

and at Kincardine O'Neil in South Aberdeen. In the Highlands this ant pillages the nests of *F.lemani* carrying away pupae of the latter which are then reared in the *F.sanguinea* nest.

*Formica exsecta* Nyl.

Donisthorpe took this species at Braemar, Rannoch, Aviemore and Nethy Bridge and Hudson Beare took it at Boat of Garten (Donisthorpe 1927). Benson found it in the Lairig Ghru in 1952 (Yarrow 1954) and I have taken it in recent years at Carrbridge, Loch Morlich and Rannoch, usually in small isolated nests. L. Christie found it in 1954 in Amat forest in East Ross, an interesting discovery suggesting that although uncommon, the ant is probably widely distributed in the Highlands. It builds mound nests of heather fragments, usually on the open moor but in the neighbourhood of trees. An aggressive species, it attacks larger ants by climbing on to the back of the opponent ant which it then decapitates. Its distribution in Britain is markedly discontinuous since outside the Highlands it is known only from Hampshire, Dorset and Devon.

*Formica lugubris* Zett. and *F.aquilonia* Yarrow

These are the two large wood ants of Scotland and are discussed together since they have similar habits and are often found in the same localities in the larger forest areas. Workers of both species differ from the more southern *F.rufa* by the presence of hairs round the back of the head which are lacking in *F.rufa*. *F.lugubris* is more robust than *F.aquilonia* and considerably more hairy over the head and thorax. *F.lugubris* in Scotland was usually known as '*pratensis*' before Yarrow's revision (1955).

Yarrow found that *F.lugubris* usually nested in more open sites than *F.aquilonia* which dominates in high forest in North Scandinavia. However nests of *F.aquilonia* have been found at Drumrunie in West Ross up to 50 yards from the nearest scrub birch with only the protection of the surrounding heather. This contrasts with the drier warmer Rothiemurchus area where nests may be found under fairly close canopy, and undoubtedly reflects the need for the fullest possible sunshine in the cooler North-West. Where there are still areas of relatively undisturbed natural forest, nests of both species but particularly *F.aquilonia* may reach a great size consisting of large mounds of carefully arranged twigs and leaf litter.

Both species usually have many queens in the same nest. Yarrow found the sexuals of one species maturing earlier than those of the other at Rannoch so that hybridisation in nature