

# NEW INSIGHTS INTO PLASTIC DEGRADATION: ECOTOXICOLOGICAL EFFECTS OF PLASTIC LEACHATES IN MARINE INVERTEBRATES

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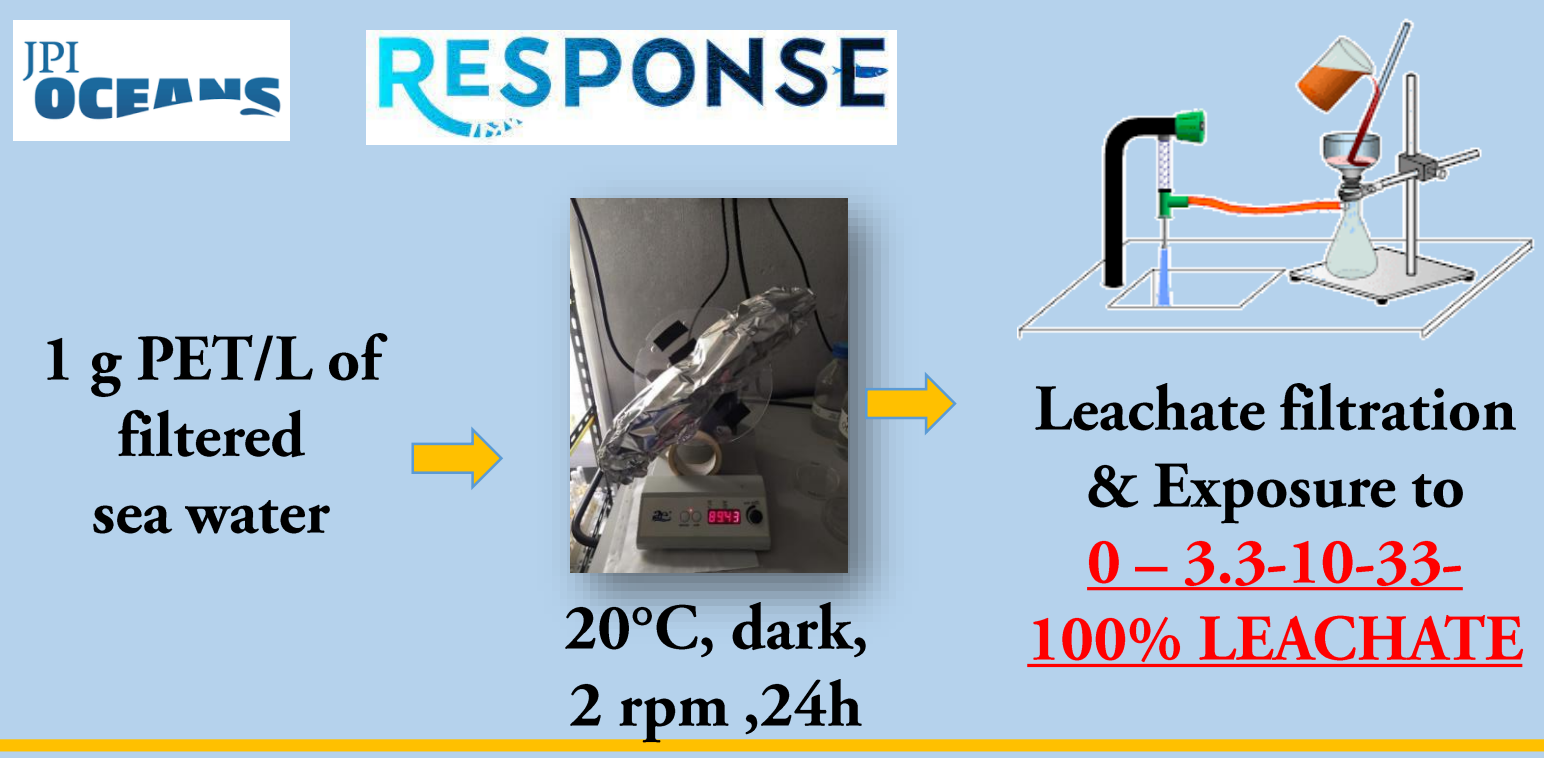
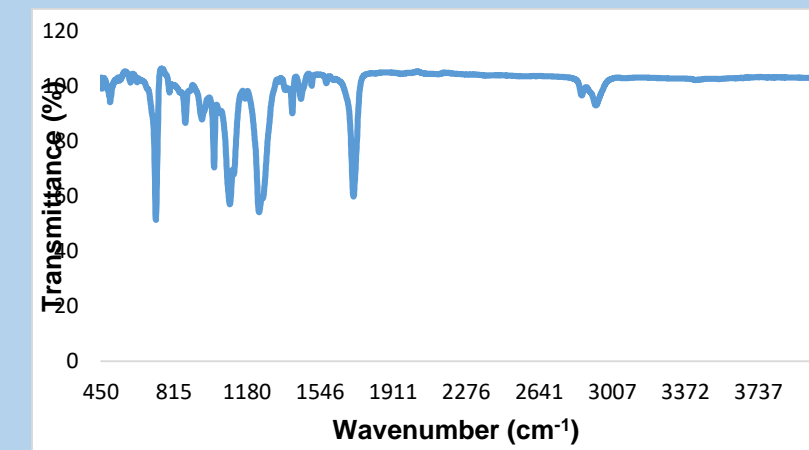
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Plastic pollution represents a global threat to marine ecosystems. Plastic litter can leach a variety of substances into marine environments but few studies are available on leachate toxicity on marine biota

