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Analyses of biometric parameters, feeding, and fisheries aspects of Spotted Sardinella (*Amblygaster sirm*) occurring along the Negombo coastal waters of Sri Lanka

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Amblygaster sirm is one of the major food fish in the small pelagic fishery in Sri Lanka. The study analyzed biometric parameters, feeding habits, and fisheries aspects of *A. sirm* in Negombo coastal waters. Two hundred *A. sirm* individuals were collected from the Negombo fish landing center and monthly interval from August 2022 to March 2023. The weight and total length of the collected fish ranged from 17.50 g - 109.00 g and 12.80 cm - 22.60 cm respectively. The length-weight relationship ($W=aL^b$) of males, females and pooled was $W= 0.0029\ TL^{3.3546}$, $W= 0.0035\ TL^{3.2819}$ and $W= 0.0030\ TL^{3.3459}$. The significant deviation of the 'b' values from 3.0 indicates an allometric growth pattern for *A. sirm* in the coastal waters of Negombo (one-sample t-test-$p<0.05$). The Fulton's condition factor (K) using the formula $K = 100*W/TL$, 0.9047 ± 0.1074, 0.94392 ± 0.08699 and 0.92331 ± 0.09995, for males, females and pooled respectively. The stomach-fullness of fish examined: were 40% empty, 15% one-fourth full, 12.5% half full, 27.5% three-fourth full, and 5% full stomach. Food and feeding analyses showed that ingested food includes 14.29% of phytoplankton including 1.53% of algae, 23.98% of mollusc larvae, 25.51% of crustacean larvae, 15.31% of fish eggs, 12.76% of arthropod appendages, 2.55% of synthetic fibers and 4.08% of unknown particles. According to the average Gastro Somatic Index, the highest and lowest feeding intensities using stomach fullness index were observed in the size class of 17.5 cm - 18.5 cm and 12.5 cm - 13.5 cm respectively. Their most preferred prey was crustacean larvae. The major vessel type used in fishing was Fiberglass Reinforced Plastic (OFRP) boats, operated within 15 - 20 fathom in depth. The small mesh drift gillnets with 31.75 mm and 38.1 mm mesh sizes was popular among the community. Of that, 38.1 mm mesh sizes are widely used. Synthetic materials in stomach content provide compelling evidence of the widespread contamination of marine ecosystems by human-made materials. The ingestion of these synthetic materials by fish poses a threat not only to their health but also to the overall ecological balance of marine habitats. Therefore, long term monitoring and research is recommended for the sustainable utilization of spotted sardinella fishery resources in Sri Lankan coastal waters.

Keywords: Biometric parameters, Feeding habit, Fisheries aspects, Spotted Sardinella