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# First record of *Atractoscion aequiden* (Sciaenidae) from the Arabian Sea Coasts of Oman and *Acanthopagrus catenula* (Sparidae) from the Oman Sea (Gulf of Oman), northwestern Indian Ocean (Teleostei, Sciaenidae, Sparidae)

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## Abstract

*First record of Atractoscion aequidens (Sciaenidae) from the Arabian Sea Coasts of Oman and Acanthopagrus catenula (Sparidae) from the Oman Sea (Gulf of Oman), northwestern Indian Ocean (Teleostei, Sciaenidae, Sparidae).—* The first record of *Atractoscion aequidens* from the Arabian Sea coasts of Oman and *Acanthopagrus catenula* from waters around City of Muscat on the Sea of Oman is reported based on one (671 mm in SL) and ten specimens (111–257 mm SL), respectively. This account represents the second record of *A. aequidens* in the northern Indian Ocean and the northernmost record of *A. catenula* in the same ocean. Morphometric and meristic data are provided for the two species and compared with those from specimens collected from other parts of the world. The southern distribution of *A. catenula* is corrected in this report.

Key words: New record, New range extension, Sciaenidae, Sparidae, Oman Sea, Arabian Sea.

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## Resumen

*Primer registro de Atractoscion aequidens (Sciaenidae) en las costas del mar de Arabia de Omán y de Acanthopagrus catenula (Sparidae) en el mar de Omán (golfo de Omán), al noroeste del océano Índico (Teleostei, Sciaenidae, Sparidae).—* Los primeros registros de *Atractoscion aequidens* en las costas del mar de Arabia de Omán y de *Acanthopagrus catenula* en las aguas próximas a la ciudad de Muscat, en el mar de Omán, se efectúan a partir de un espécimen (671 mm LE) y diez especímenes (111–257 mm LE) respectivamente. Este informe da cuenta del segundo registro de *A. aequidens* en el norte del océano Índico y del registro más septentrional de *A. catenula* efectuado en dicho océano. Se especifican los datos morfológicos y merísticos de ambas especies y se comparan con los de los especímenes recolectados en otras partes del mundo. En este trabajo se corrige asimismo la distribución meridional de *A. catenula*.

Palabras clave: Nuevo registro, Nueva área de distribución, Sciaenidae, Sparidae, Mar de Omán, Mar de Arabia.

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## Introduction

The Sciaenidae (Perciformes) comprises 291 species belonging to 66 genera and is the most morphologically diverse group in the perciform families (Eschmeyer & Fong, 2012; Eschmeyer, 2012). Trewavas (1977) recognized 27 genera and 77 species in the Indo–West Pacific, including 19 genera and 37 species in the Indian Ocean. Sasaki (1996) reviewed sciaenid fishes of the Indian Ocean and reported a total of 47 species assigned to 19 genera. The Sparidae (Perciformes) consists of approximately 134 species belonging to 35 genera and is the largest group in the sparoid families (Eschmeyer & Fong, 2012; Eschmeyer, 2012). In Omani waters in general, the Sciaenidae consist of 11 species belonging to 6 genera and the Sparidae consist of 15 species belonging to 10 genera (Randall, 1995). In the Arabian Sea coasts of Oman alone, the Sciaenidae comprise 12 species belonging to 7 genera while the Sparidae consist of 16 species belonging to 10 genera (Laith Jawad, *unpub. data*).

*Atractoscion* consists of two valid species, *A. aequidens* (Cuvier, 1830) and *A. nobilis* (Ayres, 1860), the former being recorded only in the Omani waters (present study). In contrast, *Acanthopagrus* consists of 14 valid species (Iwatsuki et al., 2006; Iwatsuki & Carpenter, 2006, 2009; Kume & Yoshino 2008; Iwatsuki & Heemstra, 2010). Recently, Iwatsuki & Heemstra (2011) added another species, *A. catenula* (Lacepede, 1801).

