Presence of microplastics in stingrays (*Hypannus guttatus*) from Brazilian Amazon Coast

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Introduction

- Microplastics → size <5 mm;
- Widely distributed along aquatic environments;
- Easily ingested by a wide rang of organisms;
- Potential exposure route to persistent organic pollutants (POP's) and metals;
- Ingestion by elasmobranchs has fewer records compared to bony fish;
- *Hypannys guttatus* is an important stingray consumed by Latin American populations.
- We aimed document the ingestion of microplastics by Longnose stingrays *Hypannys guttatus* in the Western Atlantic Ocean.

Material and Methods

We examined the stomach contents of 23 *Hypanus guttatus* (Fig.1) that inhabits the complex estuarine located in the southern extreme of the Brazilian Amazonian coast, more precisely in Maranhão Gulf. The specimens were captured by local fishers' longlines and gillnets between 2018 and 2019. Microplastics were categorized by shape and color, and the polymers were identified by 2D imaging - Fourier Transform Infrared (FTIR).

Fig.1: An specien of *Hypannus guttatus* captured in the southern extreme of the Brazilian Amazon coast.

Results and Discussion

17 microplastics found in 7 of 23 specimens (FO% = 30,4);

Could be explained by the foraging strategy of the species/generalist top predator.

Fibers were the most frequent item (82%) (Fig 2);

Blue was the most frequent color (47%);

Most abundant microplastic category in marine environments;
Proximity to areas of urban development;
Oceanographic phenomena (e.g. macro-tidal currents) may contribute to the ample dispersal of microplastic.

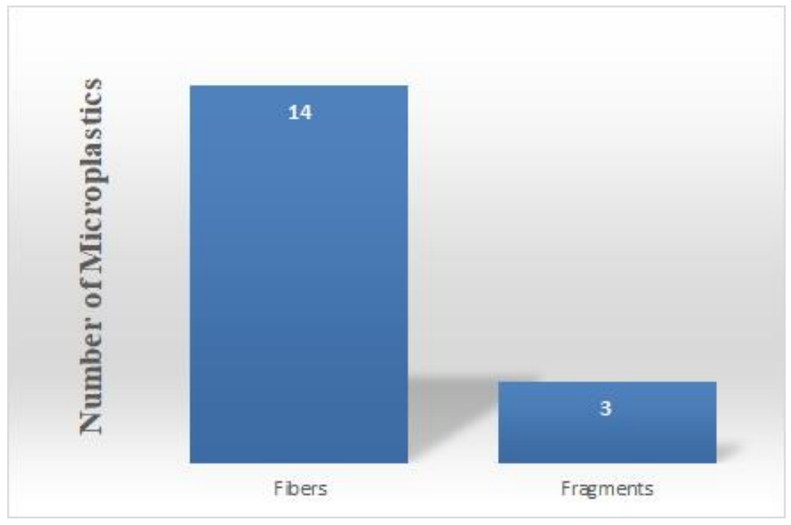

Fig.2: Category most frequent in the stomachs of Longnose stingrays (*H. guttatus*) captured in southern extreme of the Brazilian Amazon coast.

Polyethylene terephthalate (PET) was the most frequent polymer recorded (35%) (Fig 3).

Most produced worldwide;
Dense polymer, sink and hits the bottom where the stingrays feeds.

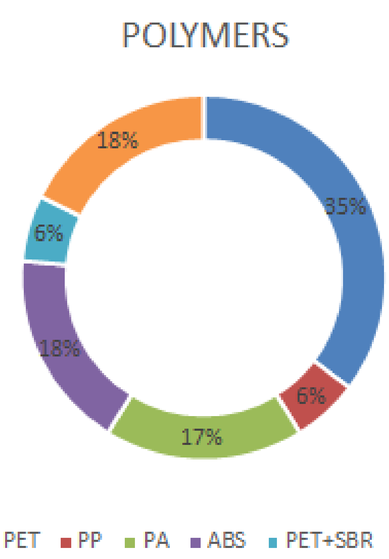

Fig.3: Percentage of polymers found in the stomachs of Longnose stingrays (*H. guttatus*) captured in southern extreme of the Brazilian Amazon coast..

Conclusions

- First record of microplastic ingestion by *H. guttatus*, providing baseline values for future studies approaching rays in Atlantic Ocean;
- Contribute to the broader understanding of the growing problem of plastic pollution in aquatic ecosystems and organisms.

References

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