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SUMMARY
Plastic pollution is considered a top environmental problem by the United Nations Environment Programme and it is identified, alongside climate change, as an emerging issue that might affect biological diversity and human health. However, despite research efforts investigating plastics in oceans, relatively little studies have focused on freshwater systems. The aims of this study were: i) to determine abundance and characteristics of macro, meso and microplastic fragments in beach sediments of a floodplain lake; and ii) to determine spatial distribution patterns of each size plastic fraction. Food wrappers (mainly Polypropylene and Polystyrene), bags (High- and Low-Density Polyethylene), bottles (Polyethylene Terephthalate) and disposable Styrofoam food containers (Expanded Polystyrene) were the dominant macroplastics recorded in this study. Contrary to other studies, herein macroplastic items surveys would not serve as surrogates for microplastic items. This is a disadvantageous since surveys of macroplastics debris can be relatively easily conducted.

Otherwise, an average of 25 mesoplastics (mainly Expanded Polystyrene) and 704 microplastics particles (diverse resins) were recorded per m2 in sandy sediments. Comparisons with other studies from freshwater and marine beaches indicated similar relevance of plastic contamination, demonstrating for the first time that plastic pollution is a serious problem in the Paraná River floodplain lakes. This study is also significant from a social/educational point of view, since plastic waste has been ignored in the Paraná catchment as a pollutant problem and therefore it becomes a relevant contribution for local government entities and decision makers.

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