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Human Interactions with the South American Sea Lion – Analysis of marine litter in stomach contents

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Project summary

The Southern sea lion (*Otaria flavescens*) is an endemic species from South America. In southern Brazil, the sea lion feeds upon demersal prey, which are also the main target of local fisheries. This spatial overlap results in operational interactions such as bycatch and entanglements. The ingestion of marine debris, including those from fisheries activities, and with special attention to plastics, is another potential threat to the species. This project aims to evaluate the frequency of occurrence and describe the marine debris in stomach contents of sea lions stranded along southern Rio Grande do Sul coast, in Southern Brazil.

Main results

A total of 51 carcasses were sampled, being 33 males and 18 females. Anthropogenic items were found in 16 stomachs (31.4%). In all those, fishing gears fragments, specifically net fragments were detected. Those fragments were composed by monofilaments, that can be related to gillnets, a common fishing gear employed in the southern Brazil. The meshes fragments were measured, and the nets with 90 mm and 100 mm of meshes size showed a higher frequency among the pieces found (n=16).

The presence of these pieces indicates a relationship with gillnet fishing, which in the region is mainly directed to demersal fish (meshes 90 and 100 mm). This presence is directly related to behavior to remove prey from the fishing gear by the sea lions. This is corroborated by the presence of these species in the diet of this predator in the region, evidencing the ecological overlap of the organism with the fishery.

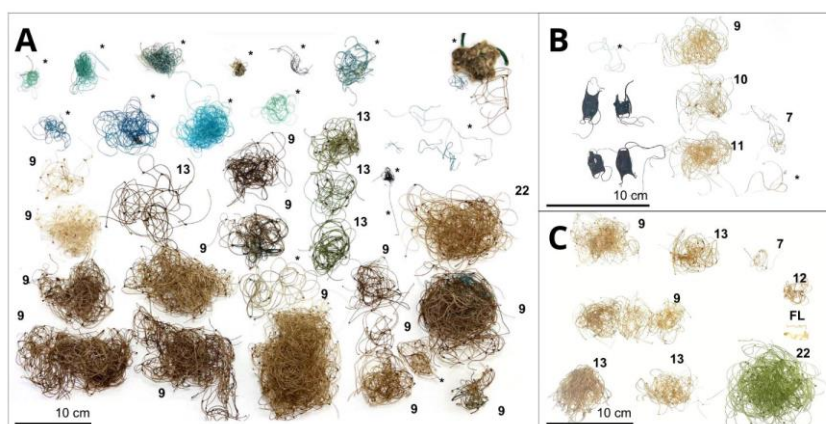


Figure 1 - Fragments of debris recorded in the stomach contents of *Otaria flavescens*. The number represents the mesh sizes, with 7, 8, 9, 10, 11, 12, 13, and 22 corresponding to mesh sizes of 70 mm, 80 mm, 90 mm, 100 mm, 110 mm, 120 mm, 130 mm, and 220 mm, respectively. Asterisks (*) indicate unmeasured mesh fragments. "FL" stands for film-like plastic. A - Male: 252 cm of total length, 59.04 g of debris; B - Male, 260 cm of total length, 2.79 g of debris; C - Male, 236 cm of total length, 28.67 g of debris.

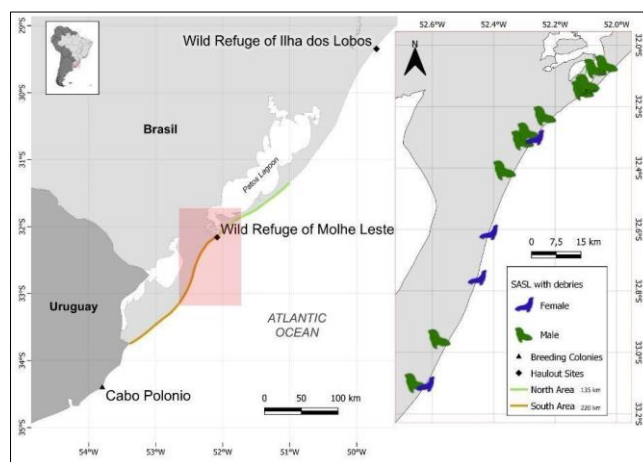


Figure 2 – Beach survey area monitored to sample dead South American sea lions (left). On the right map, are presented the specimens sampled that contain marine debris in the stomach contents.

Project progress

CR. Soares-Oliveira has successfully completed the master's program and defended the thesis. The project yielded two abstracts presented at scientific congresses, while the dietary contents found in the stomach contributed to one more master's thesis and an ongoing undergraduate thesis. The results are being prepared to be published as paper on a scientific journal.