

## ORIGINAL RESEARCH PAPER

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### Occurrence of *Brama brama* (Bonnaterra 1788) in the Eastern Mediterranean, Turkey

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#### ABSTRACT

One sample of *Brama brama* (Bonnaterra 1788) was caught by trammel net at a depth of 55 m coast of Yeşilovacık (Mersin Bay) on 1 June 2016 and other three samples were captured by a bottom longline from Arsuz coast, Iskenderun Bay at depth of about 35 m on 09-10 May 2019. Although *B. brama* has been distributed in the Mediterranean Sea and reported to presence in the Mediterranean coast of Turkey, it's very rare. This study constitutes the first report of the *B. brama* from Iskenderun and Mersin Bays and the first record from eastern Mediterranean of Turkey. All morphometric and meristic characteristics and colour of *B. brama* are consistent with previous researcher descriptions.

**KEYWORDS:** Atlantic pomfret, Bramidae, Iskenderun Bay, Mersin Bay, Eastern Mediterranean

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## 1. Introduction

The genus *Brama* is represented by only one species in the Mediterranean Sea (Golani et al., 2006). The Atlantic pomfret, *Brama brama* (Bonnaterre, 1788) is the member of the family Bramidae and is rarely found in the eastern Mediterranean basin (Golani et al., 2006).

The Atlantic pomfret, *B. brama* is epipelagic and mesopelagic fish species found throughout temperate and warm-temperate oceans and lives in small groups (Riede, 2004). It is distributed in the Western and Eastern Atlantic including the Mediterranean (Gomes et al., 1990; Froese and Pauly, 2019).

Although the occurrence of the species is rare in the Mediterranean, Corsini-Foka (2009) and Mytilineou et al. (2013) have reported the presence of it from the Eastern and Central Mediterranean. Also two samples of *B. brama* was reported from the Aegean Sea (Sığacık Bay, Turkey) by Akyol and Ulaş (2019).

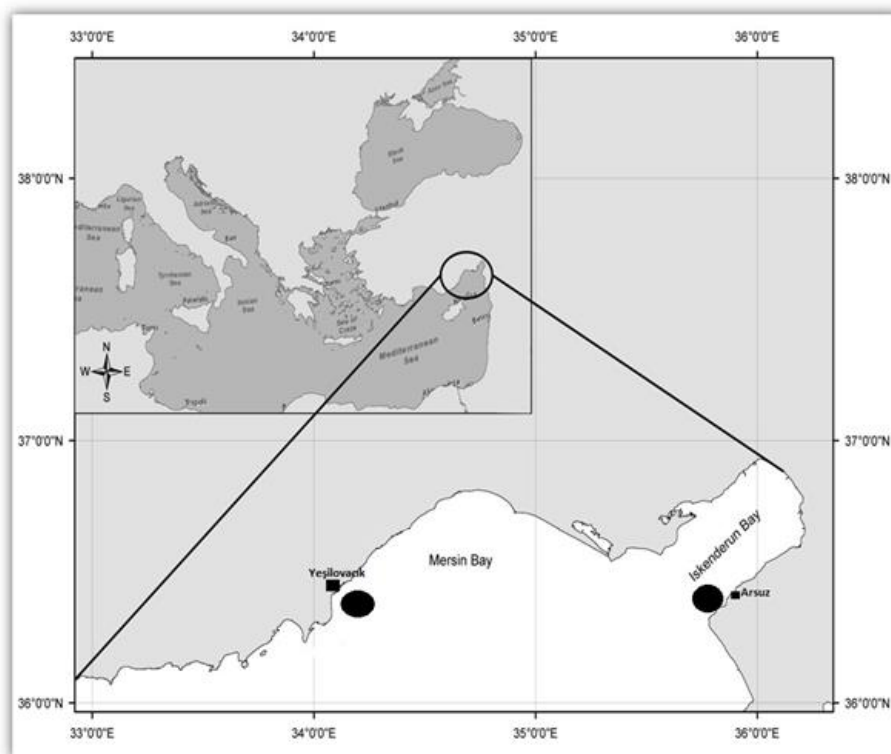
In this study, presence and rarity of the *B. brama* are reported in the İskenderun and Mersin Bays

(Eastern Mediterranean, Turkey). Besides, this report is the first observation for these locations.

## 2. Material and Methods

One sample of the *B. brama* was captured by trammel net at a depth of 55 m in the vicinity of Yeşilovacık (36° 09' N, 33° 38' E), Mersin Bay on 01 June 2016 and other three samples were caught with a bottom longline at the depth of 35 m on Arsuz coast of İskenderun Bay (36° 21' N, 35° 49' E) on 09-10 May 2019 (Figure 1).

