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New records of thicklips and grunts from the marine waters of Iraq (Teleostei: Haemulidae)

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Abstract

Adult specimens of the Sordid Thicklip, *Plectorhinchus sordidus*, the Olive Grunt, *Pomadasys olivaceus*, and the Lined Grunt, *Pomadasys punctulatus*, were captured by gillnet off the coast of Fao City, Basrah, Iraq in March 2012 by commercial fishery activities using a small trawler. These are new records for the marine waters of Iraq, and, for the latter two species, new records for the entire Arabian Gulf region. We document the appearance and morphometrics of the specimens from Iraq.

Key words: fishes, Arabian Gulf, new records, range extension, *Plectorhinchus*, *Pomadasys*, Basrah.

Introduction

The marine waters of Iraq are located in the northwestern corner of the Arabian Gulf, a shallow marginal northward extension of the Indian Ocean. The Gulf extends over a distance of approximately 1,000 km with a surface of approximately 239 x 103 km² and an average depth of 50 m (Pous *et al.* 2012), from the Strait of Hormuz in the south to the Shatt Al-Arab River estuary in the north. The region is dominated by a subtropical climate.

The salinity in the Arabian Gulf is usually high, reaching up to 40‰ and occasionally exceeding 50‰ in some shallow coastal regions, due to the semi-enclosed nature of the Gulf and the extended warm periods prevailing in the region which result in excessive evaporation (Basson *et al.* 1977). The marine coastal area of Iraq receives huge amounts of freshwater input through the Shatt Al-Arab River. During the winter season, the salinity in the northern parts of the gulf usually increases due to low precipitation. The northwestern part of the Gulf, where the haemulid fish species were collected, has high plankton productivity due to high nutrient levels (Al-Kandari *et al.* 2009, Al-Yamani & Saburova 2010, 2011).

Haemulid fishes are characterised by an oblong, compressed body; the chin with two pores anteriorly and a median groove (one genus lacks the median groove); no teeth on the roof of the mouth; the posterior margin of the suborbital not exposed; and the scales ctenoid, small or moderate, extending onto entire head (except front

of snout, lips, and chin)(Lindeman & Toxey 2003). Most members of the family Haemulidae are large, bottom-feeding fishes living in tropical fresh, brackish, and salt waters around the world (Randall 1995, Froese & Pauly 2014). At present, the family comprises two subfamilies (Haemulinae and Plectorhinchinae), and comprises about 132 valid species in 19 genera (Eschmeyer 2014).

The plectorhinchin genus *Plectorhinchus* Lacepède 1801 is characterised by the soft dorsal-fin base not longer than the spinous dorsal-fin base, the second anal-fin spine usually strongest and longest, scales moderate, lips often expanded in larger specimens, preorbital naked or partly scaled, the chin with 4–6 distinct pores without a central pit, 10–18 scales from the dorsal-fin origin obliquely downward to the lateral line, and the caudal peduncle moderately deep (Smith & McKay 1986). The genus comprises 27 valid species (Eschmeyer 2014). The genus *Pomadasys* Lacepède 1802, one of many in the subfamily Haemulinae, is characterised by only two anal-fin

