

Abstract*

Territorial debates between *Formica pratensis* RETZ. and the supercolonial *F. exsecta* NYL.: conflict or competition?

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Territorial ant species defend their food sources and the space around their nests against rivals (VEPSÄLÄINEN & PISARSKI 1982, SAVOLAINEN & VEPSÄLÄINEN 1988, SAVOLAINEN & VEPSÄLÄINEN 1989). Different territorial species affect coexisting ant species in various ways (SAVOLAINEN *et al.* 1989). In the frame of this study we investigated the effects of one territorial ant species on another territorial sharing the same area. The studies were carried out in a large polydomous nest system of the territorial ant species *Formica exsecta* (ERÖS *et al.* 2009) located in the southern part of Giurgeului depression (Harghita County, Romania) in July 2009. Four colonies of *F. pratensis*, another territorial species, were selected for the purpose of this study. Two of the colonies were located inside, while two other colonies at the margin of the *F. exsecta* polydomous system. The abundance and the interactions of workers were recorded on plots along transects starting from the study colonies in the absence and presence of baits (MARKÓ & CZECHOWSKI 2004, CZECHOWSKI & MARKÓ 2005).

Our results show that the behaviour of *F. pratensis* depends on the competitive context. Within the *F. exsecta* polydomous system its nests and the territories are smaller. Here, the heavily outnumbered *F. pratensis* exploits only a few aphid colonies near their nests, and subordinate species can develop larger nests in their surroundings. These features are more characteristic for subordinate, than dominant territorial species. In contrast, at the edge of the *F. exsecta* polydomous system *F. pratensis* nests and their territories are large, they attend a high number of aphid colonies situated also far from their nests, and exhibit a great pressure on other species. This strategy shift makes possible the coexistence of the otherwise dominant territorial *F. pratensis* inside the territory of the *F. exsecta* supercolony.

References

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