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THEUNIS, LAURENCE, GILBERT, MARIUS, ROISIN, YVES and LEPONCE, MAURICE*, Rue Vautier 29, Royal Belgian Institute of Natural Sciences, Conservation Biology Section, Belgium, Maurice.Leponce@naturalsciences.be, **Periodic pattern of species distribution in a ground-dwelling ant assemblage.**

Mosaics of non-overlapping territories of dominant ants are commonly observed in forest canopies. On the ground, competition may be less important for the spatial structure of the ant assemblage. The small-scale effects of habitat structure and interspecific competition were studied in a subtropical semi-deciduous forest of the Argentinean Chaco, characterized by a dense understorey of shrubs and terrestrial bromeliads. Environmental variables (litter weight and ground bromeliad density) were measured and ants were collected in 1m² quadrats distributed along two 200m transects at intervals of 1.25m. Overall transects, 87 species were collected. Among the 11 common species taken pairwise, 18 positive associations for a single negative one were observed, suggesting that competition was weak. Species density was positively correlated to litter weight and bromeliad density. Some species were correlated with litter quantity (n=9) or with bromeliad density (n=2). A geostatistical analysis showed that the bromeliad density did not appear as a structuring factor for the ant species spatial distribution. By contrast, the spatial distribution of litter weight showed a periodicity of 50m, which induced the same periodicity in the distribution of the abundance of four frequent ant species and was partly responsible of the spatial structure of three others. However, a positive correlation between species abundance and litter quantity did not always imply a structuring effect of the litter quantity on the species distribution. Our results suggest that on the ground, in conditions of low interspecific competition, leaf-litter variations may induce a periodic spatial distribution of numerically dominant ants. Factors explaining the periodicity of leaf-litter distribution remain to be investigated.