workers in their own nest. When small black ants are seen alongside workers of the Blood-red Ant this is the result of these mixed species colonies.

Narrow-headed Ant *(Formica exsecta)*

General appearance

Worker showing black-red coloration and distinctive shape of the head.

Size varies, but on average workers are smaller and appear more 'petite' than the workers of Wood Ants and Blood-red Ant.

4.5mm → 7.5mm

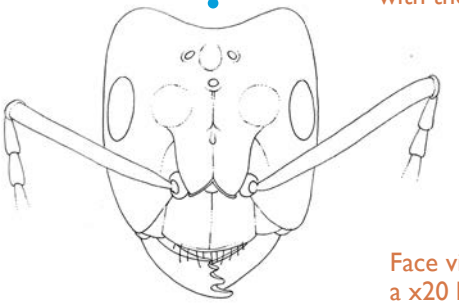
Actual size of workers, showing size range

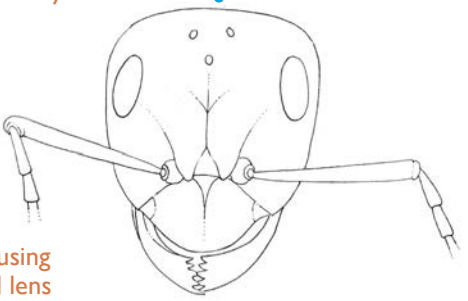
Diagnostic features

Narrow-headed Ant showing 'narrowed' face and distinct notch in top of head

Wood Ant showing wider, rounded head in comparison.

This feature can be seen with the naked eye





Face view using a x20 hand lens

Shining Guest Ant *(Formicoxenus nitidulus)*

General appearance

Very shiny and smooth all over and uniform in colour.

Tiny size makes it tricky to spot.

2.8mm → 3.4mm

Actual size of workers, showing size range

Shining Guest Ant alongside the worker of the much larger Wood Ant. The Shining Guest Ant is approximately a quarter of the size of a Wood Ant worker.

The Shining Guest Ant only lives in the nests of Wood Ants and is entirely dependent on them. It develops its own nest within the thatch of the Wood Ant's nest and even forages alongside them. Due to its tiny size and secretive lifestyle the biology of this species is not fully understood.

Individuals can be observed on the thatch of the Wood Ant nest, usually in small numbers but sometimes tens of individuals. In the UK Southern Red Wood Ant, Hairy Wood Ant and Scottish Wood Ant are host species.

It can be confused with a related species – the Slender Ant (*Leptothorax acervorum*) which is very similar in size and appearance – see page 14. The Slender Ant is very common and is also occasionally seen on the surface of Wood Ant nests.

Comparison between Shining Guest Ant and Slender Ant

Slender Ant

Note dark, dull head and dull thorax. The head and thorax also appear 'wrinkly'.

3.8mm → 4.5mm

Actual size of workers, showing size range

Shining Guest Ant

Very shiny and smooth all over with a smaller, paler head than the Slender Ant.

2.8mm → 3.4mm

Actual size of workers, showing size range

Where to find Wood Ants

Species	UK distribution	Where to look
Scottish Wood Ant *(Formica aquilonia)*	Scotland and a single site in Armagh in Northern Ireland (which may be extinct). In Scotland has been recorded as far north as Ross and Sutherland. Extends west and south of this into the west Highlands and Argyll. Skye and Arran are the only Scottish islands with records. Less common than Hairy Wood Ant in the east Highlands.	Generally in older, closed canopy woodland (pine or birch) where nests are usually situated in pockets of sunshine. More tolerant of shade than the other species. Builds thatched mounds which can reach large size. Nests can contain tens of thousands of workers which can be observed at the nest, the woodland floor and moving up and down tree trunks.
Hairy Wood Ant *(Formica lugubris)*	England, Wales and Scotland. As far south as Derbyshire. In northern England and Wales this species overlaps with Southern Red Wood Ant. In Scotland found in central and northern Scotland but not in southern Scotland. Overlaps in range with Scottish Wood Ant.	Wide variety – pine and birch woodland, also heathland with scattered trees. Nests are usually concentrated along woodland edges and in clearings. Builds thatched mounds which can reach a large size. Nests can contain tens of thousands of workers which can be observed at the nest, the woodland floor and moving up and down tree trunks.

