

Ants of Wyre Forest – A Review

HARRY GREEN

The records

The Worcestershire Biological Records Centre (WBRC) currently holds 259 individual records of 17 species of ants for the 10x10km national grid square SO77. Most of the records lie within the boundary of the Wyre Forest SSSI and the majority were collected after 2000 (224 records) as shown in table 1. The first records were made between 1946 and 1952 by Fred Fincher who was probably the only naturalist with sufficient skill for the task in Worcestershire at that time. For the 1960's there are two records for Wood Ants extracted from the Transactions of the Worcestershire Naturalists' Club. There is one record for the 1970's for the ant *Formica exsecta* which is in itself of considerable interest if correct. In the 1980s 24 records were contributed by visiting naturalists, some undertaking contact surveys. There are only five records from the 1990s. Since 2000 many more records have accumulated mainly through activities organised by the Wyre Forest Study Group, sometimes as a by-product of special activities such as the study of the Bowcastle Farm Orchards, and special searches for the Guest Ant *Formicoxenus nitidulus* and the Blood-red Slave-making Ant *Formica sanguinea*.

Date	Records	Remarks
1946-1952	7	All Fred Fincher records. 1952 first modern record of <i>Formica sanguinea</i> .
1960's	2	Extracted from <i>Trans. Worcs. Nats. Club</i>
1971	1	<i>Formica exsecta</i> by Anon of English Nature
1980's	24	Visiting naturalists Mike Bloxham, Don Goddard, Colin Plant, Keith Alexander
1990's	5	John Meiklejohn & Rosemary Winnall at the start of modern recording.
2000	2	Rosemary Winnall & Harry Green
2001	18	Records from 2001 increase through Wyre Forest Study Group activities
2002	4	
2003	12	
2004	67	Bowcastle Farm Orchard survey
2005	3	
2006	33	<i>Formicoxenus nitidulus</i> found after 100 years
2007	40	<i>Formica sanguinea</i> special effort
2008	25	<i>Formica sanguinea</i> some effort
2009	16	

Table 1 Records of Wyre Forest ants held by WBRC by date

The numbers of records for each species are shown in table 2. Not surprisingly most records are of those ants which are fairly easy to identify such as Wood Ants *Formica rufa* and Yellow Meadow Ants *Lasius flavus*. Until recently the Small Black Ant *Lasius niger* was thought to be easy to record but the original *niger* has now been divided into two species, *L. niger* and *L. platythorax*, which are not easy to tell apart, so most of the early records listed under *L. niger* could be of either species. The fairly substantial number of records for the Shining

Guest Ant *Formicoxenus nitidulus* and the Blood-red Ant *Formica sanguinea* reflect a recent outbreak of obsession amongst some recorders! However, this is excusable as Wyre Forest is an important site nationally for both these species.

<i>Formica exsecta</i>	Narrow-headed ant	1
<i>Formica fusca</i>	Negro ant	19
<i>Formica rufa</i>	Red wood ant	64
<i>Formica sanguinea</i>	Blood-red slave-making ant	21
<i>Formicoxenus nitidulus</i>	Shining guest ant	27
<i>Lasius alienus</i>		1
<i>Lasius brunneus</i>	Brown tree ant	15
<i>Lasius flavus</i>	Yellow meadow ant	29
<i>Lasius fuliginosus</i>	Jet or shining black ant	4
<i>Lasius niger</i>	Small black ant	26
<i>Lasius platythorax</i>	Small black ant	3
<i>Lasius psammophilus</i>		1
<i>Leptothorax acervorum</i>	Slender ant	6
<i>Leptothorax nylanderii</i>		1
<i>Myrmica rubra</i>	Red ant	12
<i>Myrmica ruginodis</i>	Red ant	22
<i>Myrmica scabrinodes</i>	Red ant	7
17 species		
Total records		259

Table 2. Records of Wyre Forest Ants held by WBRC by species.

Of course interest in Worcestershire's ants did not start in 1946. For instance Fletcher & Martineau (1901) writing in the Victoria County History list 14 species (figure 1) including the two Wyre Forest specialities *Formica*

ACULEATA	
HETEROGYNA	
FORMICIDÆ	
<i>Formica rufa</i> , Linn. (the Horse Ant).	<i>Sbrawley, Trench Woods, Wyre Forest, etc.</i>
— <i>sanguinea</i> , Ltr. <i>Wyre Forest</i> ; common (Martineau)	
— <i>exsecta</i> , Nyl. <i>Bewdley</i> (Blatch)	
— <i>fusca</i> , Ltr. <i>Temple Laughern, Worcester, etc.</i> ; common in most localities	
<i>Lasius fuliginosus</i> , Ltr. <i>Lathe Lane</i> (Fletcher); <i>Trench Woods</i> (Martineau)	
— <i>umbratus</i> , Nyl. In bank of <i>Severn, Lenchford</i> (Fletcher); <i>Bewdley</i> (Blatch)	
— <i>flavus</i> , De Geer. At foot of tree, <i>Cotheridge</i> (Fletcher); common in fields everywhere	
— <i>niger</i> , Linn. (the Garden Ant); common generally	
<i>Formicoxenus nitidulus</i> , Nyl. <i>Bewdley</i> (Blatch)	
<i>Stenamma westwoodii</i> , Westw. <i>Hallow</i>	
<i>Leptothorax tuborum</i> , Fab. Sides of <i>Teme, Pewick, Bransford</i>	
<i>Myrmica rubra</i> , Linn., race <i>lævinodis</i> , Nyl. <i>Hallow, Stoulton</i>	
— <i>ruginodis</i> , Nyl. <i>Stoulton, Little Eastbury</i>	
— <i>scabrinodis</i> , Nyl. <i>Old Hill, Monkwood</i>	

Figure 1. Ant records in the Worcestershire Victoria County History section on insects by Fletcher & Martineau (1901).

sanguinea and *Formicoxenus nitidulus* although the notes for the first ("Wyre Forest, Common") and the second ("Bewdley, Blatch") are not very helpful. What is surprising is the note of *Formica exsecta* ("Bewdley, Blatch") of which more later.

Donisthorpe (1927) visited the Wyre Forest district and, for example, wrote at length on *Formica sanguinea*. I have not read through every species account in his complex book but for many species outside his particular studies his records for Worcestershire refer back to the Victoria County History (Figure 1). Hickin's (1971) book includes a section headed "The Forest Ants" which is mainly a summary of earlier references. Interestingly he states that *Formica sanguinea* "is abundant in Wyre Forest" and that *Lasius fuliginosus* "is common in Worcestershire" and this certainly does not seem to be the situation for these species in the first decade of the 21st century. He also refers to a useful paper by Collingwood (1955) entitled Ants in the South Midlands which has proved to be very helpful for this review.

