

Maximum Size of Female *Alexandria pompano* *Alectis alexandrina* (Carangidae) in the Aegean Sea

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Abstract: A female specimen of *Alectis alexandrina* (710 mm TL) was caught on 15 July 2019 by an angler from the Bay of Gökova, Muğla, at a depth of 4 m. The specimen has the maximum size throughout the Turkish seas and it is fourth finding of this species for the Turkish Aegean Sea.

Keywords: Size, Measurement, Gonad, Stomach, Akyaka, Gökova Bay

Ege Denizi'nde Dişi İskender Balığı *Alectis alexandrina* (Carangidae)'nın Maksimum Boyutu

Özet: *Alectis alexandrina* (710 mm TL)'nin bir dişi bireyi 15 Temmuz 2019 tarihinde Gökova Körfezi'nden (Muğla) 10 m derinlikte bir oltacı tarafından yakalanmıştır. Bu örnek Türkiye denizleri boyunca maksimum boyuta sahipti ve Ege Denizi için bu türün dördüncü bulgusudur.

Anahtar Kelimeler: Boyut, Ölçüm, Gonad, Mide, Akyaka, Gökova Körfezi

Introduction

Alexandria pompano, *Alectis alexandrina* (Geoffroy Saint-Hilaire, 1817), is a benthopelagic marine fish species and its young individuals (up to 20 cm) characterized by very long and filamentous anterior rays of dorsal and anal fin (Golani, Öztürk & Başusta, 2006). Adults are solitary in coastal waters near bottom to at least 50 m and are strong swimmers. Juveniles are usually pelagic and drifting (Smith-Vaniz, 1986). It feeds on squid and other fishes (Smith-Vaniz, 1986). Maximum size is unknown but it has been reported to attain at least 70 cm fork length (Smith-Vaniz, 1986) and 80 cm in the Mediterranean (Bauchot, 1987). In Senegal, the maximum size is reported to be 90 cm (Sagna pers. comm. in Smith-Vaniz & Carpenter, 2015). According to fishbase, its maximum length is 100 cm TL, and maximum published weight is 3.2 kg (Froese & Pauly, 2019).

It distributes southern parts of Mediterranean (Syria, Israel, Malta, southern Spain, and Morocco) and eastern Atlantic off Morocco; elsewhere,

African coast southward to Angola (Smith-Vaniz, 1986). Smith-Vaniz & Carpenter (2015) stated that this species was widespread and common in the Eastern Central Atlantic, whereas, in the Mediterranean Sea, it was uncommon and very little was known about the population abundance and trends. However, more species-specific information on the population status, catch statistics, life history, biology and impact of major threats is needed. Therefore, this ichthyologic note presents a new report of a female *A. alexandrina* concerning with its maximal size and some gonad specifications and stomach content.

Material and Methods

On 15 July 2019, a female specimen of *A. alexandrina* with a total length (TL) of 710 mm (Figure 1) was captured by an angler from pier of Akyaka, Gökova Bay (Coordinates: 37°02'12"N - 28°19'21"E, Figure 2) at a depth of 4 m. This specimen was not preserved as whole body; however, it has been dissected for determining its some gonad specifications and stomach content.



Figure 1. *Alectis alexandrina*, caught from Gökova Bay, southern Aegean Sea (Photo: T. Çoker), horizontal bar: 50 mm

