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DO FIRE AND FLOOD INTERACT DETERMINING FOREST ISLET STRUCTURE AND DIVERSITY IN A NEOTROPICAL WETLAND?

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Flood and fire can be considered as ecological filters, and they may interact to regulate forest structure and species composition. Therefore, this paper aimed to determine if fire and flood interact to influence species composition, richness, abundance and basal area of the arboreal community of forest islets in the Pantanal wetland, Fazenda São Bento, near the State Park Road, in the subregion called Abobral in the Pantanal wetland of Mato Grosso do Sul, Brazil. We sampled 12 unburned and 12 burned forest islets in plots along transects from the edge to the middle, measuring diameter and water mark height on each trunk. Analysis of the indicator species showed plants characteristic of burned and unburned forest islets, as well as floodable and flood-free zones. An interaction did occur between fire and flood and did influence richness and abundance. In burned areas, richness and abundance decreased with flood levels along the gradient. Without fire the tendency was the opposite for both factors. Basal area increased in areas with higher time of inundation and was not influenced by fire or its interaction with flooding. The interaction flood and fire favored the monodominance of *Attalea phalerata* increasing its relative density in lower topographic areas. The interaction between fire and flood influences the structure of forest islets relative to the reduction of richness and abundance and changes in species composition, acting in synergy as a double filter. However, the interaction favors *A. phalerata* to form a monodominant belt around the forest islets. Fire only promotes expansion and dominance of this palm when interacting with flood.

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