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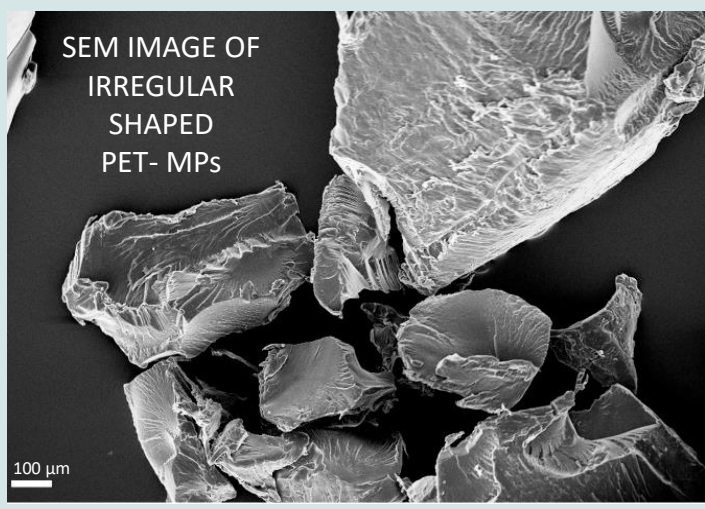
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## AIM

This study investigated the ingestion/egestion, the alteration of oxidative status and the possible tissue damages induced by the exposure to sinking irregular shaped polyethylene terephthalate microplastics (PET-MPs) in two benthic organisms with different feeding strategies: a filter feeder, the Manila clam *Ruditapes philippinarum* and a grazer, the sea urchin *Paracentrotus lividus*.

## METHODS



### Exposure conditions

- 7 days exposure to irregular shaped PET-MPs (8 - 1,054  $\mu\text{m}$  in length; mean length 220  $\mu\text{m}$ )

#### FILTER FEEDER

the Manila clam  
*Ruditapes philippinarum*

- two doses: 0.125  $\mu\text{g}/\text{mL}$  and 12.5  $\mu\text{g}/\text{mL}$ ;
- gills and digestive gland

#### GRAZER

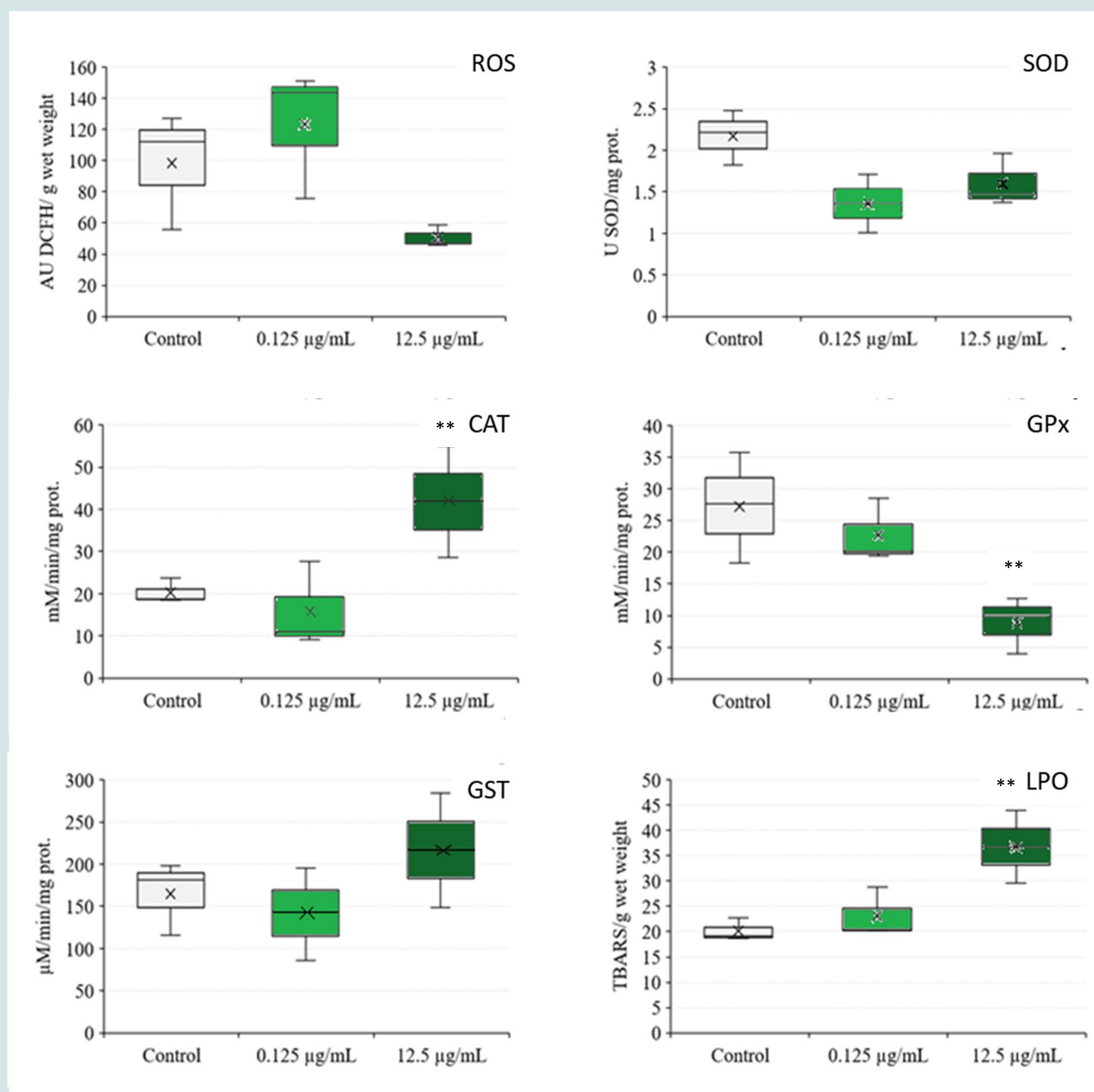
the sea urchin  
*Paracentrotus lividus*

