

**Maximum Length and Weight of Sharpsnout Seabream (*Diplodus puntazzo* Walbaum, 1792) for Black Sea and East Mediterranean Sea**

**Dođu Akdeniz ve Karadeniz için Sivriburun Karagözün (*Diplodus puntazzo* Walbaum, 1792) Maksimum Boy ve Ağırılık Kaydı**

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Türk Denizcilik ve Deniz Bilimleri Dergisi

Cilt: 5 Sayı: 2 (2019) 127-132

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**ABSTRACT**

On the shores of the Black Sea in Ordu province, a male *Diplodus puntazzo*, 454 mm long and weighing 1186.48 g was sampled on 15 March 2019 with a trammel net that was set for demersal fish species. This individual is the largest that has been

reported from the Black Sea, Sea of Marmara, Aegean Sea and Eastern Mediterranean Sea.

**Keywords:** *Diplodus puntazzo*, Sharpsnout seabream, Maximum size, Black Sea, Mediterranean, Turkey

*Article Info*

Received: 01 October 2019

Revised: 23 October 2019

Accepted: 24 October 2019

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## ÖZET

Karadeniz’de Ordu ili sahilllerinde, demersal balık türlerinin örnekleme amacıyla kullanılan fanyalı dip uzatma ağılarıyla 15 Mart 2019 tarihinde 454 mm uzunluğunda ve 1186.48 g ağırlığında erkek *Diplodus puntazzo* bireyi örneklemiştir. Örnekleme bu birey Karadeniz, Marmara, Ege ve Doğu Akdeniz için en büyük birey olarak kayıt altına alınmıştır.

**Anahtar sözcükler:** *Diplodus puntazzo*, Sivriburun karagöz, Maksimum büyüklük, Karadeniz, Akdeniz, Türkiye

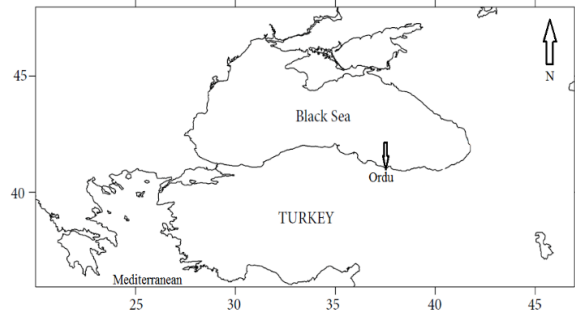
### 1. INTRODUCTION

Sharpsnout seabream (*Diplodus puntazzo* Walbaum, 1792), is a member of Sparidae family with a distribution range from Strait of Gibraltar to the Black Sea (except for the northwestern coast and the Sea of Azov) (Bauchot *et al.*, 1986; Russell *et al.*, 2014). Due to the global warming of seawater temperatures, it continues to spread across the northern European coast of the Atlantic Ocean (Vinagre *et al.*, 2010). It is a common species of the Mediterranean Sea, Aegean Sea and the Sea of Marmara (Russell *et al.*, 2014). Although it inhabits the water column up to 150 m depth, it is a demersal fish that usually lives in 5-20 m depths with a rocky bottom structure (Kraljević *et al.*, 2007; Fischer *et al.*, 1987; Russell *et al.*, 2014). This hermaphrodite species can grow up to 60 cm long but generally it is between 15-30 cm (Fischer *et al.*, 1987). It is considered as a long living species, where 10 years of age was reported from the Canary Islands (Dominguez-Seoane *et al.*, 2006), and 18 years from the Adriatic Sea (Kraljević *et al.*, 2007). While the breeding period is from September to February, the most intense reproduction occurs in November in the northwest of Africa (Pajuelo, 2008). The average production of sharpsnout seabream in Turkey this past decade was 10.2 tons (TUIK, 2018). This commercially important species is reported to feed mostly on mollusk, seaweed and shrimp species (Froese and Pauly, 2019).

In this study, the maximum size of sharpsnout seabream registered to the Black Sea, Sea of Marmara, Aegean Sea and the Eastern Mediterranean is presented.

### 2. MATERIAL AND METHOD

On the shores of the Black Sea in Ordu province (Figure 1), a male *D. puntazzo*, 454 mm long and weighing 1186.48 g was sampled on 15 March 2019 with a trammel net (inner mesh size: 80 mm) that was set for demersal fish species.



**Figure 1.** Map of the sampling area.

The total length of the sampled individual was measured with a sensitivity of  $\pm 1$  mm, and weighted with a sensitivity of  $\pm 0.01$  g. This individual, with the maximum reported length of the Aegean Sea and the Eastern Mediterranean Sea (Figure 2), was identified according to Mater *et al* (2009) and its scientific name was checked from Fishbase (Froese and Pauly, 2019).



