Some Aspects of the Population Characteristics of Selected Marine Fish Species (*Ambligaster sirm*, *Hyporhamphus dussumieri*, *Decapterus russelli* and *Atule mate*) in Trincomalee District

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Coastal fisheries of the eastern coast considerably contribute to the total marine fish production of Sri Lanka. Beach seining and gillnet fishing are renowned fishing practices in Trincomalee district and its catch mainly consisted of *Ambligaster sirm*, *Hyporhamphus dussumieri*, *Decapterus russelli*, and *Atule mate*. Fish population studies can determine the need for management measures to manage overexploiting fish stocks. However, detailed population studies on the above species are lacking. Therefore, the present study aimed at determining particular population parameters of selected fish species for evaluation of stock status. In total, 1187 individuals belong to four species were collected from four landing sites in Trincomalee district from October 2019 to January 2020. Samples were collected from gillnet catches. Total length and total body weight were measured to the nearest millimeter and nearest gram respectively. Total length ranges from 115 to 210 mm for *A. sirm*, 110 to 225 mm for *D. russelli* and 93 to 220 mm, and 200 to 274 mm for *A. mate* and *H. dussumieri* respectively. Results showed negative allometric growth ($b<3$) for *A. sirm* and *D. russelli* species. This concludes *A. sirm* and *D. russelli* in the study area can grow faster in length than in weight whereas positive allometric growth was recorded for *A. mate* and *H. dussumieri* ($b>3$). Stock status was determined using the Length Based Spawning Potential Ratio model. Result showed, Spawning Potential Ratio as 29% for *D. russelli* which signs status of the stock is above a limit reference point, stock status of *H. dussumieri* was determined as sustainably exploited with Spawning potential ratio of 33%. *A. sirm* and *A. mate* were determined as below limited reference point with spawning potential ratio of 12%. Accordingly, *A. sirm* and *A. mate* population in the study area is overexploited. In conclusion, *A. sirm* and *A. mate* population in Trincomalee district needs to be managed for a sustainable fishery.

Keywords: Length-weight relationship, Barefoot ecologist toolbox, Condition factor, Spawning Potential Ratio