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Microplastics impact assessment on Langkawi Island off Strait of Malacca waters using rock Oyster as bioindicator

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Abstract

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Abstract

Microplastics (MPs) assessment was conducted in five sites along Langkawi Island off Strait of Malacca coastal shoreline. In this paper, an improved protocol of digestion for soft tissue digestion and multi-steps of MPs identification had been developed and the polymer identification of MPs are performed by ATR-FTIR. Number of MPs found varied from 0.47 to 1.0 items/w. weight (g) and 0.73 to 1.47 items/individual of rock oysters. The MPs composition was dominated by threadlike shapes and the color found are black, blue, red, grey, and yellow. Size of MPs ranging between 500 to 1000 µm and

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based on MPs polymer analysis, polymers identified are PVDF, PP and PET. The overall abundance of MPs in bivalve found in Langkawi is 1.46 ± 0.007 items/w. weight (g), however, it is still necessary to do periodic monitoring in this tourists' attraction island that is well-known for seafood. © 2022 Author(s).

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
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