

## THE DISTRIBUTION OF ANTS IN NORTH-WEST SCOTLAND

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SHORT visits to areas in Sutherland and Ross-shire have been made in successive years and the ants noted. Most time has been spent in the west, in particular within the area whose extreme points are marked by Lairg, Kylescuc, Ullapool and Garve. Many of the records have already been noted elsewhere,<sup>1</sup> the following being a somewhat more expanded account. Of the species noted, a few are uncommon and one a rarity, but the most are such as are readily found in any of the southern counties of the British Isles or in the forests and moors of Perthshire, Easternness and Aberdeen. The nomenclature used follows that of Donisthorpe.<sup>2</sup>

The commonest ants in the area are *Formica fusca* and *Myrmica rubra* L. (= *ruginodis* N.). These are widespread and have been found in all localities in East and West Sutherland and East and West Ross. *M. rubra* is probably the more widespread and may be found in wetter situations than *F. fusca*. *M. rubra* is the only ant recorded to date from Caithness, the Shetlands and St. Kilda<sup>3</sup> and is common on Canna.<sup>4</sup> Here A. J. Haddow reports that all specimens examined on Canna had the typical long epinotal spines of *M. rubra* and although some workers had indistinct striae between the spines none approached *M. laevinodis* N. in type. This is similar to the writer's experience in Ross-shire and Sutherland where hundreds of colonies of *M. rubra* have been seen and workers examined from each, but all were more or less typical *M. rubra*, no *M. laevinodis* having been seen. *M. laevinodis*, however, is recorded from West Ross.<sup>3</sup>

Gradations between *M. rubra* and *M. sulcinodis* N. have been seen at Elphin, West Sutherland and Coigach, West Ross, which may be referred to *M. rubra* v. *sulcinodo-ruginodis* E. and

F. Of the variations seen most tended to have the rugosity and colouring of *M. rubra* with the coarse curving epinotal spines of *M. sulcinodis* and the scape rather more curved than is usual with *M. rubra*.

*M. sulcinodis* is to be found at Stoer, West Sutherland and at Coigach, West Ross, in similar situations at both localities. Nests were found under stones and sometimes in heather tufts on the south-facing slopes of low hills, the nests being situated within the range 400 to 500 feet. However, the species was also noted at Elphin, West Sutherland, in dry heather banks at a somewhat lower altitude. This ant is widely distributed within the British Isles but is by no means common and is one of the most distinctive of our *Myrmica* spp.

*M. scabrinodis* N. proved to be unexpectedly common in Coigach, West Ross, where colonies were locally abundant at Rieff and in the rough grazing behind Achiltibuie; and it was also taken at Achmelvich, West Sutherland.\* This species is also common at Inchbae and Garve, East Ross. Forms darker than the type with scapes more sharply bent than is usual were often seen. A. J. Haddow records the closely related species *M. sabuleti* M. from Canna,<sup>4</sup> but I have only seen this species at Garve, East Ross,\* where a few workers were taken.

At Garve the north banks of the river proved rich in species. *Myrmica lobicornis* N. was found in strength on a stony bank. Both workers and females were distinctly darker than those I have seen from further south. This tendency to darker coloration appeared to be general among the *Myrmica* species of the area. Other records for *lobicornis* in Scotland<sup>3</sup> suggest that this ant favours a littoral habitat, not being found on hillsides as is *M. sulcinodis*.

In the same stony bank as the *M. lobicornis*, a nest of *M. schencki* E.\* was discovered partly under a stone. This ant is only known locally in the British Isles from West Ireland<sup>3, 5</sup> and South Wales,<sup>3, 6</sup> and is new to Scotland. Doubtless further search in the area will reveal more localities. The *M. schencki* workers seen were similar in coloration to the nearby *M. sabuleti*, being redder than those of *M. lobicornis*. They are, however, at once distinguishable from either species by the

\* New record for vice-county.

peculiar formation of the antennal scape, where the transverse ridge is broader than in *M. lobicornis* while both scape and epinotal spines are longer and coarser than in the latter species. In habits these three species resemble *M. scabrinodis*, being less aggressive than *M. sulcinodis* and *M. rubra*.

Among other species noted in the same locality at Garve, East Ross, were *Acanthomyops* (= *Lasius*) *flavus* and *A. niger*. These become common to the east and south of the area. Although Darling<sup>7</sup> has recorded *A. niger* from Tanera off Coigach, I have not found it on the mainland or anywhere north of Garve.

*Leptothorax* (*Mychothorax*) *acervorum* F. is also abundant at Garve and has been found widely distributed in West and East Ross and in West Sutherland. This ant has been found nesting in old tree stumps exposed in peat at Achiltibuie, but in this area it is typically found under stones and in the cracks of rock exposures, such as are to be found on the Coigach coast. Winged sexes of this species were seen flying at 1500 feet on Ben More, Coigach, in July 1947, but colonies have not been found higher than about 600 feet which seems to be about the limit for ants in the area.

The plentiful evidence of tree stumps in the peat up to a height of 1000 feet suggests that the region has considerably altered in character within historic times; only in sheltered hollows and in the lee of mountains are any relict woodlands now to be found. Oak and pine, once plentiful, are now rare or absent, and birch, rowan, hazel and alder represent what is left of what must once have been extensive areas of woodland. In several of these predominantly birch thickets in the north-west corner of Ross *Formica rufa* still survives, only however where there is comparative absence of stock-grazing and disturbance. These ants have been observed in the Drumrunie valley, on the south shore of Loch Baddagyle, and in the thickets of Inverpolly. Many of the colonies appear to be surprisingly flourishing. Nests are comprised of birch twigs and are flattened and compact. There is much less free moveable material in the nests than is usual with this species, partly owing to beating down by rain and partly owing to the binding together of nest materials by fungi and

moss. Nests are sited in open ground away from the immediate shelter of trees, thus avoiding excessive drip, and trapping as much of the limited sunshine as possible. *Formica rufa* is also numerous at Inchbae near Garve and round Garve itself. Although one of our best-known species, this ant is also one of our most interesting. Owing to the relative inaccessibility of its colonies in North-West Ross it is regretted that insufficient time has been spared to study its ecology in this unique area.