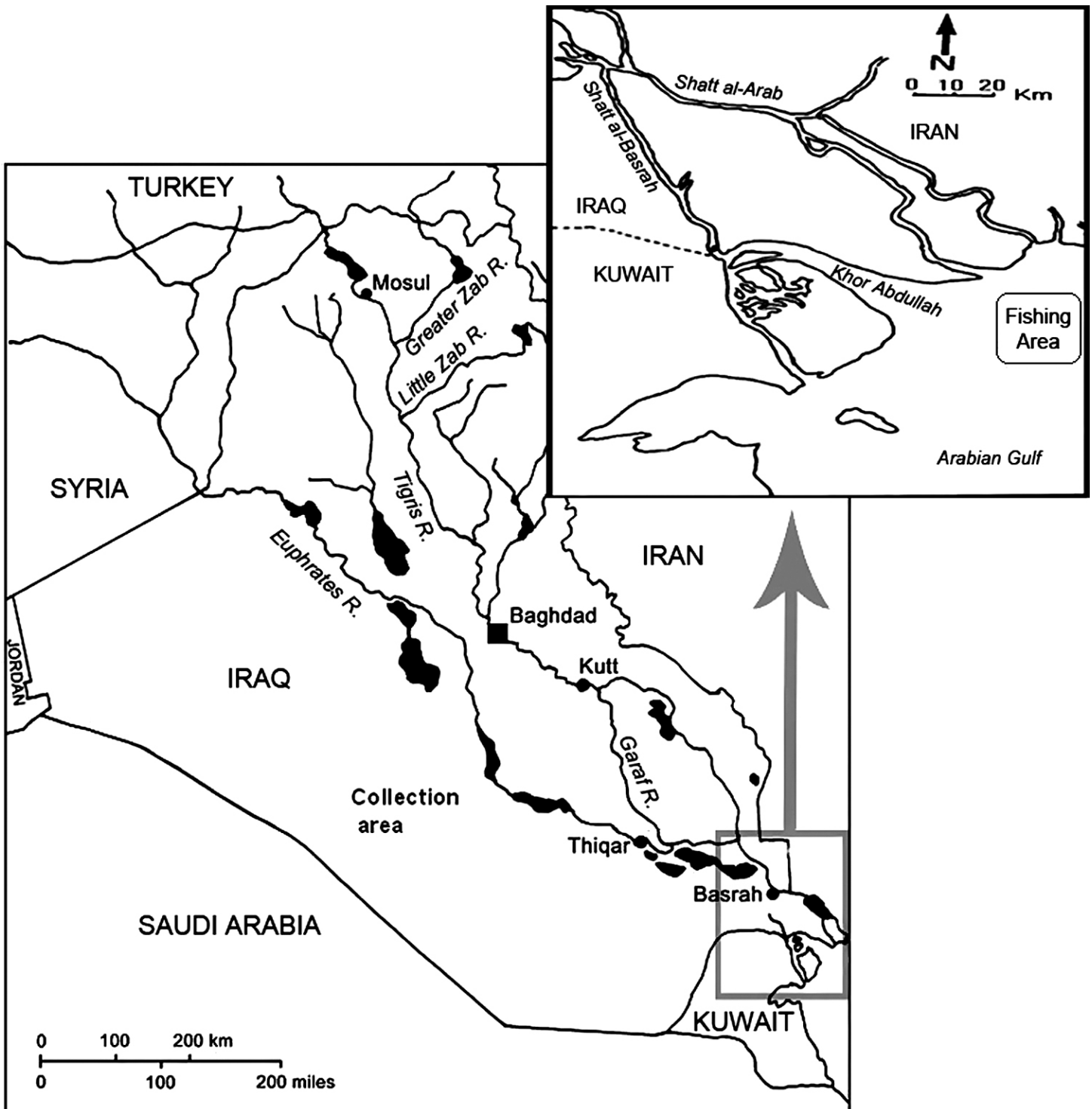


Figure 1. Map showing the collection site of the specimens of the family Haemulidae.

spines in juveniles (three in adults), the chin with 2 small pores followed by a central pit containing a slit-like pore, and 4–6 scales from the dorsal-fin origin obliquely downward to the lateral line (Smith & McKay 1986). The genus comprises 35 valid species (Eschmeyer 2014). *Plectorhinchus* species are limited to the Indo-Pacific region while *Pomadasys* species are found worldwide in tropical and warm-temperate coastal seas.

The present study reports three new records of species of the family Haemulidae from the marine waters of Iraq: *Plectorhinchus sordidus* (Klunzinger 1870), *Pomadasys olivaceus* (Day 1875), and *Pomadasys punctulatus* (Rüppell 1838).

Materials and Methods

On 7 March 2012, a catch of Sordid Thicklip, *Plectorhinchus sordidus* (n = 5, 355–360 mm TL), Olive Grunt, *Pomadasys olivaceus* (n = 8, 170–175 mm TL), and Lined Grunt, *Pomadasys punctulatus* (n = 10, 243–260 mm TL) were recorded from off the coast of Fao City, Basrah, northwestern corner of the Arabian Gulf (29° 47' 55.71" N, 48° 43' 32.9" E)(Fig. 1). The specimens were obtained from local fishermen who fished using gillnets and from a small commercial fish trawler. The fishing activities were supervised and managed by the second author and made available to the first author while he was working at the Marine Science and Fisheries Centre, Muscat, Oman (OMMSFC). All fish specimens were measured and examined at the OMMSTC laboratories. The age of the specimens was estimated from scales taken from different body areas, above the lateral line at its anterior end and middle part, and ventral to the lateral line just above the pectoral fin for age verification. A dissecting microscope was used to identify stomach contents and to determine the maturation stage. Morphometric and meristic characters were recorded following Fischer and Bianchi (1984). The specimens were deposited in the OMMSFC fish collection.



