

Title: EDGE EFFECT ON RICHNESS AND COMPOSITION OF THE FUNGAL COMMUNITY FROM ATLANTIC SEMI- DECIDUOUS FOREST PLANT LITTER IN THE NATIONAL PARK OF IGUAÇU.

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Forest borders, natural and anthropic, are characterized by altered flows of matter and energy with effects of variable extension in the direction of the forest interior. The edge directly and indirectly affects organisms both at the individual and community levels. Despite the knowledge of the effect the edge has on biotic and abiotic factors that influence fungi, the understanding of edge effects on communities of these organisms, which play a fundamental role in the cycling of carbon and other nutrients, is limited, specially, in some formations of Atlantic Forest. This study evaluated the edge effect of an anthropic border at Semi-deciduous Atlantic Forest in the National Park of Iguaçu, on the richness and composition of fungi community from plant litter and on fungi with ligninolytic potential isolated through a culture-dependent technique. This study is one of the first efforts to evaluate the richness and composition of the microfungal community in the National Park of Iguaçu and the first to study the border effect on fungi from Semi-deciduous Atlantic Forest and on fungi with potential to degrade recalcitrant compounds as lignin. The study was conducted at fourth transects in the north-west border of the Park. Fungi species richness was assessed using rarefaction, while non-metric multi-dimensional scaling (NMDS) was used for exploration of ordering in the fungal community composition between the border and core sampling units. During the study, 366 isolates were obtained and preserved, wherein 55.5% presented exclusively in the interior, 39.1% presented exclusively on the edge and 5.4% presented both on the edge and in the core. A negative edge effect was determined on the richness of fungi species (for a standard sample of 295 individuals, there was no overlap between the edge and the core in the rarefaction curve at $p < 0.05$). Also, there was found a neutral edge effect on the composition of the community of fungi (with no tendency in the distances between the points located at the edge and the interior) and on the ligninolytic richness (for a standard sample of 24 individuals, there was overlap in the rarefaction curve at $p < 0.05$).

Keywords: Atlantic forest, edge effect, fungal community, ligninolytic fungi.

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