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Occurrence of Two Grunt Fish (Haemulidae: *Pomadasys*) from the Iraqi Marine Waters

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Abstract The new record of *Pomadasys commersonnii* (Lacépède, 1801) and second appearance of *Pomadasys aheneus* McKay & Randall, 1995 are reported from the Iraqi marine waters, northwest of the Arabian Gulf. Total length of *P. aheneus* was 200 mm, while the total length of *P. commersonnii* was 240 mm. The Yellowback grunt (*P. aheneus*) could be distinguished by the brassy color on nape, anterior part of back, and upper sides, dorsal fin with 13 spines and 14 soft rays and pectoral fin with 13 rays. Whilst The Smallspotted grunter (*P. Commersonnii*) characterized by the body is relatively elongate, the color is silvery with small black spots on upper of body and Dorsal fin with 11 spines and 13 soft rays.

Keywords New record; Haemulidae; *P. aheneus*; *P. commersonnii*; Arabian Gulf

Background

The family Haemulidae (Perciformes) is commercially important fishes, there are 134 species belong to 19 genera distributed widely in the world (Eschmeyer and Fong, 2018). The English names of grunts, due to their ability to produce loud sounds by rubbing their pharyngeal teeth together (Tavera et al., 2012). Haemulidae be characterized by oblong and compressed body, head profile strongly convex, scales present on entire head except tip of snout, lips, and chin, mouth small or moderate, chin with two pores anteriorly and a median pit or six pores and no pit, dorsal fin single, with nine to 15 strong spines and 12 to 26 soft rays, anal fin with three spines and seven to nine soft rays, caudal fin truncate or emarginate, pelvic fins below base of pectoral fins, with one spine and five soft rays, pectoral fins long, scales ctenoid, small or moderate (Carpenter and Niem, 2001).

The genus *Pomadasys* Lacépède, 1802 be characterized by presence two pores in chin followed by a pit containing a pore on each side. *Pomadasys* contains 34 species with a very wide distribution. *P. aheneus* was known only from Gulf of Oman, it has also been recorded in Pakistan (Psomadakis et al., 2015) and Arabian Sea (Bogorodsky and Manilo, 2003), recently recorded from the northern Arabian Gulf off Iraq according to the short communication of Ali and Iwatsuki (2018), whereas *P. Commersonnii* distributed in the western Indian Ocean, South Africa and Madagascar (Froese and Pauly, 2018).

The species of Haemulidae have been identified from the Iraqi marine waters and the Arabian Gulf by many studies (Khalaf, 1961; Mahdi, 1962; Al-Daham, 1982; Abe and Kuronuma, 1986; Carpenter et al., 1997; Mohamed et al., 2001; Bishop, 2003; Iwatsuki et al., 2013). In this study, we described *P. aheneus* and *P. commersonnii* by the morphological characteristics from the Iraqi marine waters.

1 Materials and Methods

Two specimens of grunt fish (*P. aheneus* and *P. commersonnii*) were collected during November 2017 and May 2018 from the Iraqi marine waters, northwestern Arabian Gulf (Figure 1), depending on commercial fishery, by using trawl net. Seven meristic characters were counted employing dissection microscope and 19 morphometric characters were measured to the nearest mm by using fish measuring board and digital vernier following Carpenter et al. (1997). The specimens are deposited in the Marine Science Centre, University of Basrah, Iraq.



Figure 1 A map showing fishing area in the Iraqi marine waters

2 Results

2.1 Classification section

Class: Actinopterygii

Order: Perciformes

Family: Haemulidae

Genus: *Pomadasys* Lacepède, 1802

Species 1: *Pomadasys aheneus* McKay and Randall, 1995

Species 2: *Pomadasys commersonii* (Lacepède, 1801)

2.2 Description

Table 1 and Table 2 show the morphometric and meristic characteristics of two grunt fish species from the Iraqi marine waters.