**AIM OF THIS STUDY**  
to investigate the ecotoxicological effects of plastic leachate on 4 marine invertebrates

## MATERIALS AND METHODS

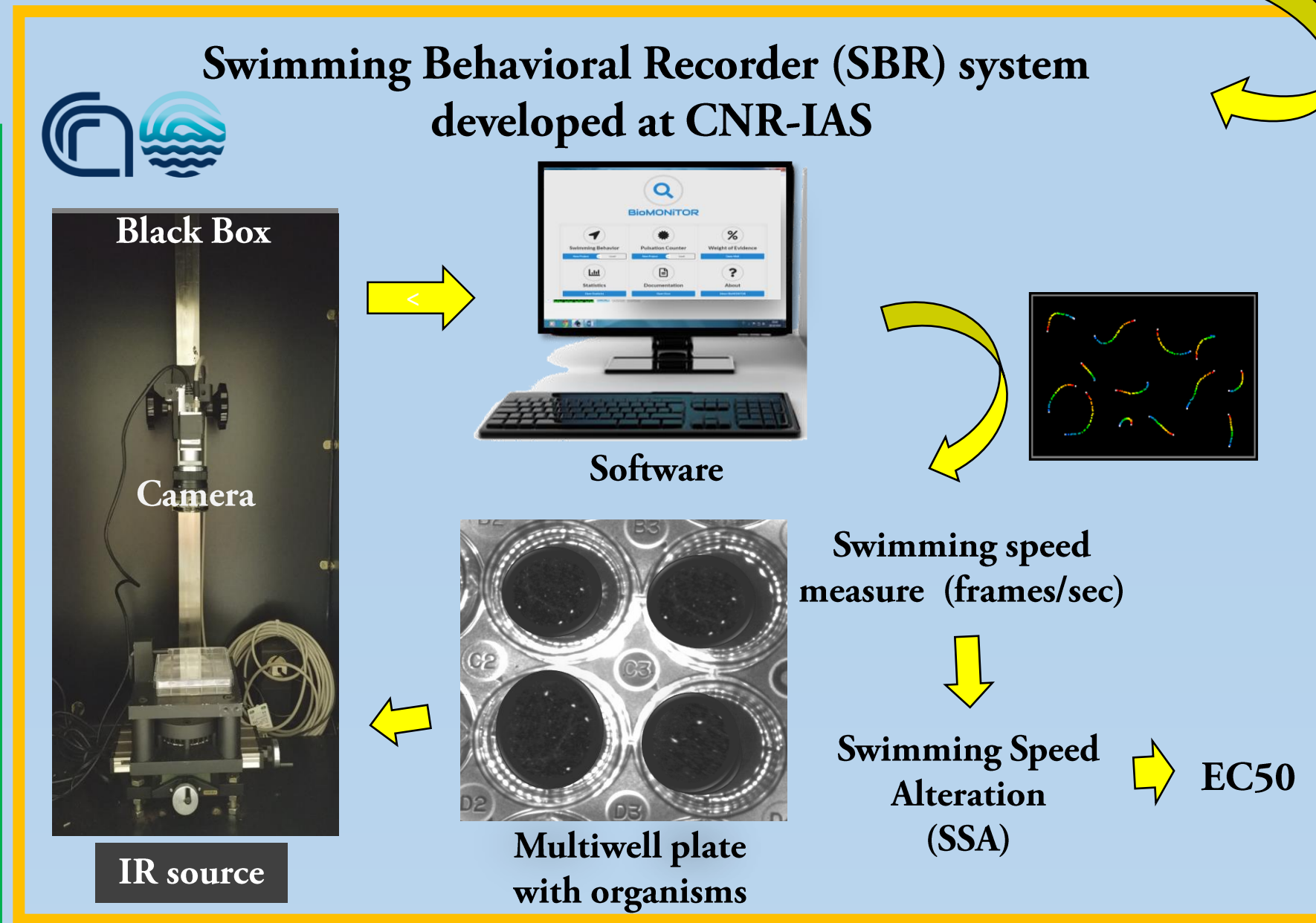
Plastic litter was collected from Italian beaches (Genoa, NW Mediterranean). PET plastic bottles were used to assess leachate ecotoxicity in the crustaceans *Amphibalanus amphitrite* and *Tigriopus fulvus* nauplii, in the sea urchin *Paracentrotus lividus* larvae and in the rotifer *Brachionus plicatilis*