Figure 2. *Plectorhinchus sordidus*, OMMSFC 1195, 360 mm total length, caught by gillnet at the coast of the City of Basrah, Arabian Gulf coast of Iraq, 7 March 2012.

Plectorhinchus sordidus (Klunzinger 1870)

Fig. 2, Table 1

Material examined. OMMSFC 1195, 5 specimens (355–360 mm TL), Arabian Gulf, Iraq, off Fao City, 29°47'55.71" N, 48°43'32.9" E, gillnet, 7 March 2012.

Diagnosis. A haemulid species with D XII,18–19 A III,7–8 Pect 16–17; lips swollen and fleshy; 6 pores on chin and no median pit; 24–26 gill rakers on first arch. Dorsal fin not notched, soft dorsal-fin base equal in length to head, fourth or fifth dorsal-fin spine longest. Ctenoid scales on head and body.

Colour in life. Head and body greenish blue to steel-grey with patches of bronze scales and mauve tints; fins and head grey; edge of opercle grades from red to dark, inside mouth, and lips red; dark membrane at front edge of dorsal fin (Fig. 2).

Comparisons. Regional species of the genus *Plectorhinchus* differ from this species as follows: *P. flavomaculatus* usually have XIII dorsal spines, higher gill-raker counts, and yellow and blue stripes on the head; *P. gaterinus* has XIII dorsal spines and is brightly spotted; *P. gibbosus* has XIV dorsal spines and different markings; *P. pictus* has 15–16 dorsal soft rays; *P. playfairi* has many more lower gill rakers and obvious white bars; *P. schotaf* is difficult to separate from *P. sordidus* with many overlapping characters, however *P. schotaf* is supposed to have a diagnostic red opercular membrane and red at the base of the pectoral fin and gets much larger than *P. sordidus*.

Remarks. *Plectorhinchus sordidus* was originally described by Klunzinger (1870) from Al-Qusair, Red Sea Governorate, and Egypt (Eschmeyer 2014). It is distributed in the western Indian Ocean from the Red Sea to Transkei in South Africa, Seychelles, and Mauritius (Lieske & Myers 1994). In the Arabian Gulf, this species is reported to be present in Bahrain and Saudi Arabia (Froese & Pauly 2014). The present record represents a northward extension of the species' range in the Arabian Gulf area and a new record for the marine waters of Iraq.



Figure 3. *Pomadasys olivaceus*, OMMSFC 1196, 173 mm total length, caught by gillnet at the coast of the City of Basrah, Arabian Gulf coast of Iraq, 7 March 2012.

***Pomadasys olivaceus* (Day 1875)**

Fig. 3, Table 1

Material examined. OMMSFC 1196, 8 specimens (170–175 mm TL), Arabian Gulf, Iraq, off Fao City, 29°47'55.71" N, 48°43'32.9" E, gillnet, 7 March 2012.

Diagnosis. A haemulid species with D XII,15–17 A III,11–13 Pect 16–17; body compressed and oblong, with blunt head and nearly straight upper profile. Mouth small, maxilla reaching to level of posterior nostril; jaws with villiform teeth. Chin with two pores and a median pit. Dorsal-fin spines slender, fourth spine longest. Caudal fin moderately forked. Body with ctenoid scales.

Colour in life. Head and body silvery. Upper angle of gill cover with a large blotch which is surrounded by yellow. Dorsal fin brownish (Fig. 3).

Comparisons. This species differs from *P. commersonnii* in having 11–13 rays in the anal fin and body not

TABLE 1

Morphometric and meristic characters of haemulid species collected from the Arabian Gulf coast of Iraq
(all in mm; TL total length; HL head length; SL standard length).