Further national distributional information can be found in the first Provisional Atlas for Ants (Barrett 1977) and more recently in the atlases compiled jointly by the Bees, Wasps, and Ants Recording Society (BWARS) and

the National Biological Records Centre. These maps include old records for SO77, the 10x10 km square in which Wyre Forest is situated.

The map in figure 2 shows the distribution of all the WBRC ant records in SO77. It is striking how few records there are and how many blank areas there are with no ant records. The map probably reveals more on the distribution of visits by ant recorders rather than of ants. It also highlights those areas generally open to visitors and is starting to pick out the tracks and paths of Wyre followed by them. On the other hand the map is perhaps starting to show the distribution of the ants that use more open habitats and partially shaded areas such as track margins. Around 25% of all records are of Wood Ants *Formica rufa* and their big nests are easy to record and often placed along the sides of tracks in partial shade.

The species

Formica exsecta (the Narrow-headed ant)

Nationally there are two separate populations of this species: one in Scotland, the other near the central coast of southern England (Edwards 1997). There is one record on the database at SO750760 within Wyre Forest for 1971 recorded by "Anon of English Nature". We are

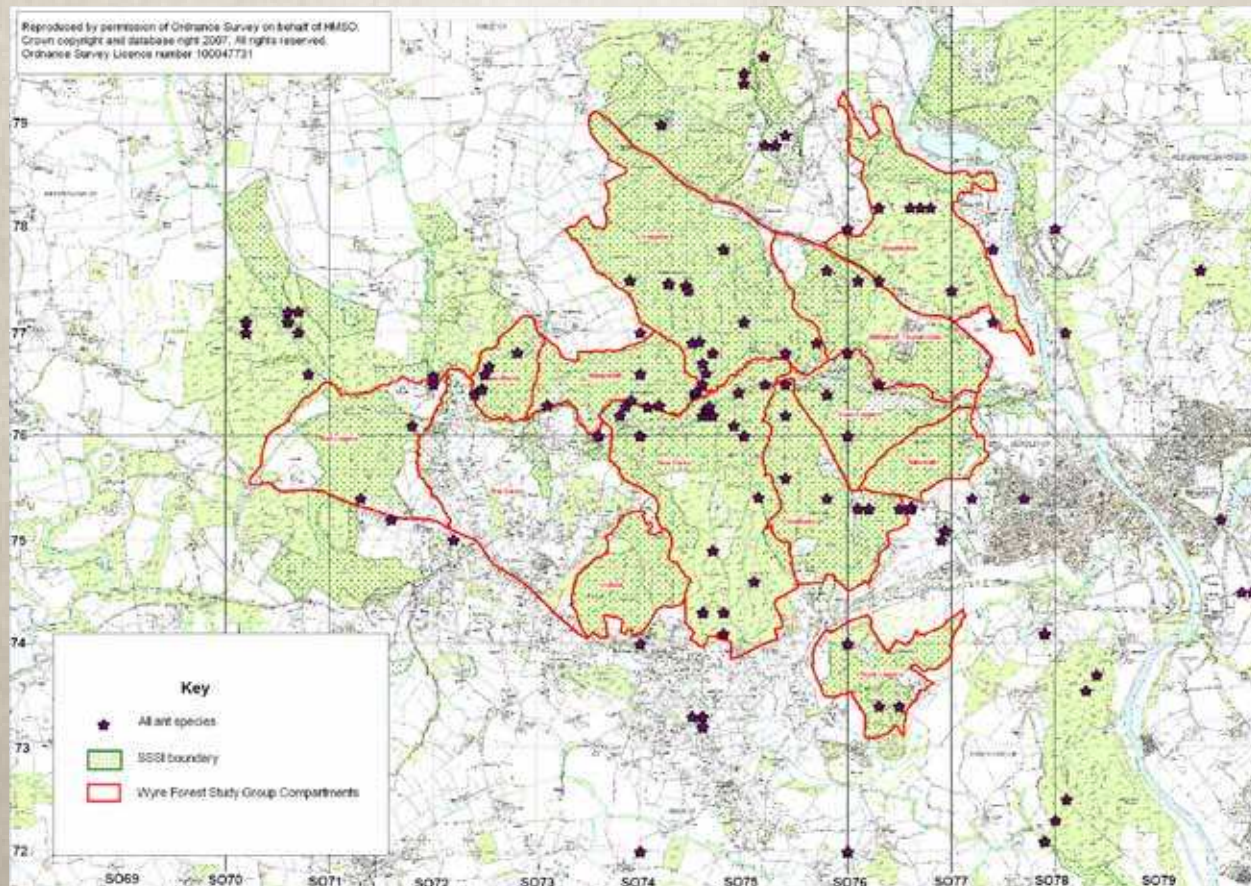


Figure 2. This map prepared by Jenni Schenke at Worcestershire Biological Records Centre shows the location of all the ant records held by the WBRC

currently attempting to trace more information on this record and to check its validity. There is also mention of the species in the Victoria County History (Figure 1) attributed to Blatch who was active in the Midlands 1870-1890 (Green 2006, Westwood 2006, and Green & Westwood 2006): "Bewdley (Blatch)". This record is not included in modern distribution atlases. Yarrow (1954) commenting on the then recently published book on ants in the New Naturalist series (Morley 1953) doubts the validity of the Blatch record on the basis of being unlikely because of the national distribution, and because Donisthorpe (1927) did not record the species on his forays to Bewdley and presumably into Wyre Forest and simply quoted the Victoria County History record. Yarrow suggests misidentification by Blatch of a somewhat atypical *Formica sanguinea*, a species reported as abundant in Wyre at the time.

Formica exsecta presents a challenge to current recorders. Does it occur in Wyre Forest or not? Elsewhere it is an ant of fairly open heath, woodland rides and clearings, and moors. Under habitat preferences Donisthorpe (1927) mentions the borders of woods, in clearings in woods and forests, in unsheltered places, on open heaths, by the sides of paths and roads, in clumps of grass and rarely under stones. The nests are built above ground with tunnels underground, are dome-shaped or somewhat conical, often based on a grass clump or tussock, up to the size of half a football, rarely more than 10 inches (c25 cm) high and constructed of vegetable fragments smaller and finer than those used by Wood Ants *Formica rufa*. The nests are said to be instantly recognizable! Reading these descriptions it is easy to see how an earlier Wyre Forest with many more heathy and open areas could support the species. But did it survive early conifer plantations and the end of coppicing which have converted Wyre Forest to a much shadier place, a process perhaps starting 100 years ago? The national distribution is very peculiar. Yarrow (1954) speculates "the apparent distribution may bear very little relationship to the real distribution ... and does little more than reflect favoured holiday resorts of one or two men ... there must be hundreds of thousands of acres of moorland and heathland where no ant collector has ever been and it would come as no surprise if *Formica exsecta* turns up in Ireland or Wales, apart from other localities in England and Scotland". Modern Hymenopterists may disagree with this speculation as Britain is nowadays well-searched and of course large parts of the vast areas of habitat (especially heaths) suitable in 1954 have vanished through development, forestry and agriculture. Nevertheless, to find them in Wyre Forest would be a very exciting discovery.