After capture, fresh specimens were placed on crushed ice and transported to laboratory for for more detailed examination. Morphometric measurements were carried out to the nearest 0.1 mm by a caliper, and meristic counts were made under the reflected light of a stereomicroscope. The species was identified according to Whitehead et al. (1986) and Golani et al. (2006). The samples fixed in 4% formaldehyde solution, have been preserved in the fish collection of the Fisheries Faculty, Mersin University (Catalogue numbers: MEUFC-18-11-069, MEUFC-19-11-105) (Figure 2).



**Figure 1.** Location where *Brama brama* is caught in the Eastern Mediterranean, Turkey (●)



Figure 2. *Brama brama* sample caught in Iskenderun Bay (MEUFC-19-11-105).

### 3.Results

Total lengths and weights of the samples ranged from 342 to 211 mm, and 103.14 to 401.44 g. The head very prominently arched; mouth oblique; scales large and usually keeled, covering body head with the exception of naked areas on snout; dorsal and anal fins scaled and with rigid fin rays; pectoral fin reaches beyond dorsal and anal fins apex; caudal fin heavily forked.

Color: Silvery black with lighter paired fins and trailing edge of caudal fin. The morphometric measurements and meristic counts of *B. brama* were indicated in Table 1 and compared to previous report from the Aegean Sea, Turkey (Akyol and Ulaş, 2019).

### 4.Discussion

The Atlantic pomfret, *B. brama* is an oceanic and epipelagic species, occurring in schools mostly shallower than 200 m (McMillan et al., 2011) and also found to 1000 m depth (Smith, 1986; Bianchi et

al., 1990). *B. brama* is rare in the eastern Mediterranean but commercially important in the

North-east Atlantic (Golani et al., 2006). This species is opportunistic feeder that usually feeds on small fishes, cephalopods, amphipods and euphausiids (Haedrich, 1986). *B. brama* is oviparous with planktonic eggs and larvae and spawns in the summer and fall months (Golani et al., 2006).

The maximum length of *B. brama* was reported as 1000 mm TL in waters of Cuba and maximum published weight was 6000 g. (Claro, 1994). Paul et al. (2004) estimated longevity to be at least 25 years for *B. brama*. The present study reports maximum total length of the *B. brama* as 342 mm TL for this specimen caught in the eastern Mediterranean, Turkey.

**Table 1.** Morphometric and meristic data of *Brama brama* captured from Iskenderun and Mersin Bays, Turkey and compared with previous record from Sığacık Bay (Aegean Sea, Turkey)

Data	İskenderun Bay (n=3)			Mersin Bay (n=1)	Sığacık Bay (n=2)	
	This Study				Akyol and Ulaş (2019)	
<b>Morphometric Characters</b>	<b>Values (mm)</b>					
<b>Number of specimens</b>	<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>1.</b>	<b>1.</b>	<b>2.</b>
Total length (TL)	261	215	211	342	710	660
Fork length (FL)	215	186	183	273	575	528
Standard length (SL)	190	174	171	252	620	569
Head length (HL)	54	50	49	69	147	140
Body depth (BD)	87	73	71	125	-	-
Eye diameter (ED)	12	11	10	20	34	34
Interorbital distance (IOD)	15	1.3	1.3	22	-	-
Pre-orbital length (POL)	15	9	9	22	41	36
Pre-dorsal length (PDL)	78	6.8	67	103	178	140
Pre-pectoral length (PPL)	49	45	45	135	155	144
Pre-anal length (PAL)	96	88	87	125	278	245
Pectoral fin length (PFL)	57	45	44	92	198	190
Caudal peduncle length (CPL)	14	12	12	21	-	-
<b>Meristic Characters</b>	<b>Counts</b>					
Dorsal fin rays	III+ 32	III+ 32	III+ 32	III+ 32	III+ 32	III+ 32
Anal fin rays	II+ 23	II+ 23	II+ 22	II+ 23	II+ 23	II+ 23
Pectoral fin rays	20	20	20	21	20	20
Ventral fin rays	I+ 5	I+ 5	I+ 5	I+ 5	I+ 5	I+ 5
	<b>Values (g)</b>					
Weight	174.07	107.55	103.14	401.44	5696	3960

Golani et al. (2006) claimed that the depth of species ranges between 0- 400 m in the Mediterranean Sea. The four samples reported in this study were captured at 35 and 55 m depths on sandy and muddy bottoms. These depths range is in accordance with literature (Smith, 1986; Golani et al., 2006).

Akyol and Ulaş (2019) reported maximum size and weight (size: 710-660 mm in TL; 5696-3960 g in weight) for only two samples of *B. brama* in the Aegean Sea. However, in this study, it is reported as 342-211 mm TL size and 401.44-103.14 g weight ranges for four species.

The cause of occurrence of this species could be related to the daily vertical migration linked to the diel migration and also seasonal migrations depending on the sea water temperature in the Mediterranean Sea.

The aim of this paper is to report rare Atlantic pomfret species in Iskenderun and Mersin Bays and to indicate of the presence of this species in the eastern Mediterranean, Turkey. Besides, up to date any individual of this species was not captured from Iskenderun Bay and Mersin Bays.

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