
Microplastic occurrence in diet of *Larimus breviceps* Cuvier, 1830 in the surf zone of a tropical beach

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Abstract

Plastics in the marine and estuarine ecosystems are one of the factors that can affect the trophic niche of fish community. This kind of marine litter has been disposed in the coastal areas and can reach to many fish nursery areas, as beach surf zone, mangroves and estuarine main channel. Once in these areas, fragments are mistakable as "prey", ingested by the ichthyofauna and transferred along the chain. Based on this, the aim of this study was to investigate the feed ecology of *Larimus breviceps*, along his history life, at the surf zone of a beach adjacent to an estuary mouth in northeast, Brazil. Fishes were sampled from April 2019 to February 2020, using a beach seine net (5 mm mesh-size). Then, were classed into ontogenetic stages (juveniles, subadults and adults), had stomachs analyzed, and preys identified and quantified as relative importance (%IRI). 83 fishes were sampled. 14 type of preys were identified. The most important preys were, copepods, amphipods, mysis larvae, vegetal material and microplastics, respectively. For ingestion of these preys, ANOVA found differences ($p < 0.05$) among area, seasons and ontogenetic stages studied. In these results, microplastics was identified as nylon fragments (size $< 5\text{mm}$), with occurred in $\sim 31.33\%$ of total stomachs analyzed. In spite of its occurrence in the stomachs of all ontogenetic stages, ANOVA detected significant interaction ($p < 0.01$) between seasons and stages, where its ingestion showed high values for juveniles, during the late rainy season. Nylon ingestion by *L. breviceps* indicates a worrying contamination of the species and his habitat from plastic. These material seems originated from the local anthropogenic activity. The damages to the physiology and well-being of this species and its predators, are still unknown. However, it is hoped that this research could serve as a warning to authorities and support actions to preserve fish fauna and region.

Keywords: Plastic contamination, Marine fishes, Northeast Brazil

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