

The New Locality Record of *Centrolophus niger* (Gmelin, 1789), from Büyükeceli Coast (North-Eastern Mediterranean Sea)

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Abstract: A female rudderfish, *Centrolophus niger* (Gmelin, 1789) was caught by a trawler boat at a depth of 400 m on the shores of the Büyükeceli (Northeastern Mediterranean Sea). Its total length was 51.9 cm. This paper reports the fifth location along the Mediterranean and Aegean Sea coast of Turkey and the presence of the species in the Büyükeceli coast from the Mediterranean coast of Turkey.

Keywords: Rudderfish, Record, Mersin Bay, Turkey

Büyükeceli Sahilindeki (Kuzey-Doğu Akdeniz) *Centrolophus niger* (Gmelin, 1789)'in Yeni Lokalite Kaydı

Özet: Büyükeceli kıyılarında (Kuzey-Doğu Akdeniz) 400 m derinlikte bir trol teknesi ile dişi bir *Centrolophus niger* (Gmelin, 1789) bireyi avlanmıştır. Bu bireyin boyu 51,9 cm bulunmuştur. Bu çalışma Türkiye'nin Akdeniz ve Ege sahilleri boyunca beşinci lokalite kaydı verilmiş ve aynı zamanda Türkiye'nin Büyükeceli Akdeniz kıyısından bu türün ilk kez varlığı rapor edilmiştir.

Anahtar Kelimeler: Kara Balık, Kayıt, Mersin Körfezi, Türkiye

Introduction

Centrolophus niger (Gmelin, 1789) belongs to the Centrolophidae family of Perciformes. It is an oceanic species and has a wide range in the Atlantic, Indian and Pacific Oceans (Froese & Pauly, 2018). It is reported to be at depths of 40 -1050 m between the epipelagic and mesopelagic zones; generally, between 300 and 700 m (Haedrich, 1990; Piotrovsky, 1994). Juvenile individuals of the species are found in surface waters, while adult individuals live in deep waters (Haedrich, 1986a). Its prey consists mainly of small fish, cephalopods, pelagic crustaceans and plankton (Haedrich, 1986a).

To date four different species (*Hyperoglyphe perciformis*, *Schedophilus medusophagus*, *Schedophilus ovalis* and *C. niger*) have been reported in the Mediterranean Sea (Geldiay, 1969; Labropoulou & Papaconstantinou 2000; Quignard & Tomasini, 2000; Bilecenoglu et al. 2002; Corsini-Foka & Frantzis, 2009). *C. niger* and *S. ovalis* were recorded from the Eastern Mediterranean (Erguden et al., 2012; Erguden et al., 2013) and the Western Mediterranean (Balearic Island) (Massuti et al., 1999). Golani et al.

(2006) argues that these two species are rarely seen in the Eastern basin of the Mediterranean Sea. Besides, *C. niger* was also recorded in Greek waters of the Mediterranean (Bauchot, 1987; Papaconstantinou, 1988). Further reports of the species have been documented several times from the Mediterranean waters (Relini et al. 1994; Sartor et al. 2001; D'Ongchia et al. 2003 and Politou et al. 2003).

The first record of *C. niger* from the Turkish coastal waters was reported from the Izmir Bay (Akyol, 2008) followed by a second report from the same region in 2009 (Ceyhan & Akyol, 2010). Then, Erguden et al. (2012) reported the presence of this species in the Eastern Mediterranean coast of Turkey (Iskenderun Bay)

This study reports the presence of an adult female specimen *C. niger* in Mersin Bay (Büyükeceli Coast) and discusses the current status of this species in the Turkish coastal waters.

Material and Methods

At a depth of 400 m a commercial trawl caught a single *Centrolophus niger* specimen on 24 February 2018 off Büyükeceli coast (36°05'55.1"N

33°29'18.7"E) (Figure 1). This specimen was preserved in 4% formalin and was deposited in the Museum of the Systematics, Faculty of Fisheries, Mersin University, (catalogue number: MEUFC-18-11-057) (Figure 2). All morphometrics were measured to the nearest 0.01 mm using dial calipers.

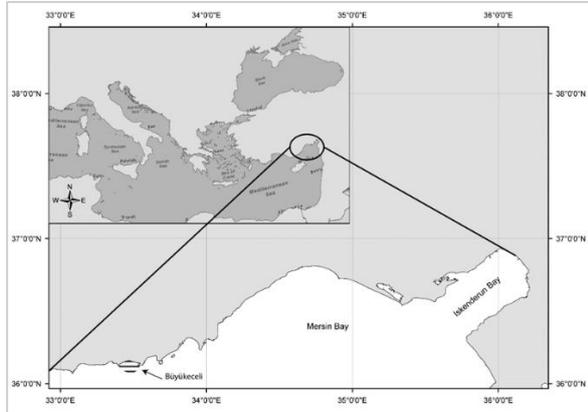


Figure 1. The shaded area indicates the location where the specimen was observed



Figure 2. The female specimen of *Centrolophus niger* from Büyükeceli coast, Turkey

earlier reports and suggests that only a limited number of individuals occur in the epipelagic zone.