* There is ongoing research into the genetics of *Formica rufa* in the UK as there is evidence that the ants believed to be *Formica rufa* may actually be a hybrid between *Formica rufa* and another Wood Ant, *Formica polyctena*. Until this work is completed, to avoid confusion, this guide is referring to this species as *Formica rufa*.

Species	UK distribution	Where to look
Southern Red Wood Ant *(Formica rufa)**	England and Wales. Evidence that this species is contracting in range in the north, central, and eastern parts of its range. Most common in the south and south-east of England but may be under-recorded in other areas.	Wide variety – pine, oak and birch woodland, also heathland with scattered trees. Requires open sunny locations with some shelter. Builds thatched mounds that can reach a large size. Nests can contain tens of thousands of workers which can be observed at the nest, the woodland floor and moving up and down tree trunks.
Blood-red Ant *(Formica sanguinea)*	England, Wales and Scotland. In Scotland, concentrated in central and eastern areas (Highlands, Aberdeenshire and Moray). In England found in the south only. In Wales there are only scattered records in border counties. Likely to be under-recorded.	Predominantly coniferous woodland. Favours open, south-facing habitat. Usually nests in dead wood—trees that are dry and friable. Can also nest in bare ground and under stones. A thatched area is usually present but rarely forms a free-standing dome. Often uses past clear-fell sites but can also be found in small open pockets in woodland where there are dead trees. Always open, sunny sites, moving quickly to alternative locations when nest sites become shaded. Largest ant in the UK, with orange-red appearance. Not as dark in appearance as the Wood Ants. Workers are frenetic in their activity and usually choose to bite rather than spray formic acid if threatened.

Narrow-headed Ant *(Formica exsecta)*	England and Scotland. Two distinct populations in Scotland: one population in the Cairngorms National Park with a tiny outlying population in Perthshire. In England found in one area in Devon only.	Always open, sunny habitats: heathland bordering woodland, old woodland with large glades, even bog woodland. Inhabits both pine and birch woodland. Builds a thatched mound with fine materials such as grasses, heathers and dried moss. Nests typically half a football in size. A few nests found in Scotland reach 1m across. Nests contain smaller number of workers than that of Wood Ants. Has a more painful bite than the Wood Ants due to the large jaw muscles (which give the ant its distinctive shaped-head).
Shining Guest Ant *(Formicoxenus nitidulus)*	England and Scotland. Scattered records from the regions where its hosts occur. As yet unknown from Wales, Northern Ireland and Channel Islands. Likely to be under-recorded.	Associated with Southern Red, Hairy and Scottish Wood Ants in the UK. Not found in all host nests - it is thought to only inhabit Wood Ant nests that are in a healthy condition. September and October is best time to observe this species. Queens and males are worker-like in appearance.

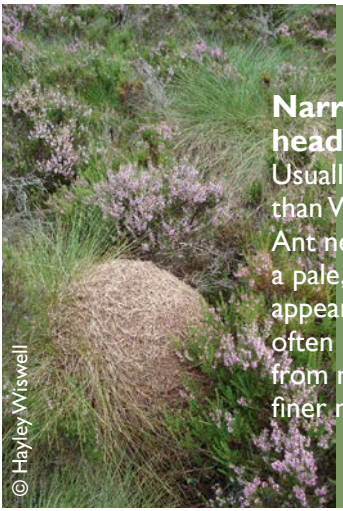
Nest mounds

Scottish Wood Ant
Large thatched mound, often has a domed appearance.

Hairy Wood Ant
Large thatched mound, often has a flat topped appearance.

Southern Red Wood Ant
Large thatched mound, often built around a rock or tree stump.

Blood-red Ant
'scruffy' thatch, often built around dried out tree stumps



Narrow-headed Ant
Usually smaller than Wood Ant nests with a pale, grassy appearance, often made from much finer material.

