

Abstract*

Space use in *Formica sanguinea* – my territory my kingdom?Piotr ŚLIPIŃSKI¹, Bálint MARKÓ², Wojciech CZECHOWSKI¹ & Tomasz WŁODARCZYK³

Formica (Raptiformica) sanguinea LATR. is a facultative slave-maker ant. In respect of its competitive status it is believed to be a territorial species, which during its raiding activity does not respect territory boundaries of rival species (CZECHOWSKI 1999, 2000, CZECHOWSKI and VEPSÄLÄINEN 2001). In some biotopes, if *Formica* s. str. species (i.e. wood ants) are absent, it may play a role of the top dominant of the ant assemblages. Our project aimed to investigate the competitive status and foraging strategy of *F. sanguinea* on a geographical scale. Preliminary field study revealed high flexibility and variation of *F. sanguinea* behaviour in context of diverse factors and aspects. Populations from three European countries, Finland, Poland and Romania, were taken into consideration. Altogether 12 *F. sanguinea* colonies and 10 colonies of potential slave species (mainly *Formica fusca* L.) were studied for two years. Distribution and behaviour of workers were recorded in close (0.5 m from the border of the nest area) vs. distant (1.5 m from the border of the nest area) plots around the nests in the absence and in the presence of baits.

The results of the experiments generally did not support the position of *F. sanguinea* as a strong competitor. Its workers did not cover the area near their nests evenly; often zero activity was recorded even in closer plots during the all-day experiments. Recruitment-based mass exploitation of baits was rare or almost absent in colonies in Poland and Romania, however it happened to occur in Finland. In many cases baits were controlled in major proportion by other species like those of the genus *Myrmica* or *Tetramorium*, i.e. ants which are commonly regarded as subordinates (see e.g. SAVOLAINEN and VEPSÄLÄINEN 1988). These results suggest relatively weak competition ability of *F. sanguinea* comparing to other territorial species, especially wood ants (see e.g. SAVOLAINEN and VEPSÄLÄINEN 1988).

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