Table 1. Morphometric measurements of *C. niger*

Morphometric characters	
Total length	51.9
Fork length	47.6
Standard length	43.4
Pre-dorsal length	18.4
Pre-anal length	23.8
Dorsal-Fin base length	17.2
Pre-pelvic length	11.5
Head length	10.3
Caudal peduncle length	7.8
Body depth	10.8
Peduncle depth	2.9
Pre-orbital length	3.1
Snout length	2.3
Eye diameter	2.1
Postorbital length	5.1
Pectoral length	6.1
Pelvicfin base length	3.9
Analfin base length	12.8
Body width	5.1
İnterorbital distance	3.9
Head Length/Standard Length (%)	24
Pre-dorsal length / Standard Length (%)	42
Pre-anal length/ Standard Length (%)	55
Maximum Body Depth / Standard Length (%)	25
Eye diameter / Head Length (%)	20
Snout length/ Head Length (%)	22
Pre-orbital length / Head Length (%)	30
İnterorbital length / Head Length (%)	38

Results

One individual of *C. niger* was caught in Mersin Bay. Morphometric measurements of *C. niger* are shown in Table 1. Other meristic measurements of the species are as follows: D, V-37-41, A-III, 20-24. The color of *C. niger* changes from dark brown to black, and sometimes it is almost bluish. Pectoral and pelvic fins are darker than body color. Young individuals have 2-4 vertical bars (Haedrich, 1986b). Snout is longer than eye diameter (Muus & Nielsen, 1999).

Discussion

C. niger is a rare species. It has a limited number of records (Akyol, 2008). According to the records given from the Northeast Mediterranean, a single specimen of this species was found (Ergüden et al., 2012; Farag, 2016). In the present study, only one individual was sampled during the whole survey. It was reported that *C. niger* had limited capacity to adapt to pelagic life and individuals of this species which had completed the developmental phase go to deep waters and therefore, limited number individuals of this species are found in the epipelagic zones (Parin, 1970, Massuti et al., 1999). Our finding supports these

In the present study, the total length of individual *C. niger* was 51.9 cm, however, the maximum standard length reported in the literature is 150 cm (Bauchot, 1987). On the other hand, the individual caught in Mersin Bay may be mature as its total length is close to the total length reported for the mature individuals of this species in the literature. Farrag (2016) reported that the specimen (45.4 cm) caught on the coast of Egypt was mature, whereas the individual caught in the Gulf of Iskenderun was immature (Ergüden et al., 2012). Unfortunately, no morphometric measurements belonging to mature specimens of *C. niger* were found in the literature. Therefore, the morphometric measurements of the current specimen could not be compared with those of other individuals with similar length. Therefore, the morphometric measurements of *C. niger* determined in this study provides important information for mature individuals of this species. Some morphometric measurements belonging to the immature individual of the species were presented by Ergüden et al. (2012). The total length of the individual was reported as 11.2 cm. The morphological size ratios of the immature specimen are Head Length/Standard Length (%): 29.9, Pre-

dorsal length / Standard Length (%): 33.5, Pre-anal length/ Standard Length (%): 52.2, Maximum Body Depth / Standard Length (%): 30.1, Eye diameter / Head Length (%): 25.1, Snout length/ Head Length (%): 26.2, Pre-orbital length / Head Length (%): 28.6, Interorbital length / Head Length (%): 42.6 were presented by Erguden et al. (2012). The differences in morphometric measurements among these studies may be due to the different stages of development.

As a result, the records of this species from the Eastern Mediterranean have been presented recently. Although there have been earlier records from the Western and Central basins of Mediterranean Sea. The first record of *C. niger* from the Northeast Mediterranean Sea was recorded from the Iskenderun Bay (Samandag coast) by Erguden et al. (2012) and the second record was made from the Egyptian coast by Farrag, (2016). Therefore, the captured specimen from the Mersin Bay is the third record for the Northeast Mediterranean, the first record for the Mersin Bay (Büyükeceli Coast).

Conclusion

The present finding from the Mersin Bay is the third record of *C. niger* for the Northeast Mediterranean, and the first record for the Mersin Bay (Büyükeceli Coast). Although *C. niger* is a circumglobal species with a wide distribution area, there is a limited number of records in the literature. The limited number of records of this species can be explained by the presence of adult individuals in deep waters and may be due to the limited abundant of the species. However, the existence of both adult and immature individuals in the Mediterranean shows that the species may constitute a population and it should be monitored.

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