Formica fusca (the Negro Ant)



Formica fusca with larvae and pupae, 12th June 2009 R. Winnall

This species is widely distributed in southern England, lowland Wales, with isolated populations further north (Edwards & Broad 2005). Donisthorpe (1927) considers the species to be very widely distributed in Britain but rarely found higher than 2000ft above sea level. The Worcestershire Victoria County History states that it is common in most localities (Figure 1). It is found in open woodland, moorland, and heaths, and generally in undisturbed places. In Worcestershire nowadays *Formica fusca* is often found on the Kidderminster Heaths, the Malvern Hills and similar places. There are only 19 records on the WBRC database for SO77 and the species is obviously under-recorded. The colonies are usually fairly small and nests are unusually under stones, in tree stumps, or under loose bark. Earth mounds are occasionally constructed.

Formica fusca colonies provide the slaves for *Formica sanguinea* which invades their colonies and carries off pupae to their own nest. On hatching the workers become enslaved and work for their *sanguinea* masters.

Formica cunicularia (previously known as *Formica fusca* var *rubescens* and var *glebaria*)

In the past this species was regarded as one of two varieties of *Formica fusca* until the situation was resolved by Yarrow according to Edwards & Broad (2005) who also publish a modern national distribution map. This shows *F. cunicularia* to be a mainly coastal species of southern England with a symbol noting past records from SO77. This probably refers to Donisthorpe's (1927) record. He writes "In May 1908 I discovered a fine colony of this variety (*F. fusca* var *rubescens*) on the side of a railway embankment at Bewdley, its nest being partly situated under a heavy stone, partly in the bank, with earth built up round the stone". Collingwood (1955) states the species has not been seen in Wyre Forest since 1916. There are no records on the WBRC database for SO77.

Formica cunicularia is very similar to *Formica fusca* in appearance and biology (Pontin 2005) who states that the gaster is dull rather than silky while the legs

and thorax, cheeks and part of the abdomen may be reddish, and there are other more detailed differences. The species needs hotter nest sites than *F. fusca* which may be under stones or in grass with earth built to a bare mound in the sun. There are no modern records for Wyre Forest area.

Formica rufa (the Red Wood Ant)



Large nest of *Formica rufa*, Postensplain, 16th Sept. 2005 H. Green

The Wood Ant *Formica rufa* is well-known by its large mound nests constructed of fragments of vegetation usually found within woodlands although at times spreading into adjacent heaths, track sides and scrubby places. Nationally the species is mainly distributed through the southern half of England. The main



Formica rufa winged males, New Parks, 17th May 2007 R. Winnall

populations are south of a line between the Severn and Thames estuaries with scattered distribution elsewhere including Forest of Dean and parts of Wales (Edwards 1997). The population of the Lake District shown on earlier national distribution maps (Barrett 1977) has declined probably due to very wet spring weather 1966-1968 (Robinson 2001). Donisthorpe (1927) implies that *Formica rufa* was known to him from Worcestershire (he lists counties from which he had no records) but in an extensive account he does not mention the Wyre Forest or Bewdley area. Hickin (1971) notes that *F. rufa* is "very common" in Wyre Forest and Collingwood (1955) "very abundant throughout Wyre Forest".

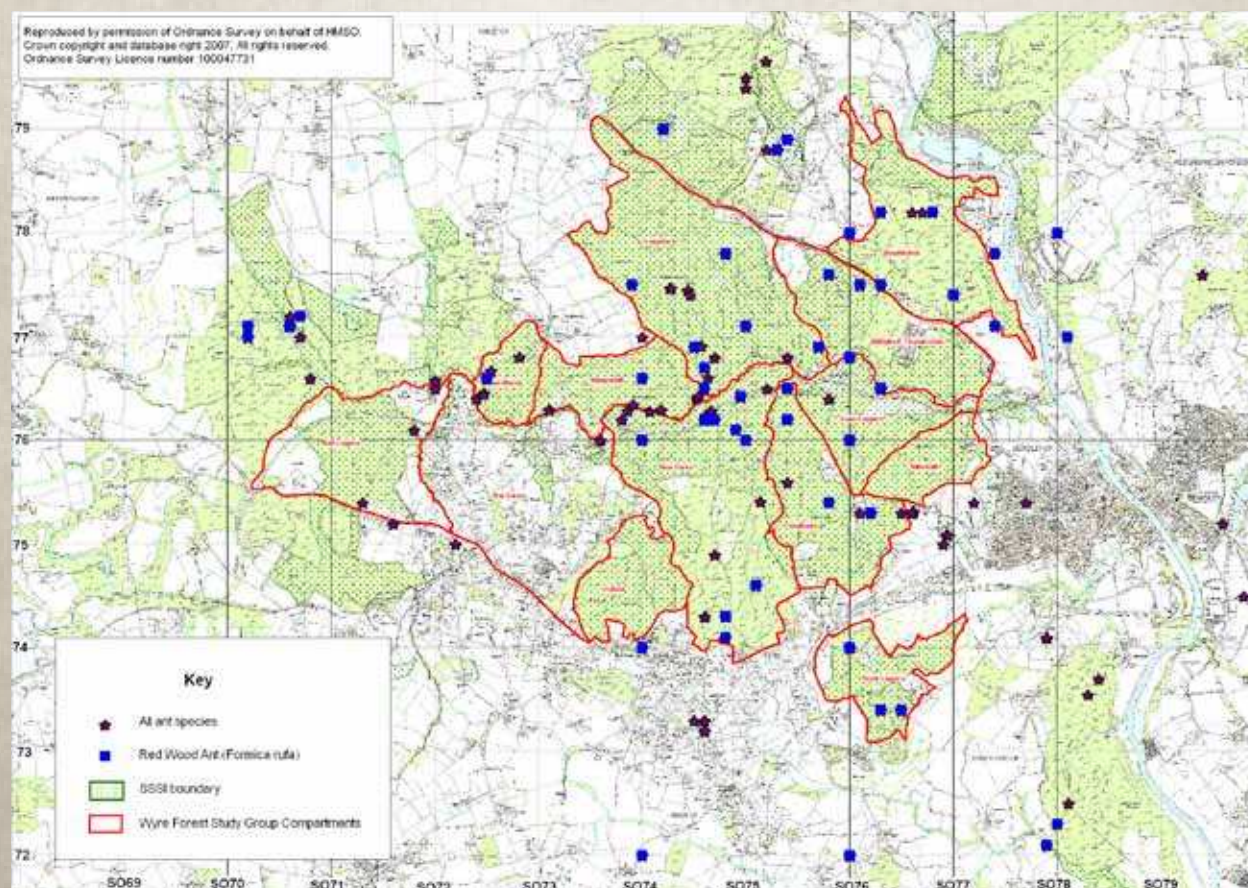


Figure 3 This map prepared by Jenni Schenke at Worcestershire Biological Records Centre shows all records of Wood Ants *Formica rufa* as blue squares and all other ant species as black stars.