Table 1 Morphometric characters of *P. aheneus* and *P. commersonii* from the Iraqi marine waters

Morphometric characters	<i>P. aheneus</i>	<i>P. commersonii</i>
Total length (mm)	200	240
Fork length (mm)	198	221
Standard length [SL] (mm)	160	192
Body depth% in SL	42.61	33.50
Body width% in SL	16.96	12.76
Head length% in SL	35.44	36.86
Head depth% in SL	32.22	27.65
Head width% in SL	17.33	13.51
Snout length% in SL	10.52	12.96
Eye diameter% in SL	10.19	8.14
Interorbital distance% in SL	7.85	8.04
Predorsal length% in SL	37.29	34.90
Postdorsal length% in SL	15.68	15.98
fin length% in SL Dorsal	55.73	52.34
Anal fin length% in SL	15.27	15.71
Pectoral fin length% in SL	35.31	33.20
Pelvic fin length% in SL	24.73	23.58
Caudal peduncle length% in SL	21.91	17.92
Caudal peduncle depth% in SL	11.99	9.30

2.2.1 *Pomadasys aheneus*

Total length of the specimen was 200 mm. Body depth 42.61% in standard length and compressed 16.96%. Head length 35.44%. Mouth small, terminal, without fleshy lips. Snout length 10.52% close to eye diameter 10.19%. Chin with two pores and a median pit, jaw teeth villiform. Dorsal fin with 13 spines and 14 soft rays, anal fin with three spines and eight soft rays. Pectoral fin has 13 rays. Gill rakers 7 on upper limb and 14 on lower limb of first gill arch. The color was brassy yellow on nape, anterior part of back, and upper sides, caudal fin and most of rayed dorsal fin blackish (Figure 2).

Table 2 Meristic characters of *P. aheneus* and *P. commersonii* from the Iraqi marine waters

Meristic characters	<i>P. aheneus</i>	<i>P. commersonii</i>
Dorsal fin spines	13	11
Dorsal fin rays	14	13
Anal fin spines	3	3
Anal fin rays	8	8
Pectoral fin rays	13	17
Pelvic fin rays	5	5
Gill rakers		
upper raw	7	7
lower raw	14	14



Figure 2 *Pomadasys aheneus* from the Iraqi marine waters

2.2.2 *Pomadasys commersonii*

Total length 240 mm. Body relatively elongate its body depth 33.50% in standard length, Body width 12.76%. Head length 36.86%. Snout pointed its length 12.96%. Eye diameter 8.14%. Mouth small. Two pores and a median pit on chin. Dorsal fin with 11 spines and 13 soft rays, Pectoral fin has 17 rays, anal fin with three spines and eight soft rays. Gill rakers 7 on upper limb and 14 on lower limb of first gill arch. The color was silvery with small black spots on upper of body and on nape (Figure 3).



Figure 3 *Pomadasys commersonii* from the Iraqi marine waters

3 Discussion

The genus *Pomadasys* is different from other genera of Haemulidae by presence two pores in chin followed by a pit containing a pore on each side, while the rest have six pores and no pit (Carpenter and Niem, 2001). Several species of *Pomadasys* known from northern Arabian Gulf off Iraq, *P. argenteus* (Forsskål, 1775), *P. kaakan* (Cuvier, 1830), *P. maculatus* (Bloch, 1793), *P. olivaceus* (Day, 1875), *P. punctulatus* (Rüppell, 1838) and *P. stridens* (Forsskål, 1775). The present record of *P. aheneus* and *P. commersonii* is a new addition to list of Haemulidae for Iraq.

The properties of the Yellowback grunt (*P. aheneus*) and the Smallspotted grunter (*P. Commersonii*) in our results agreed with previous studies with some differences in ranges of some meristic characters. *P. aheneus* is distinct by the brassy color on anterior part of back, and upper sides, dorsal fin with 13 spines and 14 soft rays, anal fin with 3 spines and 8 soft rays and pectoral fin with 13 rays (dorsal fin with 12 spines and 13-14 soft rays and anal fin with 3 spines and 7-8 soft rays in Randall (1995)). The Smallspotted grantor is distinguished by the body is relatively elongate, the color is silver with small black spots on upper body, dorsal fin with 11 spines and 13 soft rays and anal fin with 3 spines and 8 soft rays (dorsal fin with 11-12 spines and 13-16 soft rays and anal fin with 3 spines and 9-10 soft rays in Psomadakis et al. (2015)).

The range extension of *P. aheneus* and *P. commersonii* in the Arabian Gulf and the Iraqi marine waters may due to climate change or some other recent environmental change.

Authors' contributions

The first and second authors have contributed equally toward the publication of this paper. All authors read and approved the final manuscript.

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