

**P095**

*Local determinants of ant functional diversity in a forest fragment*

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The functional trait approach is a powerful tool for the development of quantitative and predictive models of community assembly rules; patterns of morphological variation in ants can allow us to infer the relationship between morphology and ecology. We evaluated local determinants of ant morphological diversity in three distinctive vegetation types in an Atlantic Forest fragment, southeastern Brazil. We used 120 pitfall traps set for seven days (summer and winter) along two transects of 100 meters per area, sampling points at each 10 meters, recording also thirteen abiotic variables and environmental resources at each collection point. We collected 82 species (seven subfamilies and 29 genera; 65 in summer and 55 in winter). We recorded 3,300 morphological measures of 11 ant worker characters with putative functional role (six per species, when possible) to quantify the morphological diversity in each sample. We described morphological diversity using Petchey & Gaston's functional diversity (PD), mean pairwise distance (MPD), and mean nearest taxon distance (MNTD) indexes. We quantified the influence of the measured variables on richness and composition of communities and the relationship among resources and environment variables. We used GLMMs, LMEs and GAMMs to test the relationship between species richness, morphological diversity and environmental variables. Temperature, soil pH and saturation, number of herbs and their proximity to traps, trees, DBH and length of twigs were found to be the best predictors of taxonomic and morphological ant diversity. We used fourth-corner analysis to evaluate relationships between environment and ant morphological traits, analyzing matrices simultaneously (sites by environmental variables, sites by species presence/absence and species by morphological traits). Community assembly wide analysis based on traits showed a seasonal environmental filter influencing species composition, suggesting different responses of species richness and morphology to microhabitat structure depending on the time of the year. FAPESP grant: 10/17051-9.