



XIII Congresso de ECOLOGIA

III International Symposium of Ecology and Evolution

Múltiplas ecologias: evolução e diversidade

08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

NICHE CONSERVATISM OF WOODY PLANTS IN CERRADO COMMUNITIES WITH DIFFERENT SOIL TYPE

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Tema/Meio de apresentação: Evolução/Pôster

Abiotic heterogeneity of Cerrado biome contributes to the coexistence of species, because species differ in their responses to the environment, and because environment varies. Those species may share environmental tolerance or resistance conserved within phylogenetic lineages. Thus, phylogenetically related species tend to share characteristics that confer adaptations to similar environment, if there is niche conservatism within phylogenetic lineages. The objective of this study was to analyze the phylogenetic turnover in different positions of environmental gradients of Cerrado. Therefore, we analyze phylogenetic turnover (betaNRI, betaNTI) between 5 communities of Brazilian Cerrado with different soils, throughout the entire phylogenetic tree and towards the tips of phylogenetic branches. Between the communities CD (Dystrophic Cerradão), and CXb (Cerrado sensu stricto on Cambisol); CD, and LA (Cerrado sensu stricto on Yellow Latosol); CM (Mesotrophic Cerradão), and CXb; and CM, and LVA (Cerrado sensu stricto on Red-Yellow Latosol), the phylogenetic turnover was higher than expected by chance as the betaNRI, and betaNTI showed negative values (< -1.96), being these communities phylogenetically more dissimilar phylogenetically than expected by chance. However, LA, and CXb showed a low phylogenetic turnover, being these communities phylogenetically more similar than expected by chance. Higher turnovers (betaNRI, betaNTI < -1.96) indicate significant environmental filtering in each community, but the soil filters differently in each community. Nevertheless, the environmental filtering in LA and CXb is more similar than between other communities. The results suggest niche conservatism related to soil in the Cerrado.

We acknowledge the financial support from CNPQ, FAPEMIG and CAPES