

territorial ant species, *F. polyctena* towards the nestmate corpses infected with the spores, hyphae, and hyphae with conidia of the entomopathogenic fungi *Beauveria bassiana*. For our investigations we used corpses submerged in a 10^8 spore-suspension (1), corpses left outside until the development of the hyphae (2) and conidia (3), and controls without infection, respectively. We made several observations on the development circumstances of the fungus, and noted down the behavioral reactions of the nestmates towards the different types of infected corpses, and the rate and direction of the corpse transport. Our results showed that the corpses with conidia elicited a more intensive and aggressive reaction than the controls and those infected only with hyphae and spores. These corpses elicited a high amount of cleaning behavior and a fast transport away from the colony. The treated corpses in every case were removed faster, than the control corpses. Surprisingly some of corpses with spores and even hyphae were transported inside the nests. On the basis of our results we can hypothesize the presence of a very efficient corpse and infection recognition system.

Pollen as alternative source for submissive species in suboptimal circumstances

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Insects are known to be the most important pollinators. However, ants are usually considered to be poor pollinators due to their negative effect on flowers and pollen survival. Plants apply various strategies to repel ants from flowers. Consequently pollen consumption is very rarely observed in ants, and, though they are omnivorous, ants are not commonly considered as pollenivores. In suboptimal circumstances, though, species might turn to sources rarely used before. Such suboptimal conditions may arise under strong competitive pressure, as the presence of a supercolonial territorial ant species. We studied the food preferences and competitive strategies of ants within a *Formica polyctena* supercolony in Central Polish woodland by offering them mixed pollen, and then tuna as animal protein source on the next day. *F. polyctena* was not interested in pollen baits almost at all, however, *Myrmica* spp. exploited them most heavily where next day *F. polyctena* was the most abundant on baits. In the case of the tuna baits there was a negative relationship between the abundance of *F. polyctena* and *Myrmica* spp. as predicted by the territorial behaviour of the first species. The results come to support the fact the pollen itself can be used as food source by ants mostly in suboptimal conditions, where food availability is hindered e.g. by superior competitors.

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