

Ant-termite interactions in New Guinea coconut plantations.

Leponce, M.; Roisin, Y. & Pasteels, J.M.

Laboratoire de Biologie Animale et Cellulaire, CP160/12, Université Libre de Bruxelles,
Av. F.D. Roosevelt 50, B-1050 Brussels, Belgium.

We investigated the incidence of inquiline ants and of arboreal-nesting ants on a community of arboreal-nesting termites living in New Guinea coconut plantation. Inquiline ants were present in 10% of Microcerotermes biroi nests and in 5% of Nasutitermes princeps nests. The most common inquiline ant, Camponotus sp. A, was observed coexisting in some nests with its host during the whole observation period (3 years), and therefore does not appear as an immediate threat to the termite populations: Camponotus sp. A was apparently an opportunistic inquiline. One arboreal nesting ant, Crematogaster sp. A, occupied up to 99% of the trees in some plantations and apparently had a marked incidence on the termite community. In sites invaded by Crematogaster sp. A the proportion of trees occupied by termites was half lower than in plantations where these ants were absent. However, coconut plantations probably are a marginal habitat for Crematogaster sp. A, which was only present very locally. These results suggest that the defensive mechanisms of N. princeps, although more effective than those of M. biroi to keep away inquiline ants, might not be sufficient to prevent a high population density of Crematogaster sp. A from limiting its abundance in coconut plantations. The presence of Crematogaster sp. A in some habitats appears, together with a low density of trees, as one of the most important limiting factor for the termite community.