About one quarter (64) of the ant records for SO77 on the WBRC database are of this species. The map in Figure 3 shows the distribution of these records and of all ants with different symbols. However general observations in recent years suggest that *Formica rufa* is under-recorded despite their obvious nests. Nevertheless the reports in the literature mentioned suggest that the species was once much commoner in the Wyre Forest when it was more open and heathy although this is of course guess work and both the older and more modern records may merely be those made when familiar paths and tracks are followed on journeys through the forest.

Robinson (2008) reported on a study of *Formica rufa* made at Gait Barrows National Nature Reserve, Lancashire, between 1986 and 2006 which included carefully mapping of the individual nests and following their history over the 20 year period. During this time the number of nests remained stable (about 100) with a turnover of about 5% per annum indicating that some nests can last for 20 years on the same spot despite a variety of management practices. Many of the nests that became inactive were associated with damage during coppicing activities or over-shading by brambles or other vegetation, although the reason why many became defunct was not always apparent. In summary he states that although generalisations are difficult for *Formica rufa* as there are always exceptions, three features appeared necessary for successful nest development and long life. They are elevation on a rock or stump giving good drainage and warmth; good insolation (exposure to the sun); shelter from rain as under the edges of over-hanging branches. The need for warmth is very apparent and is dramatic when one sees the surface of a Wyre Forest nest densely packed with rather inert ants lying in the sunshine. Pontin (1996) comments that *F. rufa* can raise the temperature within the nest mound by as much as 10°C above the ambient made possible by metabolising excessive carbohydrate intake from aphid honeydew yet, if heavily shaded, some nests are moved out of shade into partial shade or sunlight.

From both a distributional and a conservation viewpoint it is worth considering these reports in the Wyre Forest context. Nests may be severely damaged by vigorous forestry work with little hope of re-establishment. Vigorous vegetation re-growth following coppicing or tree planting resulting in large areas of heavy shade will usually destroy nests and colonies. Both sudden and excessive exposure to the sun or loss of protection from heavy rain by removal of partial cover can destroy nests and colonies. There is a tendency to regard

Formica rufa as commonplace and abundant in Wyre Forest but it is highly likely that populations in Wyre have declined over the years and will continue to do so unless consideration is given to their conservation during forestry activities. Widening tracks, coppicing and making sunlit clearings all have great conservation benefits but if Wood Ant colonies lie within such areas care should be taken to protect them and maintain suitable habitat. An immediate challenge is to record their distribution in the Forest more accurately.

Formica sanguinea (the Blood-red Slave-making Ant)



This species has a remarkable disjunctive national distribution with two main population centres, one in Surrey, Sussex and Hampshire, the other mainly in the Spey and Dee Valleys of Scotland (Edwards & Broad 2005). The Worcestershire Victoria County History lists it as common in Wyre Forest (figure 1). Donisthorpe (1927) was especially interested in this species and its habitual use of *Formica fusca* workers as slaves. He found many colonies in Wyre Forest (Figure 4).

length and one hundred in breadth²². At Woking a dozen or so nests usually occur over a small area, most of which probably belong to the same colony, but at Bewdley, in 1909, a large number of colonies were present, nests being found all along the railway embankment, and by the sides of the roads, etc., in different parts of the Forest.

Figure 4. Donisthorpe's (1927) note on the abundance of *Formica sanguinea*.

Collingwood (1955) states that the species is abundant in Wyre Forest.

Formica sanguinea is usually a species of heathland and similar open undisturbed sunny sites such as clearings in woods, the borders of woods and by the sides of roads and paths. The nests are in tree stumps, logs or in banks, under stones and other objects discarded by people or in clumps of grass. In summer the nests may be covered with a thin layer of cut grass or other small pieces of vegetation perhaps to provide temporary shade. The nests are often moved by the ants, perhaps to a more sheltered place in winter or deeper into the ground, or to seek a better source of slaves – *Formica fusca*.

Donisthorpe's description of a slave-collecting raid he observed near Bewdley is as good as any and is shown in Figure 5

On July 20th, 1908, I had the good fortune to witness a slave-raid, which was taking place early in the afternoon at Bewdley, and which I recorded as follows :—
“ I found the ants belonging to a nest situated on a high embankment of the railway in a great state of excitement, all running about outside the nest, and very active in the hot sunshine, some winged females being also present outside. I then noticed that a lot of *sanguinea* workers kept arriving, carrying pupae, whilst others were all hurrying off in the opposite direction. These I started to follow, and found they went along the embankment for a good many yards, and then descended the steep bank, crossed the railway-lines in a slanting direction, and mounted the bank on the opposite side. At the top I found them busily engaged in ravaging a nest of *Formica fusca*. Many workers, laden with pupae, were streaming off in the direction of their home ; I had met specimens carrying pupae all the time I was tracking the outgoing ants. Others were attacking and killing solitary *fusca* workers. Several *fusca* workers were observed up the grass-stems, etc., holding pupae, and endeavouring to escape from the slave-raiders. I watched these proceedings for a considerable time, and accompanied some of the ants with pupae back to their nest, quite a distance off, though they covered the ground very quickly. Several trains passed, but the ants did not appear to be disturbed, as when I went on the lines after one had gone through, the ants continued to cross the railway as if nothing had happened. It was unfortunate that I did not witness the start of the expedition, only arriving after the proceedings were in full swing ”⁴⁴

Figure 5. Donisthorpe's (1927) description of *Formica sanguinea* on a slave raid.

Mike Bloxham, writing in the *Wyre Forest Study Group Review 2006*, reminds us of the importance of Wyre Forest for *Formica sanguinea* and gives much more information on the species which is not repeated here.