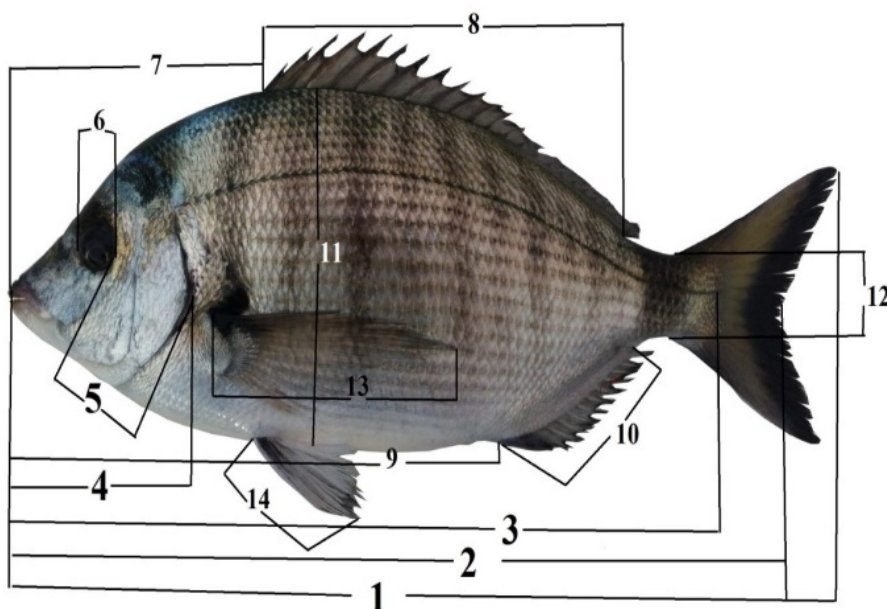
**Figure 2.** A male *Diplodus puntazzo* with 454 mm total length and 1186.48 g weight in the Black Sea

### 3. RESULTS

The measured morphometric measurements of the sampled 454 mm long and 1186.48 g individual are given in

Figure 3.

The metric and meristic characteristics of the male individual are given in Table 1.



**Figure 3.** Overview of the morphometric measurements used in this study (1: Total length, 2: fork length, 3: standard length, 4: head length, 5: post orbital length, 6: eye diameter, 7: predorsal fin distance, 8: dorsal fin base length, 9: preanal fin distance, 10: anal fin base length, 11: body depth, 12: minimal caudal peduncle depth, 13: pectoral fin length, 14: pelvic fin length)

**Table 1.** Metric and meristic values for *Diplodus puntazzo* in the Black Sea (Ordu, Turkey)

Measurements	
Sex	Male
Total length (mm)	454
Weight (g)	1186.48
Standard length (mm)	366
Fork length (mm)	395
Body depth (mm)	135.95
Head length (mm)	100.4
Post orbital length (mm)	41.78
Eye diameter (mm)	18.04
Predorsal fin distance (mm)	142.05
Dorsal fin base length (mm)	178.2
Preanal fin distance (mm)	269
Anal fin base length (mm)	66.28
Pectoral fin length (mm)	109.53
Pelvic fin length (mm)	60.27
Minimal caudal peduncle depth (mm)	33.59
Dorsal fin	XI/14
Anal fin	III/13
Pectoral	15
Pelvic	I/5
Caudal	23
Lateral line	63

#### 4. DISCUSSIONS

This species can grow up to 60 cm long but generally it is between 15-30 cm (Fischer et al., 1987). It is considered as a long living species, where 10 years of age was reported from the Canary Islands (Dominguez-Seoane et al., 2006), and 18 years from the Adriatic Sea (Kraljević et al., 2007). Kraljević et al., (2007) also the reported largest registered individual from the eastern Adriatic Sea as 46.7 cm and 1545 g. A study from the Black Sea by Aydın and Sağlam (2019) reported the largest registered individual as 41.6 cm and 1007.2 g. The individual that was sampled in this study, 45.4 cm and 1186.48 g, is the largest registered sharpsnout seabream for the Black Sea, Sea of Marmara, Aegean Sea and the eastern Mediterranean, and second largest for the whole Mediterranean Sea. The other studies conducted in the Black Sea, Sea of Marmara, Aegean Sea, Adriatic and the Mediterranean Sea are given in Table 2. The maximum length that this species can reach was given by Fischer

et al., (1987) as 60 cm.

*D. puntazzo* is a local species of the Black Sea (Russell et al., 2014) and its population is increasing daily (Personel observation). Yet, there is only one study from the Black Sea, conducted by Aydın and Sağlam (2019). In recent years, a large part of the coastal areas of the southern Black Sea have been filled, due to road construction, airport construction and land reclamation. Contrary to the negative effects of the infilled areas to the coastal habitats there have had positive effects to the population increase of the species (shi drum, brown meagre, sharpsnout seabream, annular seabream, scorpionfish, seabream, seabass, sand striped sea bream, etc.) which inhabit rocky habitats. Lately there has been an increase in these species (Aydın and Sozer, 2016). Since there are very sparse algae communities when compared to the Mediterranean Sea and Aegean Sea shores, the rocky areas cannot provide sufficient shelter for the juveniles of these species. These juveniles inhabit the sparse algae communities of the rocky habitats, and as

they grow, they migrate to deeper waters (Fischer et al., 1987). It is thought that the infilled shore areas provide suitable habitats for the young of these species. There is no study on sharpsnout seabream population structure in the Black Sea. With

this study, the maximum length registered for the Black Sea, Sea of Marmara, Aegean Sea and eastern Mediterranean Sea has been updated.

**Table 2.** The other studies conducted in the Black Sea, Sea of Marmara, Aegean Sea, Adriatic and the Mediterranean Sea

References	Locality	N	L <sub>max</sub> (cm)	W <sub>max</sub> (g)
Karakulak et al., (2006)	Aegean Sea	7	25.2	-
Özaydın et al., (2007)	Aegean Sea	27	21.4	-
Kraljević et al., (2007)	Adriatic Sea	630	46.7	1545.00
Kapiris and Klaoudatos (2011)	Aegean Sea	29	23.9	209.00
Chaouch et al., (2013)	Mediterranean	490	26.1	230.83
Altın et al., (2015)	Aegean Sea	87	24.5	209.80
Öztekin et al., (2016)	Marmara	2	32.3	535.00
Kara et al., (2017)	Aegean Sea	61	13.5	41.30
Aydın and Sağlam (2019)	Black Sea (Hopa)	11	41.6	1007.2
This study	Black Sea (Ordu)	1	45.4	1186.48

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