

OR128

Competition or environmental filtering - A trait-based perspective of ant communities

Silvija Budaviciute, Mar Cabeza, F. Guillaume Blanchet, Tomas Roslin

That ant communities are structured by competition is currently a widely held view among myrmecologists. However, recent evidence questions the importance of competition in ant communities. Thus, the aim of this study was to explicitly compare the role of competition and environmental filtering as forces structuring ant communities. For this purpose, we examined Malagasy ant assemblages across seven major habitats, measuring eleven morphological traits of ant workers. As signs of environmental filtering, we expected to see a convergence of trait values among habitats. Conversely, a divergence in trait values would reflect competitive pressure. The distribution of trait values observed was thus compared with those expected under a null model, where trait values were randomly assigned a specific habitat. Yet, the dispersion of trait values observed at this national scale did not conform to either those expected due to environmental filtering or to those expected due to competition. Our results thereby indicate that neither competition nor environmental filtering were major forces structuring ant communities across Malagasy macro-habitats. As a likely explanation for the observed patterns, the traits selected for measurement may be only weakly related to competition and/or environmental filtering at this scale. Instead, we propose that the traits of the larger colony (for example queen ability to disperse, colony size and structure, etc.) rather than the traits of individual workers may be the factors structuring ant community assembly.