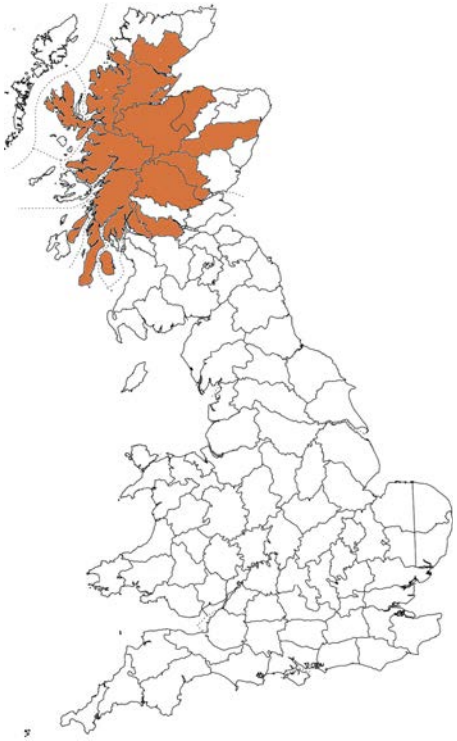
Shining Guest Ant
Only lives in the nests of Wood Ants and is entirely dependent on them. It develops its own nest within the thatch of the Wood Ant's nest.

Species distributions

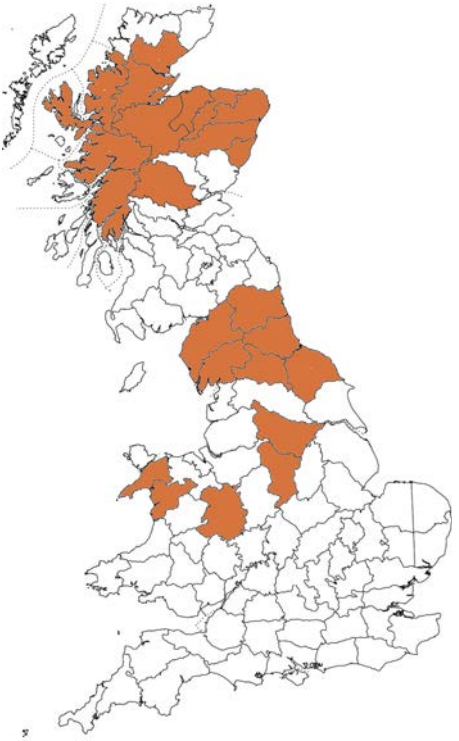
The maps show vice counties where the species occur, not precise distributions. Based on records from 1980 onwards, using public records from the National Biodiversity Network atlas.

Northern Ireland is not included on the maps – there is only a single population of Scottish Wood Ant in Armagh and this is the only record.

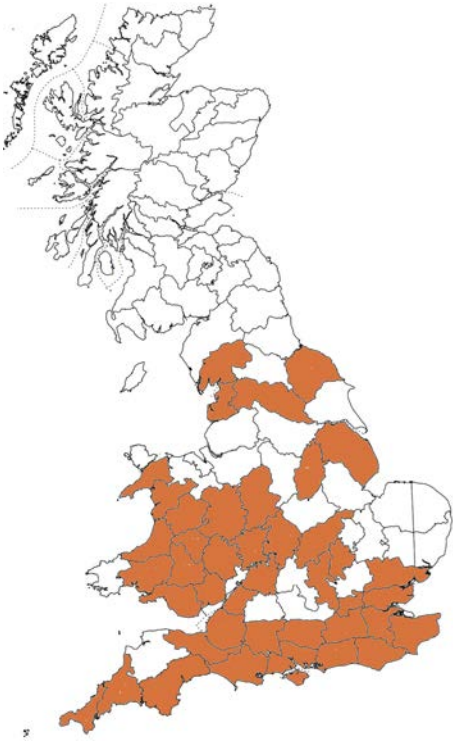
Scottish Wood Ant
(Formica aquilonia)



