Quantification and Categorization of Marine Debris in Charty beach, Jaffna, Sri Lanka.

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Marine debris is a well-known problem in Sri Lanka, where it has a significant effect on the marine ecosystem and biodiversity.This is the first quantitative study of macro marine debris (>2.5cm) in terms of materialtype, abundance, and composition at Charty beach, Jaffna, Sri Lanka.Monthly sampling was done every fortnight using the shoreline survey method from December 2020 to April 2021.Two stretched areas of 100-meter were chosen at random and divided into twenty 5-meter transects.The collected debris were manually counted, weighed using with an analytical balance and categorized into eight groups by material type, such as hard plastics, film, fiber and fabric, styrofoam, other polymers, metal, papers/cardboard, glass.A total of 974 debris were counted and measured, totaling 1999.848 g.The most abundant form of marine litter found on the beach was film (38%), while metal (1%) was the least common.The mean abundance of filmwas 0.1540 ± 0.0569, hard plastics 0.09 ± 0.075, fiber and fabric 0.0840 ± 0.0438, styrofoam0.0473 ± 0.054, other polymers 0.023 ± 0.0313, papers/cardboards 0.02075 ± 0.01463, glass 0.011 ± 0.015 and metal0.00725 ± 0.01402 particles/m^{-2}. The beach has been proven to be contaminated with larger marine debris, according to the current study.Recreational and fishing wereidentified as major littering practices in the beach.As the first study of marine debris at Charty Beach in Northern Sri Lanka, this study paves the way for long-term research as well as preliminary data for the stakeholders involved in conservation and management of valuable marine resources.

Key words: Film, litter, recreational

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