	<i>Plectorhinchus sordidus</i>	<i>Pomadasys olivaceus</i>	<i>Pomadasys punctulatus</i>
Dorsal fin spines	12	12	12
Dorsal fin rays	18–19	15–16	15
Anal fin spines	3	3	3
Anal fin rays	7–8	12–13	8
Pectoral fin rays	16–17	16	16
Total length (mm)	355–360	170–175	243–260
Standard length (% in TL)	350–355 (98.6–98.9)	156–163 (91.8–93.1)	185–189 (76.1–76.9)
Head length (% in SL)	101–106 (2.9–3.0)	48–52(30.7–31.9)	54–61 (29.2–32.3)
Length of the 4th dorsal spine	2.11–2.28 (2.1–2.2)		
Length of the 5th dorsal spine	1.98–2.19 (1.94–2.04)		
Eye diameter (% in HL)	19.2–20.5 (21.8–23)	13–16 (27.1–30.7)	17–20 (31.5–32.8)
Preorbital length (% in HL)	22.4–24 (25.5–26.9)	20–23 (41.7–44.2)	18–20 (33.3–32.8)
Postorbital length (% in HL)	41.6–43 (47.3–48.3)	32–37 (66.7–71.2)	35–40 (64.8–65.3)
Predorsal fin length (% in SL)	89.6–91 (25.6–25.8)	55–59 (32.3–36.2)	70–75 (37.4–39.4)
Postdorsal fin length (% in SL)	262.4–265 (74.5–74.8)	117–121 (75–75.7)	155–160 (83.4–84.2)
Prepectoral fin length (% in SL)	84–87 (24–24.5)	58–62 (37.2–38.1)	60–65 (32.6–34.1)
Pectoral fin length (% in SL)	67.2–71 (19.2–20.2)	75–79 (48.1–48.6)	62–68 (33.1–35.6)
Prepelvic fin length (% in SL)	108.8–111 (31.1–31.3)	60–64 (38.5–39.3)	58–64 (31.1–33.5)
Preanus length (% in SL)	195.2–198 (55.8–55.9)	90–95 (57.7–58.3)	110–116 (59.7–61.9)
Preanal fin length (% in SL)	220.8–225 (63.1–63.5)	100–104 (64.1–64.5)	124–128 (66.9–67.5)
Postanal fin length (% in SL)	249.6–252 (71.3–71.6)	118–124 (75.6–76.1)	150–156 (80.9–81.9)
Maximum body depth (% in SL)	120–123 (34.2–34.7)	55–58 (35.3–35.6)	73–78 (39.8–41.4)
Caudal peduncle depth (% in SL)	33.6–37 (9.6–10.4)	23–26 (14.7–15.9)	20–27 (10.6–13.8)

covered with numerous dark brown spots. It also differs from other species of *Pomadasys* in the area in having 2 pores and a median pit on chin (Fischer & Bianchi 1984).

Remarks. *Pomadasys olivaceus* was originally described by Day (1875) from the coasts of Baluchistan and Sind, Pakistan, Arabian Sea. In the Indian Ocean, the species occurs from East and South Africa and Madagascar to Arabia, India and the Malay Peninsula (Froese & Pauly 2014), including Oman (Randall 1995). It has been reported to be distributed in the southeastern Atlantic north to Swakopmund, Namibia (Heemstra 1995). This species has not been recorded previously from the Arabian Gulf (Fischer & Bianchi 1984, Froese & Pauly 2014).