- three doses: 8, 80 and 800 particles/g;
- oesophagus

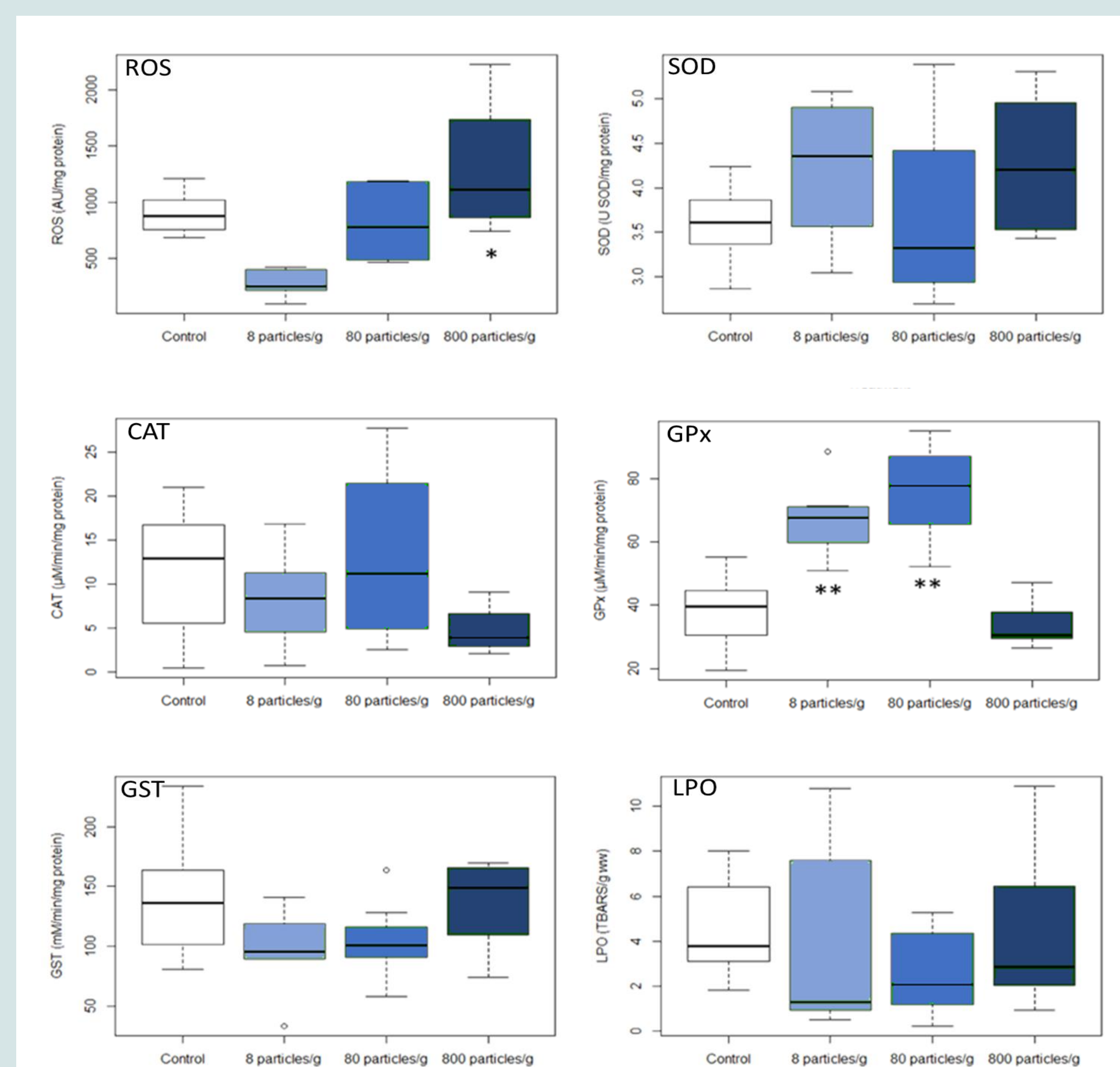
