

SOME BIOLOGICAL ASPECTS OF *SERRANUS HEPATUS* L., 1758 IN IZMIR BAY (AEGEAN SEA, TURKEY)

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Abstract

A total of 2304 specimens of brown comber *Serranus hepatus* (Linnaeus, 1758) were collected with bottom trawl from Izmir Bay (Aegean Sea, Turkey) between January 2005-December 2005, monthly. Total length (TL) and weight (W) ranged from 4.4 to 11.7 cm and 1.16 to 25.49 g, respectively. The estimated length-weight relationship for all fishes had a slope of 2.8896.

Keywords: Aegean Sea, Teleostei.

Introduction

Brown comber, *Serranus hepatus* (Linnaeus, 1758), is a small, demersal serranid species distributed in coastal waters, occurring along the coasts of the Eastern Atlantic Ocean from Portugal to the Canaries and the Mediterranean Sea [1]. It is common in *Posidonia* beds, sandy and muddy bottoms down to 100 m depths [2]. Because of its small size, *S. hepatus* has not commercial value in Turkish fisheries. This paper presents some biological parameters of brown comber caught in Izmir Bay.

Materials and methods

Samples were monthly obtained from three stations (station I 38° 28'N 26° 46' E; station II 38° 33'N 26° 43' E; station III 38° 32'N 26° 40' E) by R/V Egesif (27 m LOA, 500 hp) between January 2005 to December 2005 around Uzunada Island, in the western part of Izmir Bay (Figure 1). In the samplings, a traditional bottom trawl net was used to capture small size fish species by a 24 mm stretched mesh size codend. The towing duration was 30 min for all hauls and the average towing speed was 2.4 knots (ranging between 2.0 and 2.8 knots). Length-weight relationship ($W=a * L^b$) and length-weight frequencies of samples were calculated based on 2304 individuals. Total and standard lengths were measured to the nearest mm and weights were taken using a digital balance with a precision of 0.01 g.

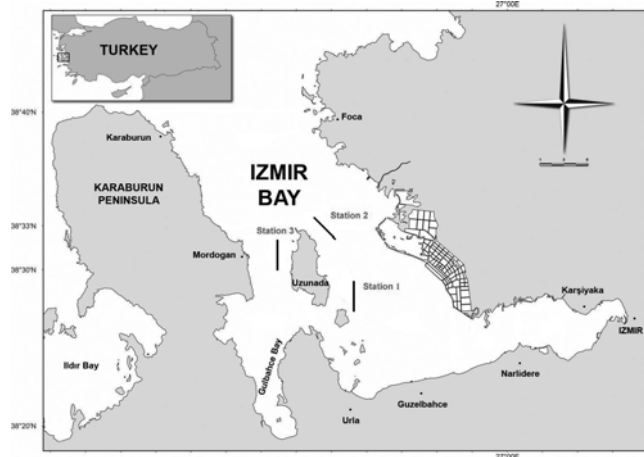


Fig. 1. Izmir Bay and bottom trawl sampling stations.

Results and discussion

The depth range of the sampling stations varied from 40 to 50 m, 55 to 65 m and 15 to 50 m, respectively. Stations I and II have silt sediment, and station III sandy bottom type with dense *Posidonia* meadows.

The total length of all measured specimens ranged from 4.4 to 11.7 cm (9.5 ± 0.8 cm, mean \pm SD) and weight from 1.16 to 25.49 g (13.42 ± 3.2 g, mean \pm SD). The length and weight frequencies exhibited peaks between 9.00-10.50 cm (68 %) and 12.00-16.00 g (46 %), respectively (Figure 2).

There was a strong relationship between total length and standard length: $SL = 0.8625 TL - 0.4723$ ($n = 259$, $r^2 = 0.971$).

Length-weight relationship was $W = 0.0196 TL^{2.8896}$ ($n = 2304$, $r^2 = 0.8937$, SE of slope = 0.020). Negative allometric growth was observed for all fish (t -test, $t = 0.54 < t_{0.05, n > 500} = 1.65$). The value of parameter a was lower than that in Iberian Peninsula and Balearic Sea, Spain ($a = 0.0044$, $n = 22$, $r^2 = 0.928$) [3] and Alexandria, Egypt ($a = 0.025$, $n = 153$, $r^2 = 0.948$) [4], and higher than those in Adriatic ($a = 0.0112$, $n =$

87, $r^2 = 0.977$) [5] and Thracian Sea, Greece ($a = 0.0113$, $n = 1739$, $r^2 = 0.960$) [6]. Our parameter b value was lower than those in other areas, $b = 3.5681$ [3], $b = 3.123$ [5] and $b = 3.157$ except for that in Alexandria waters, Egypt ($b = 2.84$) [6]. This study was supported by Ege University, Scientific Research Project Foundation.

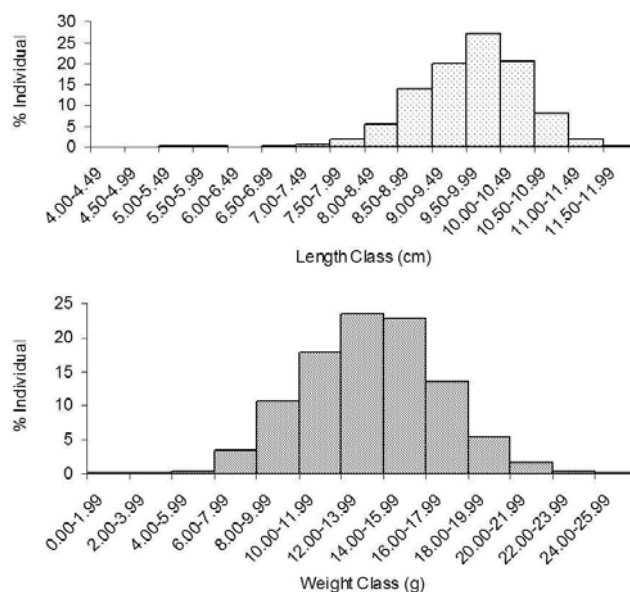


Fig. 2. Observed length and weight frequencies of *Serranus hepatus* in Izmir Bay (sexes combined).

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