- A. amphitrite* nauplii
- T. fulvus* nauplii
- B. plicatilis*
- P. lividus* larvae

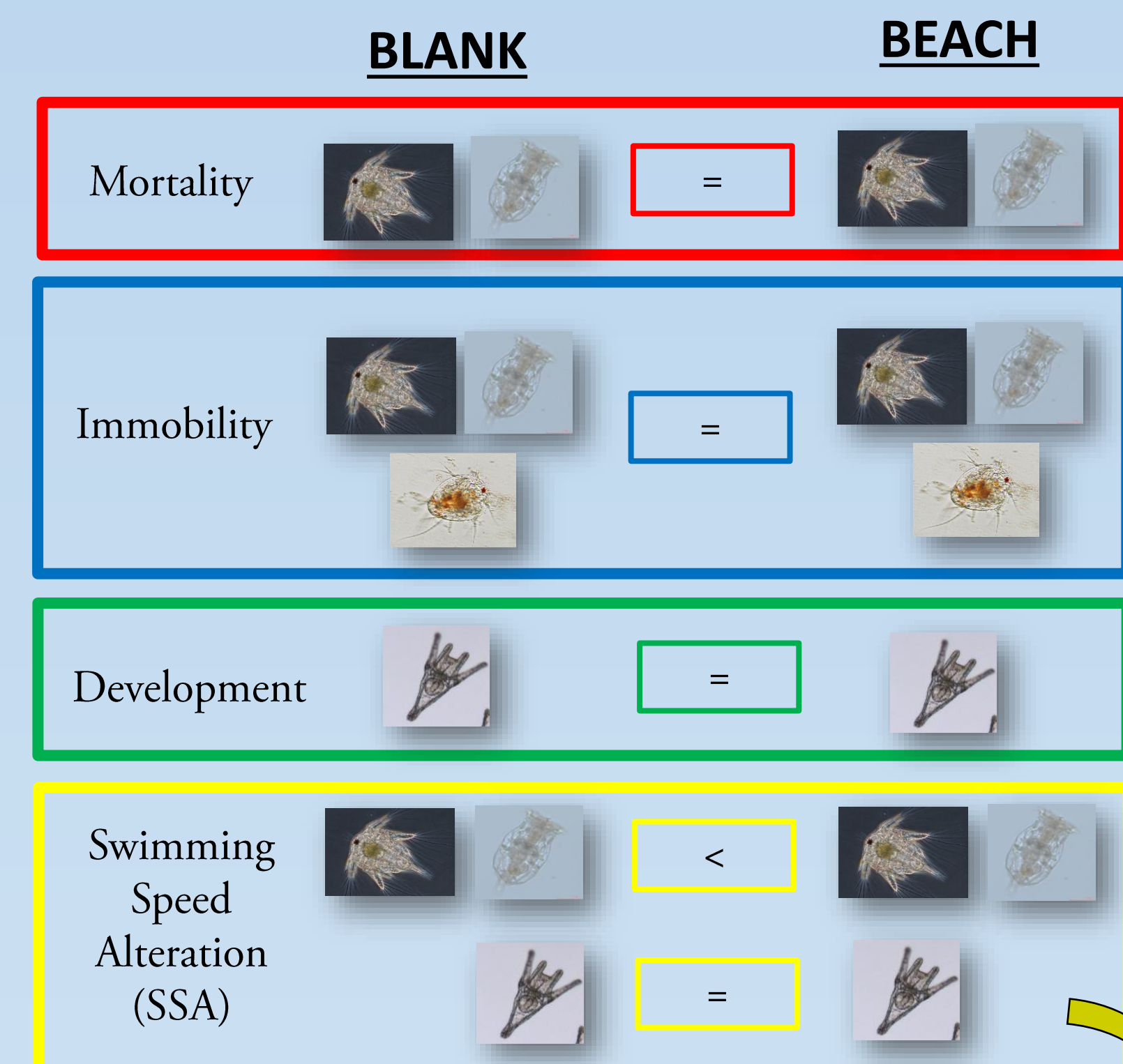
- MORTALITY**
- IMMOBILITY**
- DEVELOPMENTAL ANOMALIES**
- SWIMMING SPEED ALTERATION**  
Measured by SBR system

## RESULTS



## EFFECTS AT 100% LEACHATE

Crustacean and rotifer **swimming behavior** was significantly affected by weathered plastic bottles collected on the beach, conversely to the blank plastic bottles



## NEXT

Chemical characterization is needed to clarify if the toxicity may be ascribed to additives or sorbed chemicals released during leachate process

\*p<0.05