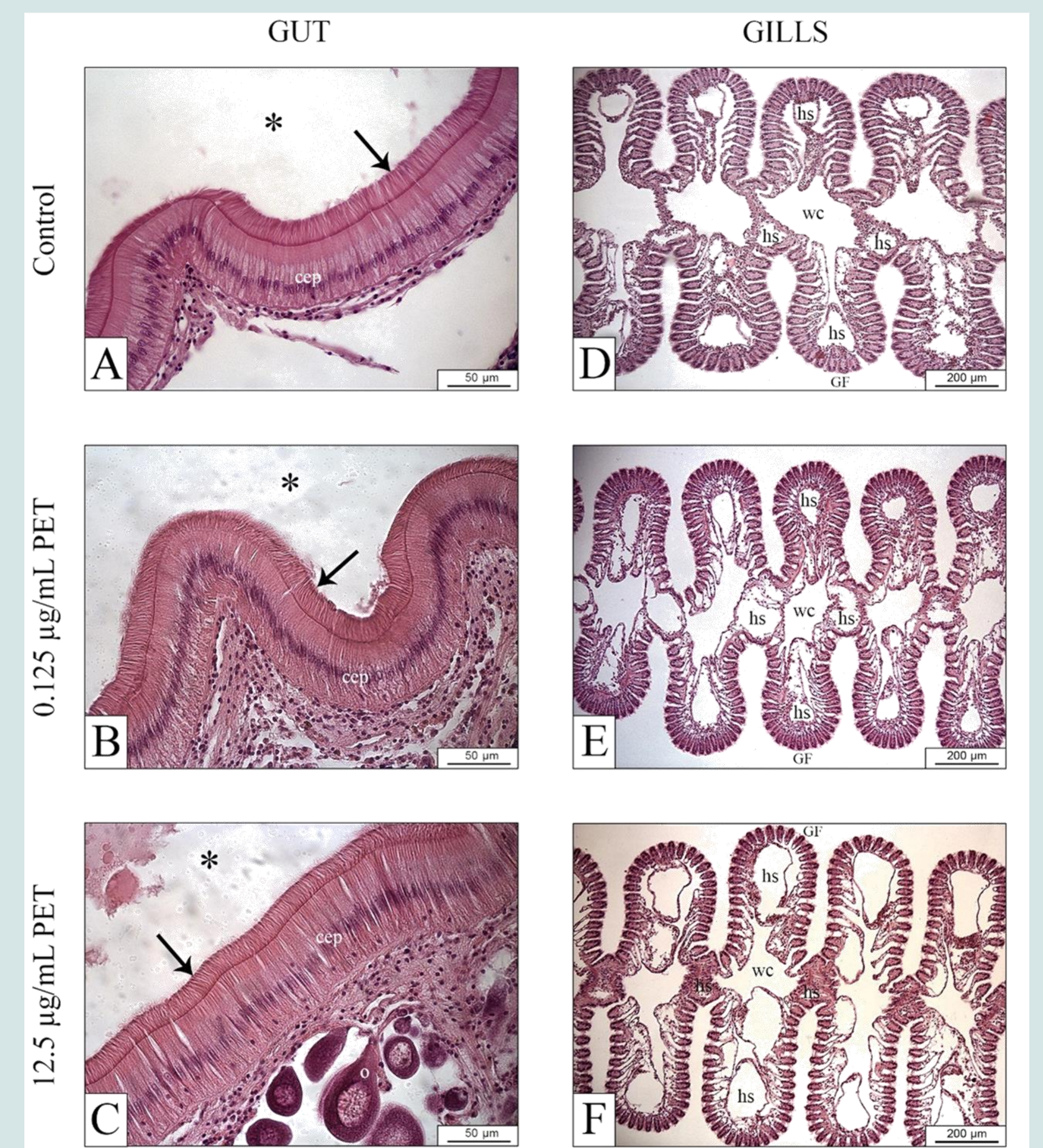
### Performed analyses

