

## Microplastics in Two Bivalves of The Bay of Bengal Coast, Bangladesh

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**Abstract :** Microplastics were identified in mussel (*Perna viridis*) and Oyster (*Crassostrea madrasensis*) from the south east coast of Bangladesh. Samples were collected from four sites of the coast based on their availability, and gastrointestinal tracts were assessed following isolation, floatation, filtration, microscopic observation, and polymer identification by micro-Fourier Transformed Infrared Spectroscopy ( $\mu$ -FTIR) for microplastics determination. A total of 1527 microplastics were identified from 130 samples. The amount of microplastics varied from 0.66 to 3.10 microplastics/g and from 3.20 to 27.60 items/individual. *Crassostrea madrasensis* contained on average 1.64 items/g and exhibited the highest level of microplastics by weight. Fiber was the most dominant type, accounting for 72% of total microplastics. Polyethylene, polypropylene, polystyrene, polyester, and nylon were the major polymer types. In both species, transparent/ black color and filamentous shape was dominant. The most common size ranges from 0.005 to 0.25mm and accounted for 39% to 67%. The study revealed microplastics pollution is widespread and relatively high in the bivalves of Bangladesh.

**Keywords :** microplastics, bivalves, mussel, oyster, bay of bengal, Bangladesh

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