*Atractoscion aequidens* has a current distribution from Angola to South Africa (Chao & Trewavas, 1990). This species also occurs along eastern coasts of Australia. In the Western Indian Ocean it has been reported from off Mozambique and South Africa (Froese & Pauly, 2010). Sasaki (1996) recorded this species from the Gulf of Aden. On the other hand, *Acanthopagrus catenula* has a current distribution from off the Horn of Africa to off Socotra Island of Somalia, including Kenya, Mozambique, South Africa, Madagascar, Mauritius, Rodriguez and Madrasah, southern Oman (Iwatsuki & Heemstra, 2011).

In the present study the two species are recorded from the waters of Oman for the first time. The paper also includes the northernmost record of *A. catenula* in the Indian Ocean.

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## Studied material

*Atractoscion aequidens* (fig. 1) was captured on 7 VI 2011 and *Acanthopagrus catenula* (fig. 2) on 15 VII 2011. A deep gill net used by local fisherman caught one specimen of the former and 10 specimens of the latter from the coasts of the city of Salalah on the Arabian Sea coasts of Oman and the coasts of the city of Muscat on the Sea of Oman, respectively.

Morphometric and meristic details were recorded following Fischer & Bianchi (1984) for *A. aequidens* and Carpenter (2001) for *A. catenula*.

The specimens were deposited in the fish collection of the Marine Science and Fisheries Centre, Ministry of Fisheries Wealth, Muscat, Sultanate of Oman; catalogue numbers OMMSTC 1087 and 1092 for *A. aequidens* and *A. catenula*, respectively.

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## Results

Morphometric and meristic details were recorded following Fischer & Bianchi (1984) for *A. aequidens* and Carpenter (2001) for *A. catenula*; the data are presented in tables 1 and 2.



Fig. 1. *Atractoscion aequidens*, OMMSFC 1087, 671mm SL, caught off the coast of the City of Salalah, southern Oman, Arabian Sea, 7 VI 2011, by fisherman using a deep gill net.

*Fig. 1. Atractoscion aequidens OMMSFC 1087, de 671 mm LE, capturado en la costa de la ciudad de Salalah, en el sur de Omán, mar de Arabia, el 7 de junio de 2011 por un pescador que utilizó una red de enmalle de fondo.*

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Fig. 2. *Acanthopagrus catenula*, OMMSFC 1092, 158 mm SL, caught off the coast of the City of Muscat, Sea of Oman, 15 VII 2011, by fisherman using a deep gill net.

*Fig. 2. Acanthopagrus catenula, OMMSFC 1092, de 158 mm LE, capturado en la costa de la ciudad de Muscat, mar de Omán, el 15 de julio de 2011 por un pescador que utilizó una red de enmalle de fondo.*

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## **Discussion**

Few specimens of *A. aequidens* have been described from around the world and only standard length is provided. Our specimen (671 mm) is larger than most of the previously described samples but smaller than that from Natal (1,381 mm, Natal; 638 mm, Sydney, Australia; 316.6 mm and 428.6 mm, Gulf of Aden (Trewavas, 1977; Sasaki, 1996).

With only one large-sized specimen of *A. aequidens*, it is premature to consider that this species has established a sustainable population around its new locality. Thus, further studies are needed to assess the frequency of occurrence and to study the biological cha-

racteristics of this species so as to determine whether it has become established. However, the new record of this species may be explained by insufficient ichthyological expeditions conducted to date.

As *Acanthopagrus catenula* was only recently resurrected, there are no records available from the other parts of the world because it is considered as endemic to the Western Indian Ocean. Measurements or meristic data available for comparisons are hence restricted to those given by Iwatsuki & Heemstra (2011) when they redescribed the species for the first time (see table 1). The size of our specimens falls near the maximum size given by Iwatsuki & Heemstra (2011) and body proportions agree with those given by those authors (table 1).

There are several factors to explain why *A. catenula* has not been reported from the Sea of Oman previously. Among these we emphasize two possibilities: (i) the lack of sampling in the area prevents the detection of this species in the Sea of Oman although it has been

Table 1. Morphometric and meristic characteristics of *Atractoscion aequidens* in the Arabian Sea coasts of Oman: TL. Total length; HL. Head length; SL. Standard length.

