

Investigation of Macro, Meso and Microplastics in Fish Gut from Coastal West Coast of Sabah, Malaysia

ABSTRACT

Over the last decade, the production of plastics has increased with their increasing usage. Plastics have been seen as the most widely encountered waste in the environment. However, little is known regarding the accumulation of MPs in different tissues of fishes, especially in seawater in natural environments. In this study, the abundance of macro, meso and microplastics in guts from pelagic, demersal, and benthic groups were examined. A total of 70 individual fish guts from seven species (fish per species $n = 10$) were examined. These groups were chosen based on their distinct habitat features which lie in their preferred depth and location within the water column. Samples were taken from fish markets in Tuaran, Menggatal, Lido, and Kota Kinabalu, Sabah Malaysia. Remarkably, this study found meso and microplastic from the 2 pelagic species which are *Seriola rivoliana* and *Scomberomorus commerson*. In terms of characteristics, the polyethylene terephthalate (PET) particle was found in the form of fragment, fiber, and sphere while the polystyrene was in the form of fragment. Our results provided useful information for the assessment of the environmental threats posed by microplastics in Sabah, with a focus on the perspective of marine organisms.