



# ICYMARE

International Conference for  
YOUNG Marine Researchers

# BOOK OF ABSTRACTS

ICYMARE 2025 BREMERHAVEN

8-13 SEPTEMBER 2025



**ICYMARE**  
International Conference for  
YOUNG Marine Researchers



THE BREMEN SOCIETY FOR  
NATURAL SCIENCES from 1864

[www.icymare.com](http://www.icymare.com)

# ICYMARE 2025 BREMERHAVEN

## Book of Abstracts

### Editors

Anna Joelle Greife

Carolin Müller

Lena Heel

### Cover Photograph

Carolin Müller

### Published by

Naturwissenschaftlicher Verein zu Bremen

Association of Marine Sciences

Working Group ICYMARE

c/o Übersee-Museum

Bahnhofspatz 13

28195 Bremen

Germany

E-Mail: [hello@icymare.com](mailto:hello@icymare.com)

Phone: +49 (0)421 16038 153

Fax: +49 (0)42116038 99

## Potential for trophic transfer of microplastics in the small-spotted catshark's food web: insights from Portuguese coastal ecosystems

Rodrigo Pica<sup>1</sup>, João Fernandes<sup>2,3</sup>, Sónia Seixas<sup>2</sup>, Marta Martins

<sup>1</sup>Department of Environmental Sciences and Engineering, NOVA School of Science and Technology, NOVA University Lisbon, Caparica, Portugal;

<sup>2</sup>Marine and Environmental Sciences Centre (MARE) & Aquatic Research Network Associated Laboratory (ARNET), Portugal;

<sup>3</sup>Universidade Coimbra, Coimbra, Portugal

Keywords: Bioaccumulation, Biomagnification, *Scyliorhinus canicula*, *Trisopterus luscus*, *Polybius henslowii*

Microplastics (MPs) are increasingly prevalent pollutants in marine environments, raising concerns about their potential to transfer across trophic levels. However, the extent and significance of such transfer remain uncertain.

This study aimed to (i) characterise MPs in the digestive tracts (GITs) of three ecologically connected species — the small-spotted catshark (*Scyliorhinus canicula*), pouting (*Trisopterus luscus*), and Henslow's swimming crab (*Polybius henslowii*); and (ii) assess the potential for trophic transfer, as *S. canicula* is a known predator of the other two species.

Thirty individuals from each species were collected by bottom-trawling off Figueira da Foz, Portugal. GITs were digested using 10% potassium hydroxide (KOH), filtered, and analysed by Fourier-transform infrared (FTIR) spectroscopy.

A total of 88 MPs were identified, primarily in *S. canicula* ( $0.89 \pm 1.19$  MP.ind<sup>-1</sup>) and *P. henslowii* ( $0.54 \pm 0.74$  MP.ind<sup>-1</sup>). No MPs were found in *T. luscus*, possibly due to its juvenile stage or short retention time. Frequencies of occurrence were 57% for *S. canicula* and 43% for *P. henslowii*, representing the first record of MPs in the latter. The predominant MP types were fragments (51%) and fibres (47%), mainly green (32%), black (20%), and transparent (16%), with polyvinyl acetate (32%) and polyethylene terephthalate (27%) identified as the main polymers. Significant differences in MP colour and polymer composition between species suggest distinct exposure routes.

Although the presence of MPs in a known prey species of *S. canicula* suggests potential trophic transfer, further research is needed to confirm bioaccumulation. These findings provide a valuable baseline for understanding plastic pollution in coastal ecosystems and highlight the need for ongoing investigation into MP dynamics within marine food webs.