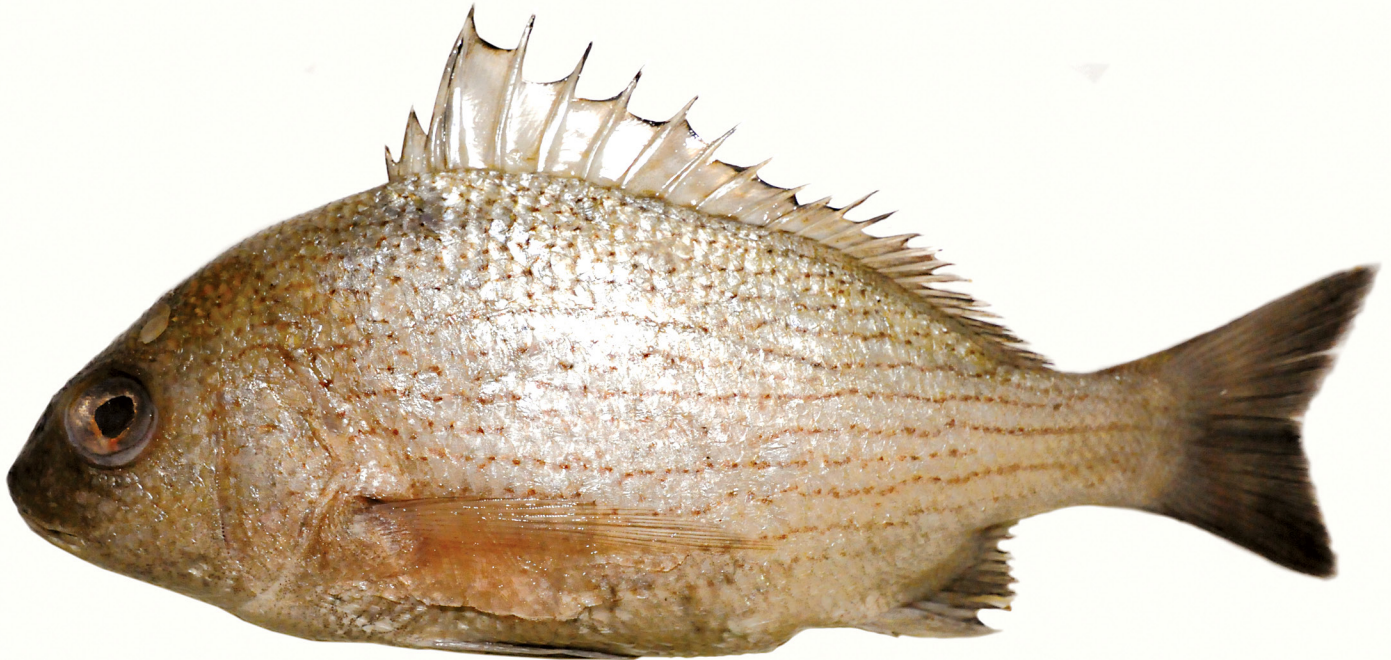


Figure 4. *Pomadasys punctulatus*, OMMSFC 1197, 260 mm total length, caught by gillnet at the coast of the City of Basrah, Arabian Gulf coast of Iraq, 7 March 2012.

Pomadasys punctulatus (Rüppell 1838)

Fig. 4, Table 1

Material examined. OMMSFC 1197, 10 specimens (243–260 mm total length), Arabian Gulf, Iraq, off Fao City, 29°47'55.71" N 48°43'32.9" E, gillnet, 7 March 2012.

Diagnosis. A haemulid species with D XII, 15 A III, 8 Pect 16; head with convex dorsal profile. Third or fourth dorsal-fin spine is the longest and the last spine is the shortest. Caudal fin slightly forked.

Colour in life. Head and body silver. Back iridescent, yellow-green. Irregular, longitudinal dark brown lines on about three-fourths of body. Fins dusky. Anterior pelvic fin membranes with a diffuse blackish blotch. Palate and part of sides of mouth dull orange-red (Fig. 4).

Comparisons. *Pomadasys punctulatus* is considered as a valid species (separate from *P. furcatus*) by Randall (1995); it differs from *P. furcatus* in not having six thick lateral stripes bifurcating anteriorly. This species also differs in not having a row of interradiated scales behind the dorsal and anal fin rays (Fischer & Bianchi 1984).

Remarks. *Pomadasys punctulatus* was originally described by Rüppell (1838) from Massawa, Eritrea, Red Sea. It has been reported from the Arabian Sea coasts of Oman by Randall (1995). It has not been recorded previously from the Arabian Gulf area (Fischer & Bianchi 1984, Froese & Pauly 2014). The present material represents a northward range extension and new record of *Pomadasys punctulatus* from the Arabian Gulf.

Discussion. The maturity stages of the specimens of the three haemulid species obtained in the present work were as follows: *Plectorhinchus sordidus*, 3 mature males and 2 mature females at their 2nd stage of maturation and in their 3rd year of life; *Pomadasys olivaceus*, 3 mature males and 5 mature females at the 2nd stages of maturation and in their 2nd year of life; *P. punctulatus*, 6 mature males and 4 mature females respectively at 2nd stage of maturation and in the third year of life. The stomach contents showed that the specimens of *Plectorhinchus sordidus* mainly fed on benthic organisms including crustaceans, while the diet of *Pomadasys olivaceus* and *P. punctulatus* mainly consisted of mollusks, sponges and tunicates.

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