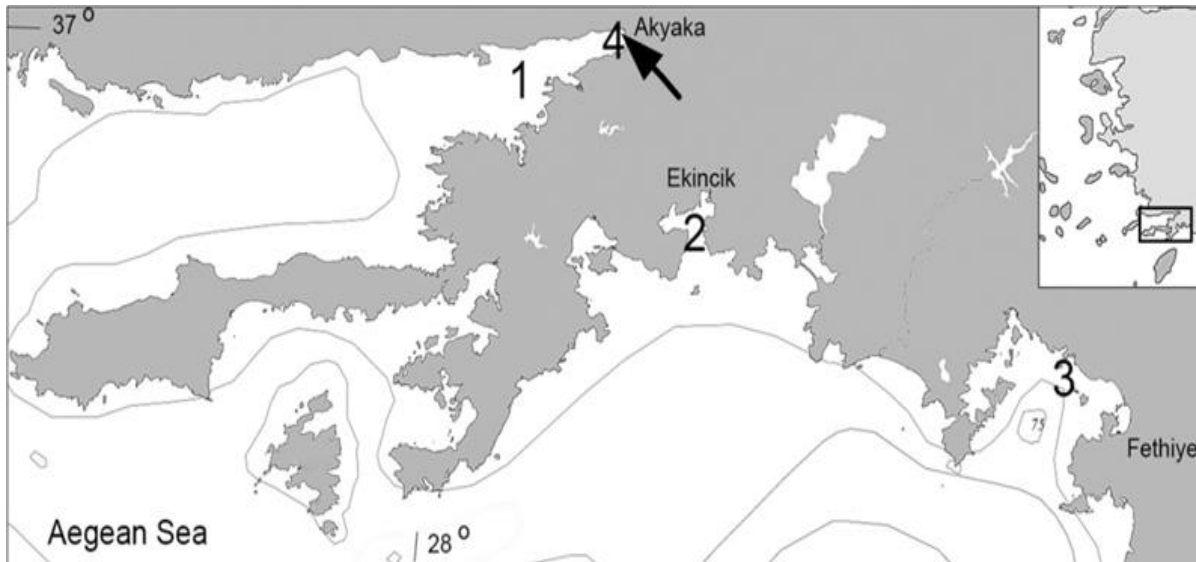


Figure 2. Map showing successive records of *Alectis alexandrina* from the Aegean Sea, Turkey. Localities: 1: Gökova (Öğretmen et al., 2005); 2: Ekinçik (Crocetta et al., 2015); 3: Katrancı cove, Fethiye (Ceyhan and Akyol, 2016); 4: Present study (black arrow indicates the sampling site)

Results

The specimen was measured to the nearest millimetre (Table 1). All measurements, counts, and color patterns determined are in accordance with the descriptions of Smith-Vaniz (1986), Golani et al. (2006), Ceyhan & Akyol (2016) and Froese & Pauly (2019). This specimen was female and it contains a developing gonad (96 g) (Figure 3). A total of 400 oocyte were measured and oocyte diameters were ranged from 2 to 1017 μ of which those of >704 μ were large and hydrated oocyte. On the other hand, we observed 7 nematods, extremities of crab, digested fish, and two pairs of otoliths in the stomach. Thus, stomach content proves it's a benthopelagic fish.

Discussion

In the Mediterranean Sea, *A. alexandrina* has been reported in the Levant Basin by Golani (1996). A specimen of *A. alexandrina* with 205 mm TL has been collected from Split, the Adriatic Sea in 1973 (Dulčić, 2005). Torcu, Aka & İşbilir. (2001) mentioned only by name of *A. alexandrina* within northern Cyprus fish fauna. Hemida, Kanoun, Ben Souissi, Guélorget & Capapé (2005) have been reported the specimen with 335 mm TL off Annaba, Algeria on 5 November 2003. Also, some specimens have also been reported from Italy (Smith-Vaniz & Carpenter, 2015). Recently, Aga-Spyridopoulou, Giovos, Kleitou, Christidis, Langeneck & Kalogirou (2019) reported ten specimens of *A. alexandrina* that ranged from 65 to 500 mm TL from southern

Cyprus. In the Turkish seas, an *A. alexandrina* specimen with 347 mm TL has been recorded from Gökova Bay (Öğretmen, Yılmaz & Torcu Koç, 2005). Thereafter, it has been reported from İskenderun Bay (Keskin, Turan & Ergüden, 2011), Ekincik port, Fethiye (Crocetta et al., 2015), and off

Katrançı Cove, Fethiye (Ceyhan & Akyol, 2016). Morphometric measurements and meristic counts of *A. alexandrina* specimens in the previous records from the Aegean Sea were shown in Table 1. Also, successive records of the fish were placed in Table 2.

