of uncommon species separately including *M. gallieni, L. interruptus, L. unifasciatus, Strongylognathus testaceus* and *L. carniolicus.*

13. Gotska Sandön — this also has a peculiar fauna with few *Lasius* or *Myrmica* but including the very local *L. interruptus* and *L. nylanderi* in common with Gotland.

14. Gästrikland, Aust-Agder, Vest-Agder — these have *F. rufibarbis* in common but lack *M. schencki* and *L. muscorum* found in adjacent areas.

15. Telemark — this has no records for several common species of *Myrmica* and *Formica* known from adjacent areas.

16. Møre og Romsdal, Sogn og Fjordane — these have both *C. herculeanus* and *C. ligniperda* as well as the north boreal species included in Distribution Type I but are poor in *Myrmica* species.

17. Sør Trøndelag — the common species *M. ruginodis* and *C. herculeanus* are not recorded. This is a poorly represented area with records only for *F. aquilonia, F. gagatoides, F. lemani, L. flavus, M. rubra, M. sulcinodis* and *L. acervorum.*

18. Hordaland, Rogaland, Hälsingland, Savonia borealis, Ostrobottnia australis, Tavastia borealis, Karelia borealis, Satakunta — this is evidently a transitional zone with several northern boreal species such as *F. aquilonia, F. lugubris* and *F. lemani* as well as the more southern *F. rufa, F. pratensis* and *F. fusca. Lasius* species are poorly represented with only *L. flavus* and *L. niger* recorded from all area units, *L. mixtus* from Hordaland and Rogaland, and *L. fuliginosus* from the Finnish areas.

19. Vestfold, Opland, Dalsland, Västmanland, Hedmark, Buskerud, Østfjold and Akershus, Värmland, Dalarna, Medelpad — this area has records for most of the more local *Formica* species including *F. suecica, F. pressilabris, F. forsslundi* and *F. uralensis.*

20. Härjedalen, Jämtland, Ångermanland, Västerbotten, Lycksele Lappmark, Åsele Lappmark, Ostrobottnia kajanensis, Ostrobottnia borealis, Kuusamo, E and N Finnmark — most of the commoner *Myrmica* species are recorded in this area, also *F. nitidulus,* either or both *L. flavus* and *L. niger, F. uralensis, F. aquilonia, F. sanguinea* and other common northern *Formica* species.

21. Lule Lappmark, Torne Lappmark, Pite Lappmark, South Nordland, North Nordland, Troms, East and West Lapponia kemensis, Lapponia inarensis, Lapponia enontekiensis — this northern area is characterised by the complete absence of *Lasius* species and a restricted fauna including *M. ruginodis, M. sulcinodis, M. lobicornis, L. acervorum, C. herculeanus, F. lugubris, F. gagatoides, F. lemani, F. truncorum* and *F. exsecta.*

V. DISCUSSION

It is of interest to demonstrate briefly how the distribution types recognised contribute to the fauna of each of the biogeographical areas separated out by our analysis (Figure 73). Since both distribution types and biogeographical areas are derived through two different approaches from the same data matrix, conclusions cannot be rigidly drawn because of the implied circular reasoning. However, the species groupings obtained show some significant correlations with the environmental variables used and it seems reasonable to regard them as natural sets of some biological significance.

First the more peculiar and well known phenomena relating to the North European ant fauna should be mentioned. The British Isles within the regions inhabited by ants are unique as a relatively large area entirely without indigenous species of the worldwide genus *Camponotus.* However, there is at least one, probably credible, record of a fossil species described from the Oligocene of the Isle of Wight, *C. brodei,* referred to the tropical temperate subgenus *Colobobsis* (Donisthorpe 1920). The genus *Camponotus* is assumed to have been wiped out of the British Isles and Northern Europe during the Pleistocene glaciations and to have repopulated Northern Europe after the