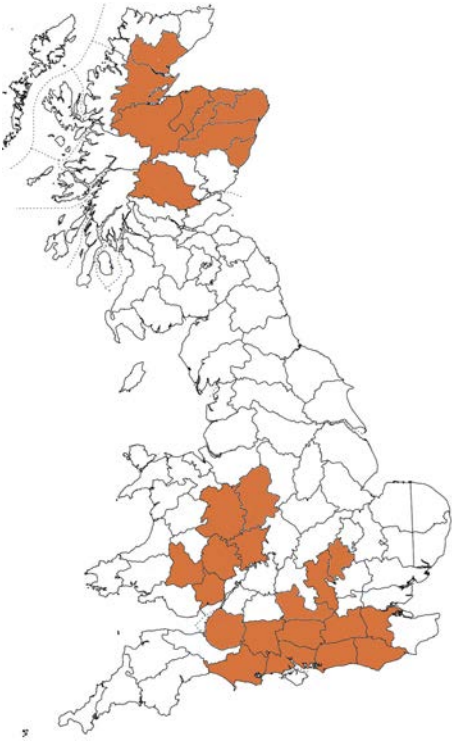
Hairy Wood Ant
(Formica lugubris)



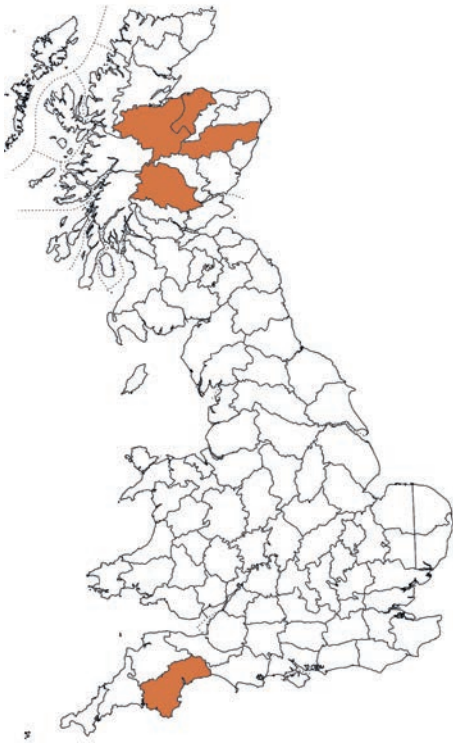
Southern Red Wood Ant
(Formica rufa)



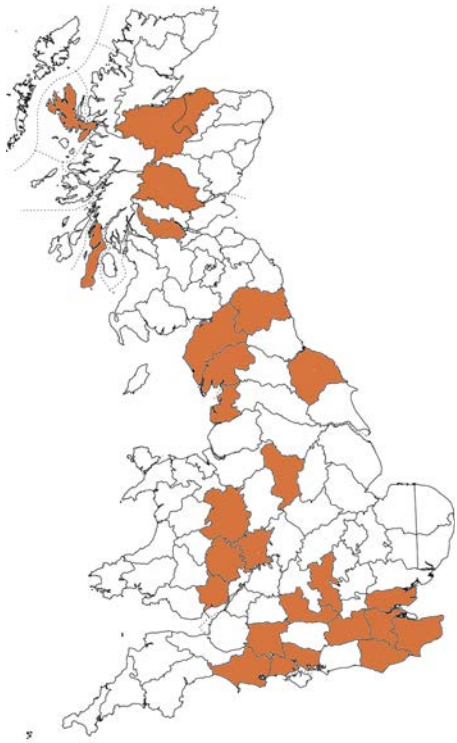
Blood-red Ant
(Formica sanguinea)



Narrow-headed Ant
(Formica exsecta)



Shining Guest Ant
(Formicoxenus nitidulus)



Managing habitat for wood ants

Wood Ants are not legally protected. However some of the species are of conservation concern and are listed as priority species.

Public bodies have a duty to take necessary steps to conserve biodiversity* and this includes all wildlife, not just those sites and species which are protected.

It is considered good practice to avoid deliberately harming Wood Ants and their nests, particularly in light of their important roles within woodland ecosystems.

Shining Guest Ant is dependent upon Wood Ants for its existence. Its listing as a priority species in England and Scotland therefore implies priority status to its UK host species: Southern Red Wood Ant, Hairy Wood Ant and Scottish Wood Ant. See page 27 for an overview of the conservation status of each species.

As well as inhabiting semi-natural woodland habitats Hairy Wood Ant, Scottish Wood Ant, Southern Red Wood Ant and the Blood-red Ant can all occur in forests managed for commercial purposes.

