



“Gheorghe Asachi” Technical University of Iasi, Romania



MICROPLASTICS AS A VECTOR FOR HEAVY METALS IN HARD CLAM *Meretrix lusoria* UNDER VARIOUS SALINITIES

Beta Susanto Barus^{1,2}, Chih-Yang Cheuch¹, Sha-Yen Cheng^{1*}

¹Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung 20224, Taiwan

²Department of Marine Science, Faculty of Mathematics and Natural Sciences, Sriwijaya University, Indralaya 30662, Indonesia

Abstract

Microplastics (MPs) and heavy metals have been reported to interact in freshwater and seawater. The level of contamination in organisms can be impacted by the interaction between the two. *Meretrix lusoria*, a type of hard clam, is an osmoconformer. The role of MPs particles as carriers of Pb heavy metal pollution in hard clams under various treatments and salinities is investigated in this study. The particle type of MPs plays an important role in determining the level of increase in the heavy metal Pb in hard clams. PP particles cause a higher increase in Pb concentration than other particles. Additionally, the concentration of the heavy metal Pb increases with water salinity. MPs particles accumulated more in the clams placed at 30‰ salinity than the other two lower salinities. Our findings show that MPs particles can act as Pb vectors in *Meretrix lusoria* under various conditions and salinities.

Keywords: heavy metal, *Meretrix lusoria*, microplastics, salinity

Received: October, 2022; Revised final: January, 2023; Accepted: January, 2023; Published in final edited form: February, 2023

* Author to whom all correspondence should be addressed: e-mail: eric@mail.ntou.edu.tw