- **INGESTION and EGESTION** of PET-MPs
- **OXIDATIVE STRESS BIOMARKERS:** modulation of **oxidative status** (ROS, SOD, CAT, GPx, GST) and **oxidative damage** (LPO)
- **HISTOLOGICAL ANALYSES:** histological damage

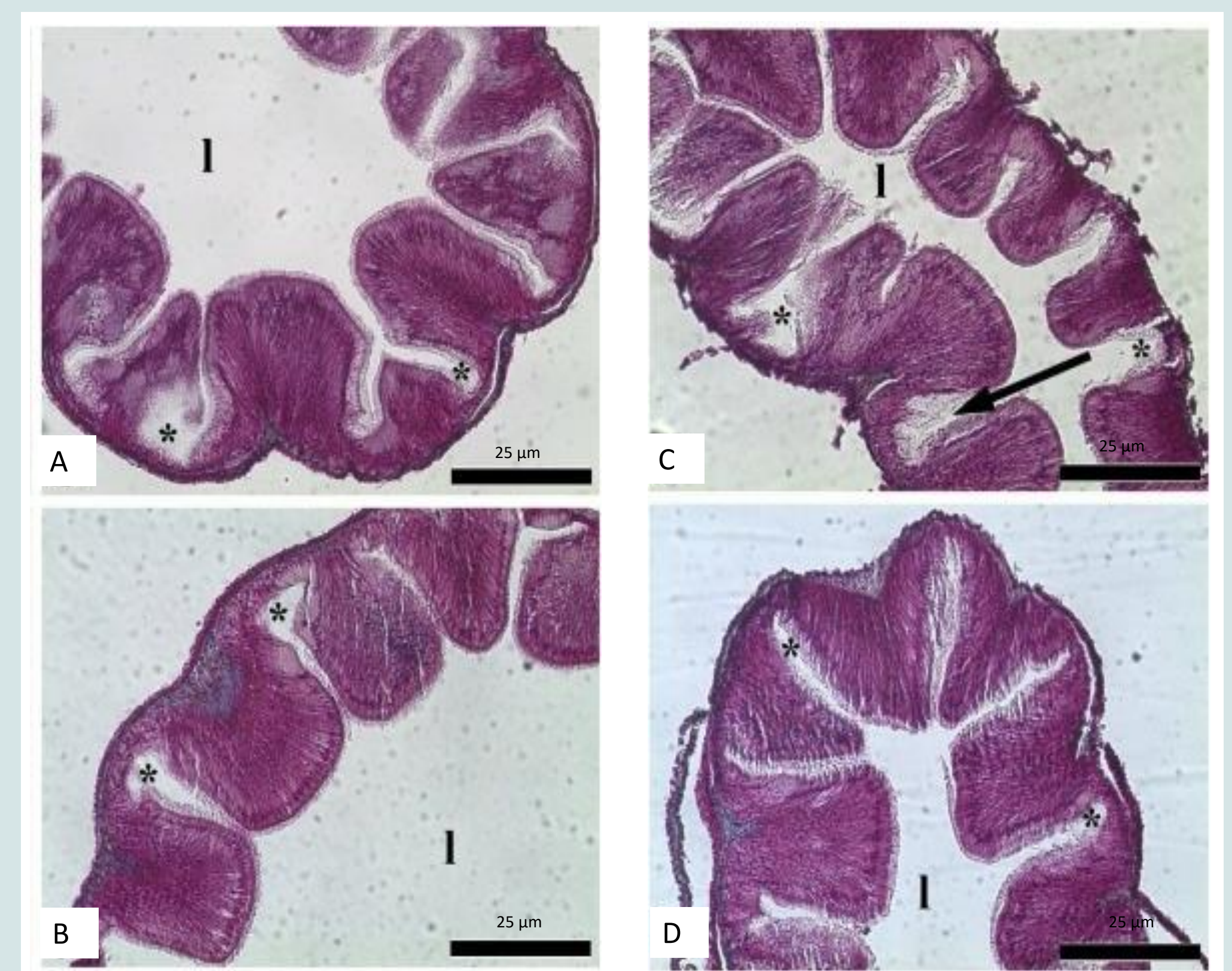
## RESULTS



### MANILA CLAM



### SEA URCHIN



## CONCLUSIONS

These results showed that the exposure to sinking irregular shaped PET-MPs might induce the onset of an oxidative stress situation and **represents a threat to marine benthic organisms** regardless of their feeding strategies.