In the above account it will be seen that although several interesting species of ants occur in north-west Scotland, the total number is rather limited. While much territory yet remains to be explored it is doubted whether many more species will be found. In Coigach, for example, the ground has been well worked over in successive visits but no additions made after the first visit in 1947. Much remains however to be learnt about the ecology and habits of the ants in the area. For convenience a list of the species found in the area with their vice-county distribution as at present known appears below.

<i>Formica rufa</i> L.	N. Ross, † E. Ross, <sup>3</sup> E. Sutherland. <sup>3</sup>
<i>Formica rufa</i> v. <i>rufa-alpina</i> Sant	E. Sutherland. <sup>3</sup>
<i>Formica</i> ( <i>Serviformica</i> ) <i>fusca</i> L.	W. Ross, <sup>3</sup> E. Ross, <sup>3</sup> E. Sutherland, <sup>3</sup> W. Sutherland, †
<i>Acanthomyops</i> ( <i>Donisthorpea</i> ) <i>niger</i> L.	W. Ross, <sup>7</sup> E. Ross, †
<i>Acanthomyops</i> ( <i>Chthonolasius</i> ) <i>flavus</i> Fabr.	E. Ross, †
<i>Leptothorax</i> ( <i>Mychothorax</i> ) <i>acervorum</i> Fabr.	W. Ross, <sup>3</sup> E. Ross, † W. Sutherland, †
<i>Myrmica laevinodis</i> Nyl.	W. Ross, <sup>3</sup>
<i>Myrmica rubra</i> L.	W. Ross, <sup>3</sup> E. Ross, † W. Sutherland, † E. Sutherland. <sup>3</sup>
<i>Myrmica rubra</i> v. <i>sulcinodo-ruginodis</i> E. & F.	W. Ross,* W. Sutherland.*
<i>Myrmica sulcinodis</i> Nyl.	W. Ross, † W. Sutherland. <sup>7</sup>
<i>Myrmica scabrinodis</i> Nyl.	W. Ross, † E. Ross, † W. Sutherland*
<i>Myrmica sabuleti</i> Meinert	E. Ross.*
<i>Myrmica lobicornis</i> Nyl.	E. Ross, † E. Sutherland. <sup>3</sup>
<i>Myrmica schencki</i> Emery	E. Ross.*

#### REFERENCES

1. COLLINGWOOD, C. A., 1950. "Ants in North Scotland". *Ent. Rec.*, 62: 41-42.
2. DONISTHORPE, H. ST. J. K., 1946. "British Ants as at present known . . .". *Ent. Rec.*, 58: 64, 89, 90.
3. DONISTHORPE, H. ST. J. K., 1927. *British Ants* (2nd Edition). London: Routledge.

\* New record for vice-county.

† First record for vice-county in *Ent. Rec.* 62, No. 4, 1950.

4. HADDOW, A. J., 1939. Report on the Glasgow University Expedition to Canna. *Proc. Roy. Phys. Soc. Edin.*, 23, pt. 1.
5. O'ROURKE, F. J., 1945. "An Extension of the range of *Myrmica schencki* Emery." *Ent. Rec.*, 57: 85-86.
6. HALLETT, H. M., 1939. *Guide to the Collection of British Aculeate Hymenoptera in the National Museum of Wales*, p. 24. Cardiff: Natl. Mus. of Wales.
7. DARLING, F. F., 1947. *Natural History in the Highlands and Islands*. London: Collins, p. 114.

### BOTANICAL NOTE

***Erophila conferta* Wilmott in Scotland.**—The early history of this new species has been given by the late Mr. A. J. Wilmott in his paper "A New Species of *Erophila* in Britain: *E. Conferta*", *Watsonia*, Vol. 1, Part III, pp. 137-138, but it is now necessary to give a progress report as the plant has escaped from my garden near Aberfeldy, v.-c. 88 (Perthshire).

In the spring of this year I was astonished to see a few plants of this species on a wall top about  $\frac{1}{8}$  of a mile away from the stone dyke that surrounds the garden where it had become firmly established. It had not spread widely in the garden but two or three plants had appeared within the boundary dyke about 15 yards beyond the main concentration.

I have done nothing to assist the spread, but have within reason refrained from weeding fruiting plants. I am unable to account for the journey to the wall top as there is no suitable intervening locality, nor is there any sign of plants anywhere between them, nor has there been any removal of plants or soil from my garden. What is of interest is that the new habitat, unlike the ones in my garden, bears a marked resemblance to those in the Island of Rhodes from which I originally gathered my specimens.

At the beginning of November I went to look at the wall top to find that among the much increased colony of rosettes four had sent up stems and were in flower. It should be noted that at the time of my gathering in Rhodes the plants were in flower (8th March 1934) and that the seed ripened in my press.

I have purposely refrained from giving details of the locality, and beg anybody interested in obtaining specimens to get in touch with me as there will be ample material in my garden, and I am particularly anxious that the new colony should remain unmolested.—M. S. CAMPBELL, Aberfeldy, Perthshire.