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## Characterization of microplastics in selected commercial marine fishes in Sri Lanka

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Coastal and offshore fisheries in Sri Lanka are mainly dependent on wild fish stocks, which may have been contaminated with microplastics (MPs) that have a potential risk to transfer subsequently to consumers. However, studies on MPs in commercial fish species are limited, and therefore, we estimated the MPs abundance and composition in three species, i.e., *Amblygaster sirm* (n = 30 from Dondra), *Sellar crumenophthalmus* (n = 70 from Dondra and Kudawella) and *Thunnus albacares* (n = 70 from the Indian ocean and the Arabian Sea). MPs were extracted from the gastrointestinal tract by acid digestion and observed under Olympus™ DP21 photomicroscope. All fish samples (100%) were found to be contaminated with microplastics coloured in red, orange, black and blue. Major MPs morphotypes observed in *A. sirm* and *S. crumenophthalmus* were microspheres and fragments, whereas fragments and fibers were the commonest in *T. albacares*. No significant difference ( $p > 0.05$ ) of MPs abundance per individual was identified between *A. sirm* ( $54.2 \pm 33.0$ ) and *S. crumenophthalmus* ( $56.4 \pm 33.0$ ). In contrast, MPs abundance per individual in *S. crumenophthalmus* in Dondra ( $56.4 \pm 33.0$ ) and Kudawella ( $65.7 \pm 89.0$ ) were significantly different ( $p < 0.05$ ). The highest MPs abundance of *T. albacares* was observed in the Arabian Sea ( $59.3 \pm 79.7$  of MPs per 2.5g), followed by the Southern Indian Ocean ( $19.4 \pm 15.2$  MPs per 2.5g) and Bay of Bengal ( $18.1 \pm 11.5$  MPs per 2.5g). Our findings indicate MPs contamination in marine food fish species *A. sirm*, *S. crumenophthalmus*, *T. albacares* and emphasize the importance of regulation and control of MPs to ensure food safety.

**Keywords:** *Amblygaster sirm*, Microplastics contamination, *Sellar crumenophthalmus*, *Thunnus albacares*

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