

Biology of Salema (*Sarpa Salpa* (L.)) and Population off Gökceada (Northern Aegean Sea, Türkiye): A Macro herbivore Species Living in Sea Grass Beds

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Abstract : The fish, *Sarpa salpa* (L.), is one of the main macroherbivores in the Mediterranean. A total of 600 Salema individuals were collected from around Gökceada, Sea of Northern Aegean, between January 2014 and January 2015 in order to evaluate some information on the biology of the Salema population. For this aim, measurements of the Salema were obtained using a caliper. The age readings were made from otoliths. The population was composed of 6 age classes (I-VI). The total lengths and total weights of sampled fish were determined to be ranged from 12.5 to 33.1 cm and 33.57 to 559.33 g, respectively. Length-weight relationship for all individuals was calculated as $W=0.0085*L^{3.1723}$, $R^2=0.9524$. Growth parameters were determined as $L_{\infty}= 35.55\text{cm}$, $k=0.31$, $t_0= -9.2$, $\phi'=2.60$. As the sexual ratio was 1.08:1 (M: F), the Salema population consisted of 51.66% male and 47.5% female individuals. The highest average condition factors were observed for females in May (1.68) and for males in May (1.67). According to gonad somatic index values, the spawning period was determined twice a year in spring (April) and autumn (October). The highest average hepatosomatic index value was observed for all individuals in May and December. It was estimated that total (Z) mortality, natural (M) mortality, and fishing (F) mortality rates were $Z=0.44\text{ year}^{-1}$, $M=0.064\text{ year}^{-1}$ and $F=0.38\text{ year}^{-1}$, respectively. As the exploitation rate was estimated as $E=0.86$, it can be shown that the Salema stock was highly influenced by overfishing.

Keywords : biology, sarpa salpa, Gökceada, meadows

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