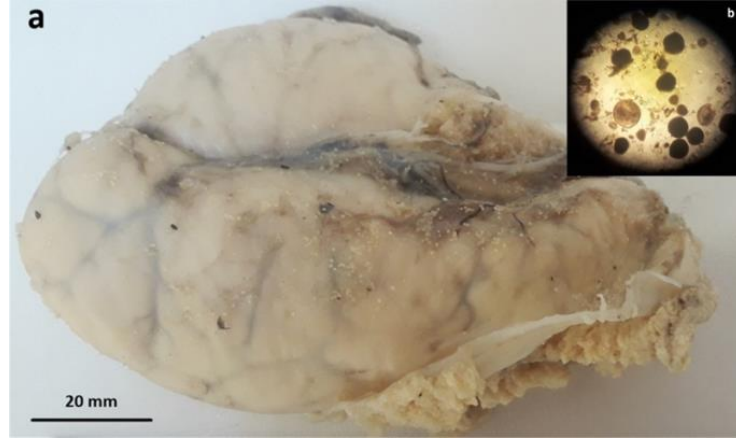


Figure 3. Gonad view of *Alectis alexandrina* (a) whole gonad, (b) oocyte with different sizes (Photo: T. Çoker)

Table 1. Morphometric measurements as percentage of total length (TL%) and meristic counts recorded in *Alectis alexandrina*, captured from Akyaka, Gökova Bay and previous records from the Aegean Sea.

Measurements	This study		Crocetta et al. (2015)		Ceyhan & Akyol (2016)	
	Size (mm)	Proportion (TL%)	Size (mm)	Proportion (TL%)	Size (mm)	Proportion (TL%)
Total length (TL)	710		21.4		425	
Fork length (FL)	592	83.4	19.0	88.8	350	82.4
Standard length (SL)	533	75.1	15.0	70.1	335	78.8
Maximum body depth	292	41.1	14.3	66.8	197	46.4
Pectoral fin length	210	29.6	4.3	20.1	130	30.6
Pre-dorsal fin length	253	35.6	5.6	26.2	151	35.5
Pre-anal fin length	248	34.9	10.2	47.7	140	32.9
Head length	142	20.0	5.0	23.4	98	23.1
Eye diameter	34	4.8	2.0	9.3	24	5.6
Preorbital length	63	8.9	-	-	32	7.5
Meristic counts						
Dorsal fin rays	VIII+20		VIII+20		VIII+20	
Anal fin rays	III+18		III+18		III+18	
Pectoral fin rays	17		13		17	
Ventral fin rays	I+5		-		I+5	
Weight (g)	3190		-		-	

On the other hand, *A. alexandrina* is a commercially valuable fish in the Gulf of Guinea, and a recent study (Deekae, Chukwu & Gbulubo, 2009) reported that the sizes of *A. alexandrina* were ranged from 115 to 338 mm (n=1300) in the coast of the Bonny River, Niger Delta. Whereas, Schneider (1990)

reported earlier the maximum sizes with 450-900 mm in the Gulf of Guinea. As seen that this ichthyologic note presents the unique largest size of *A. alexandrina* throughout the Turkish seas, and fourth finding of this species for the Turkish Aegean Sea.

Table 2. Successive records of *Alectis alexandrina* from the Turkish Seas

Location	Depth (m)	Gear*	Record date	Number collected	TL (mm)	References
Gökova Bay, Aegean Sea	?	?	2000-2001	1	347	Öğretmen, Yılmaz & Torcu Koç (2005)
İskenderun Bay	63	BT	Nov.2007 / Jan.- Aug. 2008	?	?	Keskin, Turan & Ergüden (2011)
Ekincik Port, Fethiye	?	?	22 Aug.2015	1	21.4	Crocetta et al. (2015)
Katrancı Cove, Fethiye	70	TN	26 May 2016	1	425	Ceyhan & Akyol (2016)
Gökova Bay, Aegean Sea	4	HL	15 July 2019	1	710	This study

* BT: Bottom trawl; TN: Trammel net; HL: Hand line

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