Gillnet selectivity pattern of *Amblygaster sirm* (Clupeidae) in the West coast of Sri Lanka

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The coastal fisheries exploitation in Sri Lanka has shown some alarming signals as many small pelagic fish resources including *Amblygaster sirm* are being threatened. *A. sirm* is one of the key species available in commercial landings and are mainly harvested by using small meshed gillnets. The presence of higher percentages of immature *A. sirm* in gillnet catches can severely impact the fish populations.The present study on gill net selectivity for *A. sirm* was conducted in the west coast of Sri Lanka from January to December 2017, in order to determine the optimal fish lengths of each gillnet with respect to length at maturity and to provide mesh size regulations towards the sustainability of the resource. Mesh-wise total lengths of fishes were collected at the main fish landing sites of Beruwala, Negombo, Chilaw and Kandakuliya. Maturity studies were also carried out using randomly selected fish samples. The study revealed that seven stretched mesh sizes (2.54, 2.70, 2.86, 3.02, 3.33, 3.65 and 3.81 cm) are being used to catch *A. sirm*. The size of recorded *A. sirm* ranged between total lengths of 8.5 cm to 22.0 cm. The optimum selections of lengths of above mesh sizes were 13.04, 13.13, 14.48, 14.97, 16.38, 18.84 and 18.52 cm respectively. According to the maturity studies, it was confirmed that the length at maturity of *A. sirm* was 15.25 cm. Therefore, it can be determined that gillnets with mesh sizes of 2.54, 2.70, 2.86 cm are mainly targeting fish below 15.25 cm and are not suitable for the fishery of *A. sirm*. This study further revealed the necessity of restricting some of the existing small meshed gillnets in order to control the overfishing.

Keywords: gillnet selectivity, maturity, fishery, *Amblygaster sirm*

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