



## SHORT COMMUNICATION

### An observation about maximum size record of blotched picarel (*Spicara maena* Linnaeus, 1758) from Northern Aegean coasts of Turkey

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#### ABSTRACT

Maximum length and weight are important parameters and they are commonly used in life history studies and fishery science. Therefore, it is important to regularly bring up to date the maximum size of commercially important species. The accurate estimates of the maximum size of fish in a population are important issues. Because the parameters related to maximum length, weight and age in fish communities within an ecosystem are constantly used in population dynamics and stock estimation studies, recording of such data is vital for determining the life history of fish. In this connection, a single specimen of blotched picarel (*Spicara maena*) with 20.3 cm in total length and 159.00 g in total weight was caught off Saros Bay (Northern Aegean Sea, Turkey) with handline at 20 m water depth by a commercial fisherman on October 20, 2019. Its length and weight were the maximum values of *Spicara maena* for Saros Bay.

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#### Introduction

Blotched picarel (*Spicara maena* Linnaeus, 1758) is a commercial species inhabiting the Mediterranean Sea, the Black Sea, and the European and African coasts of the Atlantic Ocean, from Morocco to Portugal and the Canary Islands (Jardas, 1996). This species mostly occurs over *Posidonia* beds and sandy or muddy bottoms, and distributes up to 100 m depth. *S. maena* feeds on mainly zooplankton and is a protogynous hermaphrodite (Froese and Pauly, 2019).

As to Turkish seas, information on the biology of species come from Saros Bay (Cengiz, 2019), Gallipoli Peninsula (Cengiz et al., 2014), Sea of Marmara and Edremit Bay (Saygılı et al., 2016), Izmir Bay (Soykan et al., 2010) and Babadillimani Bight (Çiçek et al., 2007), as a summary.

Maximum length and weight are important parameters used in life history studies and fishery science. These measurements applied directly or indirectly in most stock assessment models (Borges, 2001). Therefore, it is important to regularly update the maximum size of commercially important

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species (Navarro et al., 2012). Its length and weight were the maximum values of *Spicara maena* for Saros Bay (Northern Aegean Sea, Turkey).

### Material and Methods

Saros Bay, which is situated in the Northeastern Aegean Sea, is connected to the North Aegean Sea with a depth of approximately 600 m to the west. The shelf extends at a water depth of 90-120 m. The length of the bay is about 61 km and the width at the opening to the Aegean Sea is about 36 km (Eronat and Sayın, 2014). As Saros Bay had been closed to bottom trawl fishing since 2000 (Cengiz et al., 2011) and no industrial activity was prevalent in the area (Sarı and Çağatay, 2001), the bay can be considered as a pristine environment (Cengiz et al., 2013; Cengiz et al., 2019).

A single specimen of *Spicara maena* was caught off Saros Bay (Figure 1) with handline by a commercial fisherman from 20 m depth on October 20, 2019. 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.

### Results and Discussion

The blotched picarel obtained from Saros Bay was 20.3 cm in total length and 159.00 g in total weight (Figure 2). The comparison of the maximum lengths and weights *Spicara maena* for Northern Aegean coasts of Turkey is given in Table 1.



**Figure 2.** The blotched picarel with 20.3 cm in total length and 159.00 g in total weight

The 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). 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 (Filiz, 2011). 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). It could be possible that the sampled specimen had reached to such length on account of the high nutritional concentration and intensive feeding activities.



**Figure 1.** The Northern Aegean coasts of Turkey (1: Edremit Bay; 2: Bozcaada Island; 3: Gökçeada Island; 4: Gallipoli Peninsula; 5: Saros Bay)

**Table 1.** The comparison of the maximum lengths and weights *Spicara maena* for Northern Aegean coasts of Turkey

Author(s)	Area	N	L <sub>max</sub> (cm)	W <sub>max</sub> (g)
Karakulak et al. (2006)	Gökçeada Island	830	22.0	-
İşmen et al. (2007)	Saros Bay	353	17.8	67.00
Karakulak and Erk (2008)	Gökçeada Island	897	21.9	-
Altın et al. (2015)	Gökçeada Island	77	16.8	55.31
Saygılı et al. (2016)	Edremit Bay	168	18.8	157.88
Cengiz (2019)	Saros Bay	620	17.8	82.23
This study	Saros Bay	1	20.3	159.00

**Note:** \*; L<sub>max</sub> is the maximum total length, W<sub>max</sub> is the maximum total weight

## Conclusion

In order to obtain more reliable results from the studies on fish stocks, if possible, it is important that such proven researches is carried out separately for each fish species along with its weight-height relationships and updated within certain time periods. Thus, the findings to be obtained in the light of this information can reveal the current situation of stock more clearly. This enables the strategies planned in fisheries management to be built on more solid foundations.

## Compliance with Ethical Standards

### Conflict of Interest

The author declares that there is no conflict of interest.

### Ethical Approval

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

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