Formica sanguinea on young pine,
Brand Wood, 25th August 2007

Rosemary Winnall

His account resulted in recorders making special efforts to find the ant in 2007 and lesser efforts in 2008 and 2009. As a result there are now 21 records in the WBRC database for S077. Prior to that the only record entered is by Fred Fincher from 1952 and assigned to tetrad N which covers the Longdon area of the Forest and part of the old railway west of Lodge Hill Farm. Also Mike in his article refers to a known site near Furnace Mill and states that Collingwood made regular visits to Wyre Forest and perhaps knew of other nest sites.

The map in figure 6 shows the distribution of the WBRC records for both *Formica rufa* and *Formica sanguinea*. This does appears to show that the two species do not

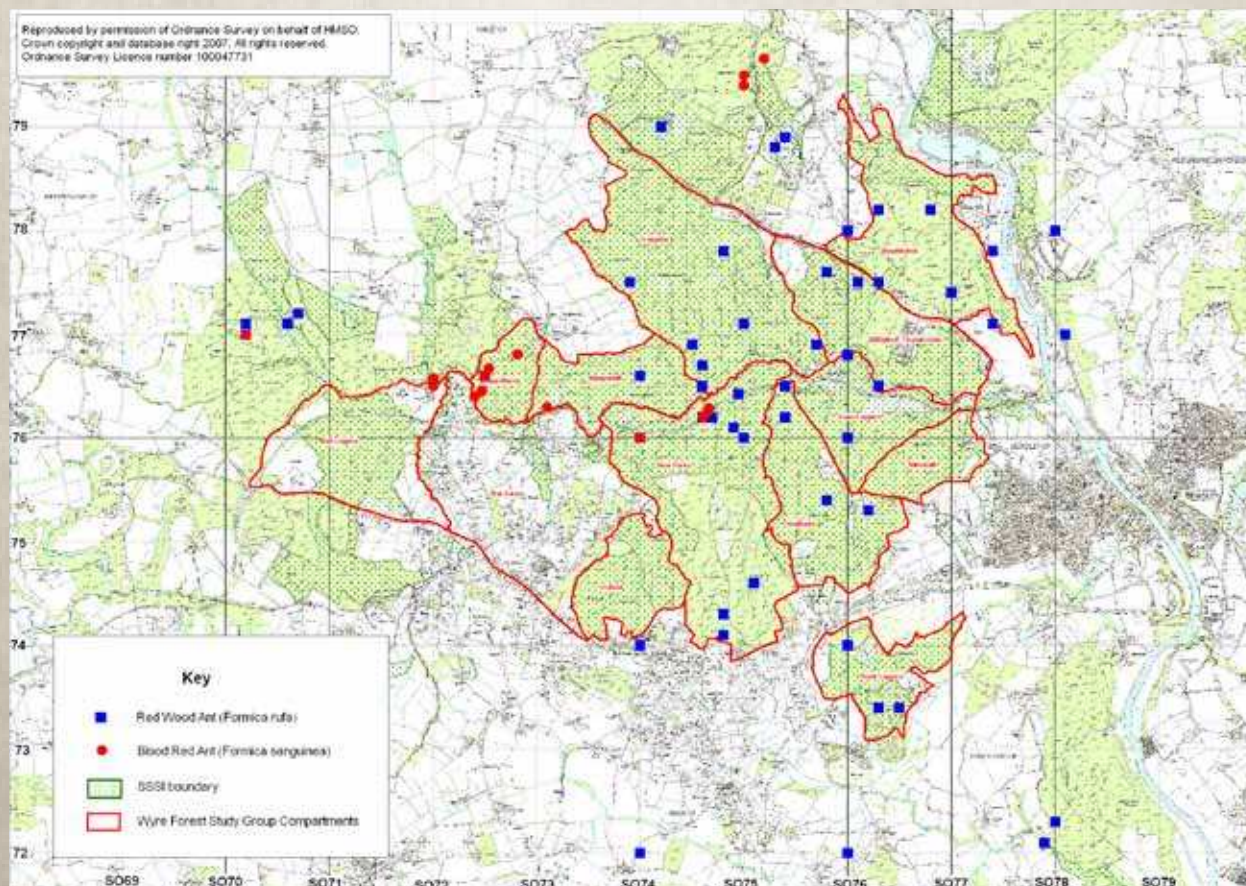


Figure 6. This map prepared by Jenni Schenke at Worcestershire Biological Records Centre shows records for *Formica rufa* (blue squares) and *Formica sanguinea* (red circles) using different symbols.

nest near each other and that while *F rufa* is relatively widely distributed *F sanguinea* appears to only occur in a few places. The sites found in 2007 were along warm open tracks including part of the old railway line – perhaps left over from Donisthorpe’s day – and in 2008 near Pound Green Common. This may reflect the species preference of hot, dry, well-drained sites. However there are so few records of both species that it is unwise to draw premature conclusions but to be determined in making more records in the next few years.

Formicoxenus nitidulus (the Shining Guest Ant)



This tiny ant (about 3 mms long) lives and makes its own nests within Wood Ant *Formica rufa* nest mounds apparently unmolested by its much bigger neighbours. There may be several *Formicoxenus* colonies within a Wood Ant nest each of around 100 individuals. The national distribution follows that of Wood Ants but there are far fewer records probably because the tiny ant is difficult to find. SO77 is indicated as having records before 1900 on the BWARS map (Edwards & Telfer 2002). Known hosts are *Formica aquilonia*, *F lugubris* and *F rufa* and only the last occurs in the southern half of England. The Victoria County History (Figure 1) lists occurrence of the species simply as “Bewdley, Blatch”. As mentioned previously Blatch was active in the Midlands around 1870 to 1890. Donisthorpe (1927) lists *Formicoxenus* as present in Worcestershire but no records of his own are mentioned in his book. Both he and Collingwood (1955) refer to Blatch’s record listed in the Victoria County History.

Green & Westwood (2006) had described the re-discovery of this ant in Wyre Forest in 2006 in the Wyre Forest Study Group Review for that year and that article contains more information which will not be repeated here. Suffice to say that the 2006 records appear to be the first made for over 100 years. There are now 27 records for SO77 in the WBRC database collected in the years 2006 to 2008 and all of these are probably from *Formica rufa* nests although some recorders appear to have forgotten to record the latter! These

records have been made at various times of the year and although it is probably easier to find males in autumn as they move about on the surface of wood ant nests it is worth looking for them at other times. To find them the technique is to crouch down close to a wood ant nest and stare at the surface for a while looking for the tiny shining ants appearing and disappearing as they move about amongst the wood ants. If they are not seen within five minutes it is probably best to move to the next nest as the observer is by this time likely to be thoroughly invaded by Wood Ants biting in places where they should not do so!