The Narrow-headed Ant can exist on open moorland habitat subject to grazing or burning as long as there are some scattered trees for foraging.

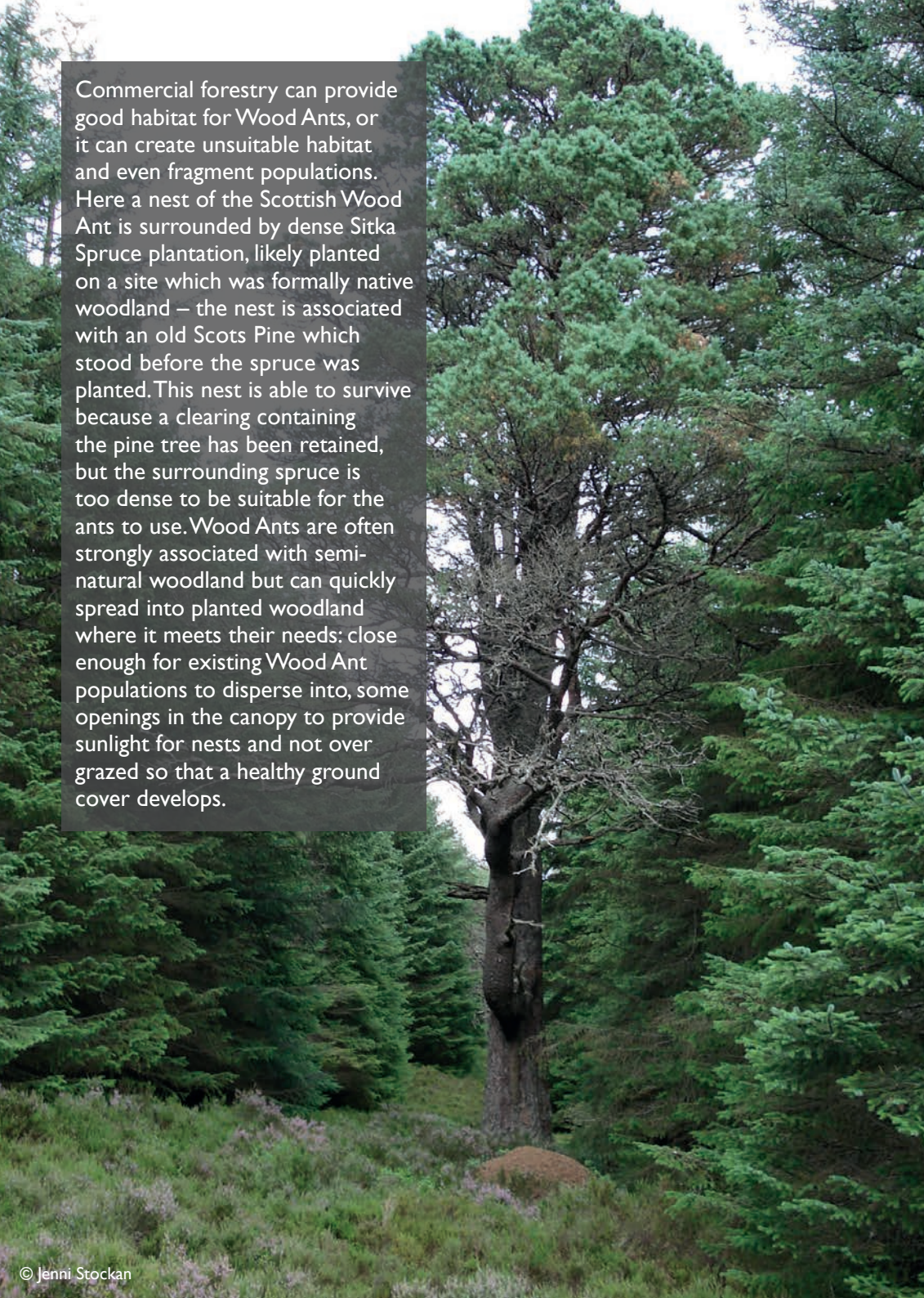
Wood Ants and their related species need relatively large habitat patches of well connected habitat with stable food resources in order for colonies to flourish. Cohesive management sensitive to the needs of these species is required across large areas to create a landscape where these species can thrive.