Tabla 1. Características morfológicas y merísticas de *Atractoscion aequidens* de las costas del mar de Arabia de Omán. TL. Longitud total; HL. Longitud de la cabeza; SL. Longitud estándar.

Morphometric characters and ratio	mm
Total length	802
Standard length (%TL)	671 (83.7)
Fork length (%TL)	760 (94.8)
Head length (%SL)	202 (25.2)
Head depth (%SL)	140 (69.3)
Pre-orbital length (%HL)	55 (27.2)
Post-orbital length (%HL)	117 (57.9)
Pre-first dorsal fin length (%SL)	205 (30.6)
Post-first dorsal fin length (%SL)	341 (50.8)
Pre second dorsal fin length (%SL)	354 (52.8)
Post-second dorsal fin length (%SL)	586 (87.3)
Pre-pectoral fin length (%SL)	198 (29.5)
Pre-pelvic fin length (%SL)	219 (32.6)
Pre-anus length (%SL)	490 (73)
Pre-anal fin length (%SL)	521 (77.6)
Post-anal fin length (%SL)	575 (85.7)
Maximum body depth (%SL)	152 (22.7)
Caudal peduncle depth (%SL)	50 (7.5)
Pectoral fin length (%SL)	97 (14.5)
<b>Meristic characters</b>	
Dorsal fin spines	X,10
Dorsal fin rays	26
Anal fin spines	II,9
Anal fin rays	9

Table 2. Morphometric and meristic characteristics of *Acanthopagrus catenula* in the Sea of Oman compared with specimens from the literature: TL. Total length; HL. Head length; SL. Standard length; Na. Not available.

*Tabla 2. Características morfológicas y merísticas de Acanthopagrus catenula del mar de Omán comparadas con las de las especies registradas en la literatura. TL. Longitud total; HL. Longitud de la cabeza; SL. Longitud estándar; Na. No disponible.*

<b>Morphometric characters</b>	<b>Present study</b>	<b>Iwatsuki &amp; Heemstra (2011)</b>
Total length	150–331	Na
Standard length (%TL)	111–257 (74–77.6)	101–364 (Na)
Fork length (%TL)	135–300 (90–90.6)	Na (Na)
Head length (%SL)	37–97.9 (33.3–38.1)	Na (31–38)
Head depth (%SL)	52–120.5 (46.9–43.8)	Na (Na)
Eye diameter (%HL)	9.4–17.7 (25.4–18.1)	Na (9–14%SL)
Pre-orbital length (%HL)	11.1–30.4 (30–31.1)	Na (12–18%SL)
Post-orbital length (%HL)	17.2–49.5 (46.5–50.6)	Na (Na)
Pre-dorsal fin length (%SL)	36.6–84.8 (32.7–33)	Na (44–51)
Post-dorsal fin length (%SL)	101.2–226 (87.9–91.2)	Na (Na)
Pre-pectoral fin length (%SL)	47.4–112.5 (42.7–43.8)	Na (Na)
Pre-pelvic fin length (%SL)	48.2–119.1 (43.4–46.3)	Na (37–41)
Pre-anus length (%SL)	77.6–163 (63.4–69.9)	Na (Na)
Pre-anal fin length (%SL)	89.3–187 (72.8–80.5)	Na (66–72)
Post-anal fin length (%SL)	104.3–226 (87.9–94)	Na (Na)
Maximum body depth (%SL)	57.7–126.5 (49.2–52)	Na (48–53)
Caudal peduncle depth (%SL)	14.3–32 (12.5–12.8)	Na (12–15)
Pectoral fin length (%SL)	45.5–100.3 (39–41)	Na (38–44)
<b>Meristic characters</b>		
Dorsal fin rays	XI–XII,12–14	XI–XII,12–14
Anal fin rays	III,10	III,10
Pelvic fin rays	I,5	I,5
Pectoral fin rays	14–15	14–15
Pored-lateral line scales	45–49	45–49

present; (ii) due to global change such as sea water temperature, a recent natural colonisation along the northern coast of the Indian Ocean may have taken place. The capture during this study should not be regarded as accidental as 10 individuals were collected, indicating the presence of a self-sustaining population of this species in the Sea of Oman.

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