Lasius alienus

This small dark species inhabits galleries in warm soils of heathland, limestone and chalk often replacing *Lasius niger* and *Lasius flavus* in hotter places. A modern distribution map in the BWARS series is not yet available but Barrett (1977) shows a scattered distribution mainly in the south half of England, often on the coast, with other coastal records in Wales and Ireland. The NBN Gateway shows a similar distribution. The species is not listed in the Victoria County History or by Donisthorpe (1927). Collingwood (1955) gives records for Hartlebury Common and Bredon Hill in Worcestershire. There is one record in the WBRC database for SO77 made by Geoff Trevis at Pound Green Common 5th July 2008. This species is probably often overlooked or mistaken for the common black ant *Lasius niger*.

Lasius brunneus (the Brown Tree Ant)

This small dark brown bicoloured ant was first discovered in Britain by Dr N. H. Joy of beetle fame in 1923 in Berkshire and recognised by Donisthorpe (1927). It was first discovered in the Midlands in Croome Park in 1950 (Collingwood 1955). Barrett (1977) shows the national distribution to be in two parts, one in SE England around London and the other in the south Severn valley. Edwards (1998) shows a similar distribution covering more 10x10 km squares. The current map on the NBN Gateway shows the same distribution, but a little more extensive. From the author’s personal experience this ant has now been found at many sites in Worcestershire. Whether the apparent increase in distribution is true or a reflection of the great modern interest in the invertebrates of decaying trees is not clear. Certainly the Severn and Avon Valleys and environs seem to be nationally important for the species. The WBRC data base has 15 records for SO77 and it is probably under-recorded.

Lasius brunneus lives in decaying trees in colonies hidden well within the tree and appears to be shade-tolerant. The species is adept at hiding and when seen it quickly vanishes into crevices in bark or within the tree

and is difficult to catch. To quote Donisthorpe's book "... *Lasius brunneus* only shows itself singly, is very fugitive, and possesses nests very hard to find; it can easily be overlooked". However, in the author's experience, they can often be found within a handful of debris extracted from a hole in a decaying tree and are probably commoner than thought.

Lasius flavus (the Yellow Meadow Ant)



Lodgehill meadow south, 26th April 2002 Rosemary Winnall

The Yellow Meadow Ant is perhaps the most abundant ant in Britain although it is not often seen as it is subterranean in habit. The nests are the typical rounded anthills of grassland but some colonies do not produce mounds due to disturbance or heavy grazing. A modern national distribution map is not yet available in the BWARS series. Barrett (1977) shows the species well distributed throughout southern England with scattered records in many parts of the British Isles. The NBN Gateway shows an even more extensive distribution and the species probably occurs in any suitable short-turfed grassland habitat. The Victoria County History (Figure 1) states "common in fields everywhere". Collingwood (1955) states that it is abundant everywhere in south Midlands. Since then many anthill-filled grass pastures have been cultivated and the hills have vanished. The WBRC data base contains 29 records for SO77 mostly from orchards and small meadows. There is a good example at Pound Green Common. Many sites have probably not been recorded.

Lasius fuliginosus (the Jet Black or Shining Black Ant)



Lasius fuliginosus on veteran oak, 29th Aug. 2009 R. Winnall

This large Shining Black Ant usually nests in the base of older trees where a large nest made of carton (wood fragments and ant saliva) is constructed. Other nests may be in the ground or amongst stones or in parts of buildings or bridges. The colonies may survive many years in undisturbed old trees, hedges, and other sites. The species establishes its colonies in those of the *Lasius umbratus* of the yellow ant group which in turn are founded in colonies of *Lasius niger* or *Lasius flavus*. Occasionally both black *Lasius fuliginosus* workers and yellow host ants can be seen in the nest or in the moving stream of ants trailing up and down trees. The ants are often conspicuous following scent trails and visiting tree tops where large quantities of honeydew are collected from aphids. The nest is maintained at a higher than ambient temperature through metabolism of carbohydrate rich honeydew so the species is fairly shade tolerant and not dependent of solar heating.

The national distribution mapped by Edwards (1997) shows the species to be found in the Midlands and parts of south England, parts of west Wales and a few in Ireland. The Victoria County History mentions the ant to be present in two Worcestershire sites. Collingwood (1955) states that it is common in Worcestershire. In recent years only about a dozen nests have been reported to the WBRC for Worcestershire which suggests that a considerable decline has taken place since the 1950s. There are four records for SO77 on the WBRC database. Two of these are for 1950, reported by Fred Fincher, another is within the Forest at Longdon, and the last outside the Forest at Blackstone near the Devil's Spittleful.

Lasius niger (the Common Black Garden Ant)

The black ant of gardens is a very common in warm situations but is not an ant of shaded woodland. It is replaced by other *Lasius* species in very hot situations and does not like wet places. Nests are usually under flat stones or other objects exposed to the sun. A national distribution map in the BWARS series is not yet published but the NBN Gateway shows the species to occur throughout Britain, Scotland, Wales, with scattered records in Ireland. The Worcestershire Victoria County history states "common everywhere", Collingwood (1955) writes "abundant in Worcestershire". The WBRC database contains 26 records for SO77. Eleven of these are from Bowcastle Farm, found and properly identified during the special study of the three orchards at that site in 2004. Some of the remaining records may be either this species or *Lasius platythorax* as the two species have not been separated until recently. It is probably an under-recorded species.

Lasius platythorax

This species is very similar to *Lasius niger* and probably occurs widely but is unrecorded. The two species have only recently been separately identified. The *platythorax* queens are distinctive with a much shallower thorax relative to their size. Workers are blacker with longer hairs than *L. niger* but careful use of key and microscope is necessary to identify the two species correctly. The only national distribution map available for *L. platythorax* is on the NBN Gateway and this shows a block of records from SE England (where recorders are in the lead in identifying the species) with scattered records elsewhere throughout the British Isles. To date the species is obviously very under-recorded everywhere. The WBRC database contains three records for SO77, correctly identified. Two of these are from the Bowcastle Farm orchard study (identified by Mick Blythe); the third from Longdon identified by John Meiklejohn.

Apparently *Lasius platythorax* chooses habitats rather different to *L. niger* for its nest sites, settling amongst vegetation and entering crevices in bark or rotten wood. In Surrey it occurs on damp heaths with decaying pine stumps and in major woodlands with decaying wood. A nest has been found in a completely shaded pile of decaying logs, and another in a peaty hump by a bog (Pontin 2005). These habitats are very different to those used by *L. niger* and may help in identifying suitable sites for it in Wyre Forest. Meanwhile the distribution maps for both species in Wyre Forest have no real relevance.