Mosaics of woodland habitat, from young scattered trees to mature woodland will benefit different species of ants. Commercial forestry can be beneficial to these species if planned and managed in a way sensitive to their needs.

* Natural Environment and Rural Communities Act (2006) in England and Wales, Nature Conservation (Scotland) Act (2004), and Wildlife and Natural Environment Act (Northern Ireland) 2011

Below are guiding principles to follow when undertaking management in habitats that support the species in this guide:

- Traditional silvicultural methods using a shelterwood system are more sensitive to the needs of ants – i.e. thinning rather than clear-felling. Removing large numbers of trees removes aphids, prey resource and changes the microclimate (essential for rearing brood). Clear- felling, if required, should only be done in small coups and should avoid areas with large numbers of nests. Survival of nests in clear-fell areas is improved when nests are located close to forest edges
- To protect nests from direct damage during forestry management, it is good practice to record and clearly mark nests prior to felling. Make contractors aware of the presence of nests so that they can be avoided by machinery
- Habitat connectivity is important to allow Wood Ants to disperse through the landscape. Blocks of woodland should be no more than 200m apart (this is thought to be the maximum distance that nests can 'bud')
- Scalloped edges on woodland boundaries, rides and track-sides facing south and south-east creates more habitat compared to straight edges
- Pheasants are likely to predate on ants so it is not advisable to introduce pheasants and partridges into woodland where there are nests
- Low grazing levels can become an issue for the particularly heat-dependent species (Southern Red Wood Ant, Blood-Red Ant and Narrow-Headed Ant) where habitat succession can result in shading of nests. However low grazing levels are needed in other areas to allow tree regeneration so that these woodland dependent species can disperse across the landscape
- Creating mosaics of habitat from mature woodland to scattered trees and open heathery and grassy glades will benefit a wider range of species. Scottish Wood Ant is more suited to long-term/permanent woodland while Hairy Wood Ant and Blood-Red Ant can benefit from forest rejuvenation
- Muir burn of moorland should be avoided where there is risk of directly damaging ant colonies
- Translocation of Wood Ant nests should not be undertaken lightly and should only be done as a last resort where damage to nests is unavoidable or populations are at risk of extinction. There is also scope to translocate Wood Ant nests when reintroducing keystone species into unoccupied habitat but this requires careful consideration.



Commercial forestry can provide good habitat for Wood Ants, or it can create unsuitable habitat and even fragment populations. Here a nest of the Scottish Wood Ant is surrounded by dense Sitka Spruce plantation, likely planted on a site which was formally native woodland – the nest is associated with an old Scots Pine which stood before the spruce was planted. This nest is able to survive because a clearing containing the pine tree has been retained, but the surrounding spruce is too dense to be suitable for the ants to use. Wood Ants are often strongly associated with semi-natural woodland but can quickly spread into planted woodland where it meets their needs: close enough for existing Wood Ant populations to disperse into, some openings in the canopy to provide sunlight for nests and not over grazed so that a healthy ground cover develops.

Survey techniques and monitoring

Depending on the size of an area to be surveyed and the resources available, there are two survey options:

1

Aim to record all of the nests in an area

With a team of surveyors, a woodland can be surveyed by working across the habitat in a line, each surveyor spaced about 5m. One surveyor uses a compass to direct the team along a bearing. The line of surveyors stops each time someone finds a nest and then resumes once a record of the nest is made.

2

Take a sample by using a focused transect

A single surveyor walks a fixed transect through a chosen area and records nests along the transect and within a fixed buffer either side (say 5m) of the transect. The transect can cross through different habitat types to compare nest densities/ locations in different areas.

Looking for Shining Guest Ants

The most reliable and least destructive way to find Shining Guest Ant is to sit beside a Wood Ant nest and simply observe the thatch. Shining Guest Ants are more obvious at particular times of year – the ideal time is September and October when males come to the surface (though they have been observed as early as June). Since Wood Ants are sometimes less active at this time, any Shining Guest Ants on the surface can be easier to spot. For the same reason, observing a nest in the morning, particularly on a cooler, overcast day when Wood Ant workers are less likely to be active is usually more productive.

