



**PHYLOBETADIVERSITY AMONG COMMUNITIES UNDER DIFFERENT LEVELS OF DISTURBANCE AND NON-NATIVE SPECIES IN PAMPA BIOME, SOUTH OF BRAZIL**

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It is known that invasive species are a threat to biodiversity in species-rich ecosystems. However, there is still a lack of studies in the Pampa Biome addressing the role of common strong anthropogenic disturbance by agriculture, grazing and non-native plant invasion on the ecology, evolution and assembly of its communities. Thus, this study aimed to evaluate the phylogenetic proximity (phylobetadiversity) among communities with different history of management, level of disturbance and non-native plant species in the Pampa Biome. For that, it was sampled 4 sites with different levels of plant invasion in the municipalities of São Gabriel- Rio Grande do Sul (RS) (PLBR = Road side; PLC= Field With no Management of Grazing or Agriculture and PLL= Agriculture area with Soybean culture) and Alegrete - Rio Grande do Sul (RS) (PLCP= Low Grazing area). For computation of phylobetadiversity indexes (betaNRI - beta net relatedness index and betaNTI - beta nearest taxon distance) among communities, megatree R20160415.new based on APG IV was pruned to all taxa from the whole dataset. Our results showed just one significant phylogenetic turnover, which was the betaNTI (-4.31) between PLBR and PLCP. This finding implies that these communities are phylogenetically distant regarding recent clades (betaNTI), which represent the terminal nodes of the phylogenetic tree. Certainly, the higher number of non-native species (5) in PLBR than in PLCP (1) the higher levels of disturbance promoted by roads and geographic distance, are the most important promoters of such phylogenetic difference. On the other hand, the lack of significance to both betaNRI and betaNTI between the other pair of communities can be resulted from of more similar non-native species richness and similar levels of disturbance among them, which can reflect phylogenetic relationships according to a random expectation. In conclusion, the quantity of non-native species and intensity of disturbance are important determinants in the assembly of communities in Pampa Biome.

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