Lasius psammophilus

In the past this species has been recorded as *Lasius alienus*: early records could be either species. It appears to be a species of heaths and sandy soil sites. The distribution map at the NBN Gateway shows the species on Surrey Heaths and coastal dunes. Pontin (2005) suggests that records of *Lasius alienus* from sandy sites in the Midlands such as Hartlebury Common require confirmation as they could well be of *Lasius psammophilus*. The WBRC database holds one record for SO77: a queen collected at New Parks in the Forest by Rosemary Winnall and the identity confirmed by Geoff Trevis. Identification of this species requires the careful use of keys and microscope but it may well be more widespread in the Forest and on the nearby Kidderminster heaths than recorded and well worth looking for.

Lasius umbratus

This ant is clear yellow in colour and slightly bigger than *Lasius flavus*. It is tolerant of heavy shade with subterranean nests in rotting wood. The nests are constructed of carton, reminiscent of *Lasius fuliginosus*, made of wood and soil and are maintained at higher

than ambient temperatures. A colony is established in *Lasius* black ant nests and may in turn be taken over by *Lasius fuliginosus* (Pontin 2005). The presence of the latter indirectly indicates the presence of the former, at least in the past, even if the species has not been seen. The Victoria County History gives two sites for Worcestershire: at Lenchford and (yet again!) "Bewdley, Blatch" probably indicating Wyre Forest. Collingwood (1955) writes that the species is widely distributed in the South Midlands. Barrett's (1977) national distribution map shows presence in SO77 but this is not indicated on the current map available at the NBN Gateway. The new BWARS map is not yet available. There are no records for the species in the WBRC database for SO77. Its life history suggests this ant is difficult to find and is another worth looking for in Wyre Forest.

Lasius mixtus

The queens of this yellow ant establish colonies as a temporary parasite of other yellow *Lasius* ants: *Lasius flavus* is probably the usual host although queens have also been seen in nests of *Lasius brunneus* and *Lasius alienus* (Pontin 2005). The species is not mentioned in the Worcestershire Victoria County History. Collingwood (1955) states that it is widespread in the south Midlands. Barrett's (1977) national distribution map indicates its presence in a few 10x10 km squares in South Worcestershire but not in SO77 and similarly there are no records indicated at the NBN Gateway although the scatter of records suggests the species has a widespread national distribution. There are no records in the WBRC database for SO77. However, this species is probably seriously under-recorded and worth looking out for in Wyre Forest. Identification requires careful use of keys and a microscope.

Leptothorax acervorum (the Slender Ant)

These small slim ants usually nest in dead wood. Full sun is not required although they may not tolerate full shade. Nests are in undisturbed areas in dead trees, stumps, fallen boughs, under bark or even in fence posts. The colonies are usually small, perhaps only of 20-100 individuals. Like other *Leptothorax* species they do not leave scent trails and because of this and non-aggressive behaviour are ignored by other ants. Nests have been found in the margins of nests of both *Formica rufa* and *Formica sanguinea* (Pontin 2005). The species is not mentioned in the Worcestershire Victoria County History and Worcestershire is not listed amongst a long list of counties in Donisthorpe's (1927) book. However Collingwood (1955) states that it is abundant in Worcestershire and "has been found in every woodland where sought for" in the south Midlands. Barrett's (1977) national distribution map clearly indicates its presence in SO77. Edwards (1998) BWARS atlas similarly

marks SO77 with a symbol indicating records between 1900 and 1969. All the national atlases including the NBN Gateway indicate the species to be widespread throughout Britain and Ireland.

There are six records in the WBRC database for SO77, five within the Forest, one at Blissgate Meadows. One of these is by Mike Bloxham in 1982, the others all confirmed by Geoff Trevis in 2009. A species to look for and probably under-recorded in Wyre Forest.

Temnothorax nylanderii until recently known as *Leptothorax nylanderii*

This ant is somewhat smaller than *Leptothorax acervorum*, paler, with a dark band on the gaster. It is often found in parkland on old oaks along with *Lasius brunneus* where it forages along cracks in bark. The nest is placed in bark crevices, even in hazel nuts using a weevil exit hole as an entrance. The colonies are small (Pontin 2005). A variety of trees, stumps and fallen boughs may be used and the author has seen a nest within a *Ganoderma* bracket fungus on oak. Nationally there are scattered records in south England and Wales although all the atlases – Barrett (1971), Edwards (2006), and the NBN Gateway – suggest two main areas of distribution, one in SE England and the other in the southern Severn Valley, especially in Worcestershire. The Worcestershire Victoria County History notes the presence of *Leptothorax tuberum* near Worcester and Collingwood (1955) regards this as misidentification of *L. nylanderii* as *L. tuberum* is only found in a small coastal area of southern England. He further notes that the distribution of *nylanderii* closely follows the Rivers Severn, Avon Teme and Wye. This being so it is highly likely to occur in Wyre Forest. The WBRC database has one record for SO77 in the Postenplain part of the Forest 5th July 2008, identified by Geoff Trevis. A species to look for and probably under-recorded in Wyre Forest.

Stenamma westwoodii* and *Stenamma debile

These small slim ants resemble small *Myrmica* but are much slimmer. Both species are subterranean occupying nests under deeply embedded stones, usually in old woodland under complete shade. These ants have most often been found by people searching woodland leaf litter for other invertebrates. Identification between the species is difficult requiring care and a microscope. Older records are all as *westwoodii* but more recent work has designated most as *debile*, including many specimens in old collections, so it seems likely that most of those previously found in Worcestershire are the latter, or at least open to question. Barrett's (1977) atlas maps all records as *westwoodii* because *debile* was not recognised at the time. The maps for both species on the NBN Gateway show virtually the same distribution.

All these maps show a thin scatter of records across the south half of England, Wales and Ireland. The Worcestershire Victoria County History mentions one site for *westwoodii* at Hallow, near Worcester and Donisthorpe (1927) repeats this record. Barrett's (1977) map indicates a positive record for SO77. Collingwood (1955) writes of two *westwoodii* sites in Wyre Forest. There are no records in the WBRC database for SO77. In recent times the author found one *Stenamma* near Worcester in woodland leaf litter and identified it as *westwoodii* only to be corrected to *debile* by experts!

***Myrmica rubra* formerly *Myrmica laevinodis* (a red ant)**

This species prefers to nest in places which remain moist but not flooded and are somewhat shady, often under stones or logs, sometimes in trees and occasionally making earth mounds. It is also found in cultivated land and gardens. There is no BWARS national distribution map yet available but Barrett's (1977) map and the NBN Gateway both show the species to occur throughout Britain and Ireland, apparently commoner in the south half of England. Donisthorpe (1927) states that it is very widely distributed in the British Isles. The Worcestershire Victoria County History strangely merely mentions two localities near Worcester for this common species. Collingwood (1955) writes that it is common and widely distributed in the south Midlands. The WBRC database contains 12 records for SO77. Pontin (2005) writes "...probably under-recorded in Surrey because it lives in sites which are not particularly favourable to other ants, and therefore not attractive to ant recorders". The same probably applies in the Wyre Forest!

