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RESEARCH ARTICLE

A study on maximum length record of saddled seabream (*Oblada melanura* Linnaeus, 1758) caught off Gökçeada Island (Northern Aegean Sea, Turkey)

Özgür Cengiz[1*]

[1] *Van Yüzüncü Yıl University, Fisheries Faculty, Van, Turkey*

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ABSTRACT

A single specimen of *Oblada melanura* with 29.1 cm in total length and 390.00 g in total weight was obtained off Gökçeada Island (Northern Aegean Sea, Turkey) with gill nets by fisherman on February 2, 2020. Its length and weight were the maximum length record of saddled seabream for Northern Aegean coasts of Turkey.

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Introduction

The saddled bream (*Oblada melanura* Linnaeus, 1758) is common throughout the Mediterranean and eastern Atlantic, inhabiting littoral waters above rocky bottoms and posidonia beds, up to 30 m depth (Bauchot and Hureau, 1986). They are omnivorous but feed mainly on small invertebrates (Froese and Pauly, 2019).

Throughout the world, the information on the growth and reproductive of *O. melanura* were given by Zaki et al. (1995) and Mahmoud (2010) from Egypt, by Pallaoro et al. (1998) from Eastern Adriatic. The feeding habits were studied by Pallaoro et al. (2003, 2004), as a summary. There are no studies

* Corresponding author
E-mail address: ozgurcengiz17@gmail.com (Ö. Cengiz)

about biological parameters of this species, except of its length-weight relationships in the Turkish seas.

Accurate estimates of the maximum size of fish in a population are important for biologists and ecologists because biological rates and ecological functions are size-specific (Peters, 1983; Pope et al., 2005). For example, metabolic rate is inversely related to body size, whereas total food intake is positively related to body size. Size at hatch, size at sexual, maturation and longevity are directly related to maximum size of fishes (Freedman and Noakes, 2002; van der Veer et al., 2003). Maximum length or weight is a key component in many fishery models, such as the von Bertlanffy and Gompertz growth models (Quinn and Deriso, 1999). This study presents the maximum length of *O. melanura* for the Northern Aegean coasts of Turkey.

Material and Methods

Gökçeada Island, the westernmost point and the largest island of Turkey, is located in the Northern Aegean Sea at the entrance of Saros Bay. The waters coming from the Black Sea and Marmara Sea, mixing with the warmer saltier water of the Aegean Sea, forms a rich marine ecosystem. For this reason, the fishing is quite vital for the Island.

A single specimen of *O. melanura* was obtained off Gökçeada Island (Figure 1) with gill nets by a fisherman on February 2, 2020. Total length is defined as the measurement taken from the anterior-most part of the fish to the end of the caudal fin rays when compressed dorso-ventrally (Anderson and Gutreuter, 1983). Therefore, the specimen was subsequently measured to the nearest mm and weighted to the nearest g.

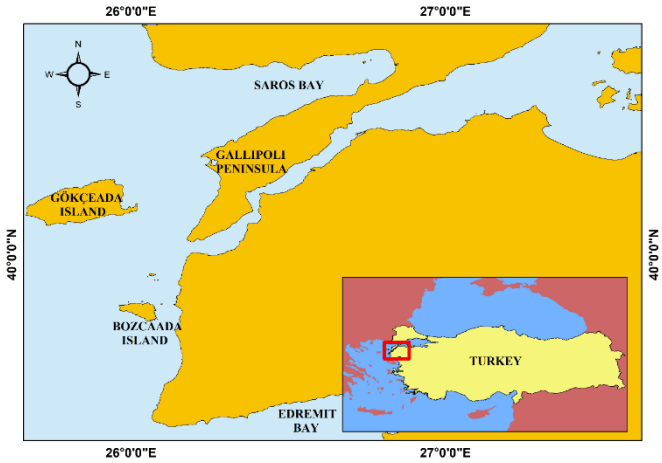

Figure 1. The Northern Aegean coasts of Turkey and Gökçeada Island

Results

A single specimen of *O. melanura* with 29.1 cm in total length and 390.00 g in total weight (Figure 2) was obtained off Gökçeada Island.

Figure 2. *O. melanura* with 29.1 cm in total length and 390.00 g in total weight

Table 1. The comparison of the lengths and weights for the saddled seabream in the Northern Aegean coasts of Turkey

Author(s)	Area	N	Fishing Method	L_{max} (cm)	W_{max} (g)
Karakulak et al. (2006)	Gökçeada Island	25	Gill and trammel nets	28.2	-
Cengiz (2013)	Gallipoli Peninsula	97	Handline, gill and trammel nets	26.1	222.36
Öztekin et al. (2016)	Gallipoli Peninsula	4	Longline	25.8	207.00
This study	Gökçeada Island	1	Gill nets	29.1	390.00

It has been recorded the maximum length of the species in the Mediterranean to be 35.7 cm in total length (Akyol et al., 2014). The comparison of the lengths and weights for the saddled seabream in the Northern Aegean coasts of Turkey is given in Table 1.

If a fish population in any ecosystem is exposed to overfishing, fish sizes will gradually be smaller over time. Therefore, individuals who are not subjected to overfishing could reach such a length. However, the factors affecting growth could state as nutrient availability, feeding, light regime, oxygen, salinity, temperature, pollutants, current speed, nutrient concentration, predator density, intra-specific social interactions, and genetics (Helfman et al., 2009; Acarli et al., 2018). Hereby, it follows from these comments that the regional

differences in maximum length and weight depend on the ecological conditions and overfishing pressure (Cengiz, 2019; Cengiz et al., 2019a). The northern Aegean Sea is mainly affected by upwellings. The upwellings occur in the Aegean Sea (Metaxas, 1973) due to summer's (August-September) strong northerly winds. Due to the subsurface cool water upwellings, surface temperature differences create a thermal front between the eastern and western regions of the northern Aegean Sea (Zodiatis and Balopoulos, 1993). Moreover, the less saline and nutrient-rich Black Sea inflow is possibly an important factor in changes in environmental conditions (Altın et al., 2015).

Conclusion

Maximum length and weight are important parameters used in life history studies and fishery science. (Borges, 2001; Cengiz et al., 2019b). These measurements are necessary for population dynamics and stock assessment studies. Hence, the recording of such data may be beneficial for scientific databases for life history and fisheries science (Cengiz et al., 2019c). This finding will play an important role in fisheries management.

Conflict of Interest

The authors declare that there is no conflict of interest.

Ethical Approval

For this type of study, formal consent is not required.

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