



## Occurrence of the Red Sea goatfish *Parupeneus forsskali* (Fourmanoir & Guézé, 1976) (Perciformes: Mullidae) from Iskenderun Bay, Northeastern Mediterranean

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### Abstract

On 15 March 2015, a single specimen of *Parupeneus forsskali* (Fourmanoir & Guézé, 1976) was captured by a trammel net at a depth of 30 m from Iskenderun Bay. The occurrence of the Red Sea goatfish *P. forsskali* was reported for the first time in the Iskenderun Bay and the first captured data for the Turkish marine waters.

### Keywords:

Red Sea goatfish, *Parupeneus forsskali*, Iskenderun Bay, Turkey

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### Introduction

The goatfish family Mullidae consists of six genera: *Mulloidichthys* Whitley, *Mullus* Linnaeus, *Parupeneus* Bleeker, *Pseudupeneus* Bleeker, *Upeneus* Cuvier, and *Upeneichthys* Bleeker. *Mulloidichthys* is the only genus represented by species in all tropical and subtropical seas (Randall and King, 2009). The species of *Parupeneus* are known from the Indo-Pacific region.

The Red Sea goatfish *Parupeneus forsskali* (Fourmanoir & Guézé, 1976) is distinguished and recognized from other *Mullid* species by no teeth in the upper jaw and a black stripe, which runs from the tip of its snout, through the eye, along the lateral line, and ending beneath the rear of the second dorsal fin. A black spot is also present on the upper side of the caudal peduncle (Randall, 2004).

*P. forsskali* is endemic to the Red Sea and Gulf of Aden (Ben-Tuvia and Kissil, 1988; Randall, 1983; Randall, 2004). The first and second observation of *P. forsskali* in the Turkish coast was visual sighted off Mersin at northeastern Mediterranean in 2000 and four years

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later again observed Tasucu in August 2004 by during an underwater survey (Çınar *et al.*, 2006) and later *P. forsskali* was reported capture data from the Beirut, Lebanon, by Bariche *et al.* (2013), Sonin *et al.* (2013) was also reported the *P. forsskali* from southern edge of Haifa Bay, Israel in the same period and subsequently numerous observations by underwater divers off the coast of Israel (Sonin *et al.*, 2013). According to Sonin *et al.* (2013) *P. forsskali* may probably be settlement of dense population in the Mediterranean.

The present study of *P. forsskali* was reported for the first time in the Iskenderun Bay and the second record for the Turkish waters. Besides, the first capture data of *P. forsskali* from Iskenderun Bay in Turkish marine waters.

## Material and Method

On 15 March 2015, a single specimen of *P. forsskali* (231mm TL; 194mm SL) was captured by a trammel net at a depth 30 m in Iskenderun Bay (36° 21' 44" N; 35° 49' 07" E). All measurements were made with a digital caliper. Most diagnostic features and morphometric characters were described according to Khalaf and Disi (1997), Çınar *et al.* (2006) and Bariche (2013). The collected two specimens preserved in 4% formalin and deposited at the ichthyological collection of Faculty of Fisheries, University of Iskenderun Technical. The specimen received catalogue number (MSM-PIS/2015-3) (Fig. 1).



Figure 1. *Parupeneus forsskali* (Fourmanoir & Guézé, 1976) captured of Iskenderun Bay (northeastern Mediterranean, Turkey)

## Results

A single Red Sea goatfish specimen has the following features: Dorsal fin VIII + 9; anal fin I, 7; pectoral fin 16; lateral line scales 35, gil rakers 7+21; body depth 3.9 in SL; body width 2.26 in body depth; head length 3.1 in SL; orbit diameter 5.9 in HL; interorbital space convex the width 3.04 in HL; barbell length 1.57 in HL; pectoral fin length 1.6 in HL; penultimate dorsal ray 1.1 in length of last dorsal ray. One row of teeth on both jaws, not visible when mouth is closed. No teeth on vomer and palatines. Morphometric measurements and meristic characters are given in Table 1.

Table 1. Morphometric and meristic measurements of *P. forsskali*

<b>Morphometrics (mm)</b>	
Total length	231
Standart length	194
Body depth	47.75
Head length	58.86
Orbit diameter	9.96
Interorbital width	19.31
Length of dorsal fin basis	30.02
Length of second dorsal fin basis	31.67
Length of anal fin basis	25.00
Longest pectoral fin ray	36.13
Longest pelvic fin ray	35.98
Barbel length	37.48
Body width	26.02
First dorsal fin spine	5.07
Second dorsal fin penultimate ray	22.08
Second dorsal fin last dorsal ray	19.80
<b>Meristics</b>	
Number of rays in first dorsal fin (D1)	8
Number of rays in second dorsal (D2)	9
Number of rays in anal fin	8
Number of rays in pectoral fin	1 5
Gil rakers	7+21

The Red Sea goatfish is characterized by the black stripe running from tip of snout through eye. There is also a black spot on each side of caudal peduncle, with lateral line touching its lower edge. Colour: The back ground colour is red. The rays of first dorsal, pectoral and ventral fins are pink with pinkish-transparent membranes. Second dorsal and caudal fins with a touch of yellow.

The *Parupeneus* genus is differentiated primarily by dentition. The teeth in the jaws are bluntly conical and well spaced in a single row, and there are no teeth on the vomer or palatines. All the species of *Parupeneus* share the following meristic data: dorsal fins VIII 9; anal-fin rays 7; principal caudal fin rays 1 5; pelvic-fin rays I, 5; and lateral-line scales 27 or 28. The variation in the lateral-line scale count is attributed to the decision of the observer where to end the scale count at the base of the caudal fin (Randall and King, 2009).

## Discussion

*P. forsskali* is a common fish inhabits, adults are both on sandy bottoms and coral reefs of the Red Sea (Kumaran *et al.*, 1984; Golani, 1999; Khalaf, M., 2004; Al-Rousan *et al.*, 2005). However, juveniles are found in large numbers in shallow sandy beaches (Golani, 1993). It reaches a maximum total length of 28.1 cm in female and 28.5 cm in male (Sabrah, 2015) and feeds on benthic invertebrates (Hobson, 1974).

Goatfishes, the species is commercially important for fisheries in Mediterranean. According to Absy (1988) and Khalaf and Disi (1997), these species may be exploited by the Mediterranean fishery. Sabrah (2015) reported similar results of *P. forsskali* for fisheries biology and population dynamics in Hurghada, Egypt.

Although *P. forsskali* was recorded only at Mersin in the northeastern Mediterranean coast of Turkey. Up to date specimens of this species has not been reported in the eastern side coast of Turkey.

Consequently, the single specimen does not necessarily indicate an settled population at this area. This species may be a commercial fifth *Mullid* species in the Mediterranean coast of Turkey in the future. Thus, this area should be monitored establish with native and other non-indigenous goatfishes by further research.

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