***Myrmica ruginodis* (a red ant)**

This species tends to occur in uncultivated places, nesting under stones, in rotting stumps, by roads, the edges of woods, in both damp and dry situations, and is tolerant of shade in south Britain. Nests are perhaps most often in dead wood but have been found in tussocks in wet sites (Pontin 2005). Nationally the species is very common and very widely distributed throughout the British Isles, including many offshore islands – even remote St Kilda. (Donisthorpe 1927, Barrett 1977, and the current NBN Gateway map). The BWARS distribution map is not yet available. The Victoria County History for Worcestershire again only lists two sites. Collingwood (1955) states that it is common and widely distributed in the south Midlands. The WBRC database contains 22 records for SO77 from many sites but including seven from the Bowcastle Farm orchard study.

Both this species and *Myrmica rubra* are aggressive stinging ants. Separation of the two species is based on the spines of the propodeum which are longer than the space between them in *M. ruginodis* and clearly

shorter than the space between in *M rubra*. In the *ruginodis* there are also transverse furrows in the space between the spines. The author wishes it was as easy to see these features (with a microscope) as it sounds.

There is a note in Donisthorpe's (1927) book on stridulation by *Myrmica ruginodis*. In both the cases he reports the weather was hot and the ants were placed in glass vessels. First "A puny individual was observed placed head downwards, at the side, and near the inverted edge of the glass, rapidly vibrating its abdomen verically from the pedicel, and simultaneously giving out a continuous singing sound, resembling in tone and intensity the sharp wining of the little dipteron, *Syrilla pipiens*". Second "Wasmann having put a strong section of a *ruginodis* colony into an empty glass vessel, the day being warm, the ants were very excited, moving gasters up and down, and he noticed a chirping noise, which reminded him of the sound caused by the Iris Pod Beetle *Mononychus pseudacori*". Another task for a modern recorder with a bat detector?

***Myrmica scabrinodis* (a red ant)**

This species mainly prefers dry sandy places but has been found nesting in bogs and tussocks in wet places. It usually nests under stones on heaths and banks, by roads, at the edges of woods and similar places. It is said to avoid woods and to occur manly in open places. Pontin (2005) states that it frequently shares mounds with *Lasius flavus*.

Nationally, Donisthorpe (1927) states that the species is widely distributed throughout the British Isles including Ireland, and Barrett's (1977) maps shows a wide scatter of dots. Even more squares are marked on the NBN Gateway map. The BWARS map is not yet available. The Worcestershire Victoria County History lists two sites not far from Worcester for this species. Collingwood (1955) writes that the species is common and widely distributed in south Midlands. The WBRC data base contains seven records for SO77. Three of these are from the Bowcastle Farm orchards study, three from the Pipeline which is of course maintained as an open sunny zone, and one from Burnt Wood.

This red ant is probably under-recorded but needs careful work with a microscope to confirm its identity.

Myrmica schenki

A species or warm places with sparse vegetation or short turf, sheltered sites, unimproved pastures, heaths, banks and railway cuttings. Collingwood (1955) writes "one single worker ...taken by W E Hammond & K G V Smith in a part of the Wyre Forest (Chamberline Wood) in 1946 and sent to me to name ... since then

repeated visits to the Wyre Forest and examination of hundreds of *Myrmica* ants from the region as a whole has failed to reveal further specimens. The species is evidently very rare and this specimen is the only one so far recorded for England". Barrett's (1977) map shows that more were subsequently discovered with a distribution of about 20 10x10 km squares scattered in the south half of England and a similar number in west Ireland. Edwards (2009) marks SO77 as providing records between 1900-1969 but not since, presumably following Collingwood, and many more in SE England. There are no records in the WBRC database for SO77. Is it still in Wyre Forest?

Myrmica lobicornis

A species of undisturbed habitats such as upland moors, lowland heaths, rough grasslands and open woodland. Edwards (1998) shows a scattered distribution throughout England, Scotland, and Wales, indicating records between 1900-1969 for SO77 but not since although Barrett's (1977) map indicates a more recent positive presence in SO77.

Collingwood (1955) notes the species found in Eymore Wood and Chamberline Wood in Wyre Forest, and other sites in south Midlands. There are no records in the WBRC database for SO77. Is it still in Wyre Forest?

Myrmica sulcinodis

This is a species of well-drained upland heather moors in SW and northern England, and Scotland and locally on lowland heaths in southern England. Edwards & Telfer (2001) map its presence in SO77 between 1900-1969 but not since. Collingwood (1977) notes that it was recorded by H W Ellis & A H Martineau in Wyre Forest and reported in *Entomologists' Record*, (volume 20 page 56 1908) and states that no specimen has been seen in recent years. There are no records in the WBRC database for SO77.

Myrmica sabuleti

This is a species of hot dry chalk downs and sandy heaths. Nests are usually under large stones which are not disturbed by large grazing animals. However, light grazing and bare patches seem essential as the species dies out if tall herbage grows (Pontin 2005). Barrett's national distribution map shows records scattered throughout Great Britain and Ireland, including SO77. The BWARS map is not yet available. The NBN gateway map is similar to Barrett's but with more positive 10x10km squares and lacks a registration in SO77. This ant is famous as the host to the Large Blue Butterfly but has always been much more widely distributed than the butterfly.



Wyre Forest Study Group

Collingwood notes the species to be widespread and common in the south Midlands. There are no records in the WBRC database for SO77.

Comments

On a personal note, I have learnt a great deal about ants in preparing this review. It seems apparent that many species are unrecorded or under-recorded either because we ignore specimens in the field or lack the motivation to take some home to identification key and microscope, or simply because we look in the wrong places. I cannot claim to have fully searched the scientific literature for records of ants from Wyre Forest but those articles I have seen suggest that the Forest certainly was, and probably still is, rich in ants, and they are badly under-recorded. In particular searches for the red *Myrmica* ants are likely to be rewarding. Many of these and some from other genera are ants of warm open places and such sites were probably much commoner in the past. However the open spaces of the water pipeline and around Pound Green Common should be good places to search. Also the Kidderminster Heaths are not far away and should be ant rich. Several authors refer to flying queen and male ants being attracted to moth light-traps at night so this could be a useful source of specimens in the present era of enthusiastic moth-ing. Loitering with a pooter in the vicinity of moth-ers could be rewarding.

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