Monitoring

As well as searching for nests and recording their distribution, it is useful to repeatedly visit the same areas where Wood Ants live in order to record how they change over time, particularly if they are in a woodland that is actively managed. Monitoring can simply involve repeating a survey along a fixed transect every 3-5 years. Monitoring the before and after phases of habitat management, such as forest thinning or woodland planting can be particularly useful for assessing the impact, positive or negative, on Wood Ants and their related species.

Recording Wood Ants

It is important to record the following information when you have found a Wood Ant nest:

- Species (see below)
- A grid reference using the UK National Grid *(10 figure grid reference is best)*
- Date
- Location or site
- The name of who is making the record.

For the identification you will need:

20x hand lens

To distinguish the species in this guide, some practice is needed!

At least 5 specimens per nest

Individuals can vary and workers often lose their hairs as they age.

Records of species will normally only be accepted when checked by an expert. If the species is not known, a grid reference of the nest together with a photograph is still very useful. Records of absence are also valuable.

If you have found a nest, use the following to submit your record:

i-Naturalist
www.uk.inaturalist.org
Connects with a community of over a million scientists and naturalists. By recording and sharing your observations you'll create research quality data for scientists working to better understand and protect nature.

iRecord
www.brc.ac.uk/irecord/

Inspecting a Wood Ant worker through a hand lens

Please Note: Ants defend their nests aggressively – ants can bite if handled and also spray formic acid as a deterrent, so beware of this when observing nests and handling workers. It's important not to disturb the thatch of the nest – although wood ants are very good at repairing their nests, this requires additional resources and if damaged over winter, can expose the ants to harsh weather.

Conservation status of Wood Ants

Scottish Wood Ant

- IUCN status: "Near Threatened" (last assessed 1996)
- Northern Ireland Priority Species (Wildlife and Natural Environment Act (Northern Ireland) 2011)
- Subject to an action plan in the Cairngorms National Park (2019-2024)

Hairy Wood Ant

- IUCN status: "Near Threatened" (last assessed 1996)
- Subject to an action plan in the Cairngorms National Park (2019-2024)

Southern Red Wood Ant

- IUCN status: "Near Threatened" (last assessed 1996)
- Included in some Local Biodiversity Action Plans in England (check your local authority area).

Blood-red Ant

- IUCN status: Not assessed
- Subject to an action plan in the Cairngorms National Park (2019-2024)

Narrow-headed Ant

- GB Red List: "Endangered"
- Natural Environment & Rural Communities Act (2006) Section 41 (England) – listed under "Species of Principle Importance"
- Nature Conservation (Scotland) Act 2004 – listed as a priority species on the Scottish Biodiversity List under the categories "Conservation Action Needed" and "Avoid Negative Impacts"
- Subject to an action plan in the Cairngorms National Park (2019-2024)
- Subject to an action plan under Devon Local Nature Partnership

The Shining Guest Ant

- IUCN status: "Vulnerable" (last assessed 1996)
- Natural Environment & Rural Communities Act (2006) Section 41 (England) – listed under "Species of Principle Importance"
- Nature Conservation (Scotland) Act 2004 – listed as a priority species on the Scottish Biodiversity List under the category "Watching Brief Only"
- Subject to an action plan in the Cairngorms National Park (2019-2024)

Further information

For more information visit

www.woodants.org.uk

Digital copies of this guide and guidance on translocation of Wood Ant nests can be found at this website.

Useful resources:

- Stockan, J. & Robinson, E. (Eds.). (2016). Wood Ant Ecology and Conservation (Ecology, Biodiversity and Conservation). Cambridge: Cambridge University Press

- Macdonald, M. (2013). Highland Ants: Distribution, Ecology and Conservation. Highland Biological Recording Group. Can be downloaded free from: www.hbrg.org.uk/AntAtlas/DownloadAntAtlas.html

- Skinner, G. J. & Allen G.W. (2015) Naturalists Handbooks 24: Ants. Pelagic publishing (due to be updated in 2021)

- AntWiki www.antwiki.org/wiki

- British Wasps and Ants Recording Society www.bwars.com

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Scottish Wood Ant © Joan Beaton

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