

Some aspects of the population characteristics of key Anchovy species in the West coast of Sri Lanka

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The two Anchovy species, *Stolephorus commersonnii* and *Encrasicholina heteroloba* contribute significantly to the year-round coastal fishery of Sri Lanka. Although the anchovy fishery is well-established in the country, information especially relating to population dynamics is still lacking. As such, this study aims to determine the length–weight (L-W) relationship and size at maturity of the two species in the West coast of Sri Lanka. Length and weight data of 2,110 individuals of both species, caught by drift gillnets with the mesh size ranging from 5 to 14 mm were collected monthly at the landing sites in Negombo and Chilaw fisheries districts during the period from January to December 2021. The sex ratio was observed as 1:1.32 and 0.84:1 (F:M) for *E. heteroloba* and *S. commersonnii* respectively. The L-W relationship obtained from linear regression for male and female *E. heteroloba* were $\text{Log } W = -4.943 + 2.892 \log \text{ TL}$ and $\text{Log } W = -5.256 + 3.052 \log \text{ TL}$ respectively. The estimated L-W relationship for male and female *S. commersonnii* were $\text{Log } W = -7.028 + 2.1246 \log \text{ TL}$ and $\log W = -6.031 + 1.124 \log \text{ TL}$ respectively. A negative allometric growth was reported for both sexes of *S. commersonnii*. However, positive allometric growth and negative allometric growth were reported for female and male *E. heteroloba* respectively. There was no significant difference ($P > 0.05$) between male and female regression co-efficient for both species. The size at first maturity (L_{50}) was, 74.2 mm and 76.3 mm for male and female *E. heteroloba* and 76.8 mm and 77.9 mm for male and female *S. commersonnii*. This study reports the results of the length- weight relationship, sex ratio and size at maturity of the two anchovy species. The findings of the study will be useful in the management of the Anchovy fishery. However, further studies related to stock status are recommended to ensure the sustainability of Anchovy resources in the West coast of Sri Lanka.

Keywords: *Encrasicholina heteroloba*, length-weight relationship, sex ratio, *Stolephorus commersonnii*,

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