

SHORT COMMUNICATION

First record of small scaled terapon, *Terapon puta* Cuvier, 1829, in Turkey

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Abstract

The small scaled terapon, *Terapon puta* Cuvier, 1829, is an amphidromous species native to the Indian Ocean and Western Pacific Ocean, inhabiting marine, brackish and freshwater habitats. It entered to the Mediterranean Sea via the Suez Canal and established populations in the south-eastern and eastern coasts of the Levantine Basin. Here, we report the northernmost occurrence of *T. puta* from the Turkish coasts of the Mediterranean Sea for the first time. On 2 February 2020, a single specimen of *T. puta* (8.4 cm total length) was caught by a recreational fisherman at 10 m depth off Yumurtalık coast, İskenderun Bay (36.75° N, 35.73° E).

Keywords: Terapontidae, Lessepsian, Levantine Basin, Iskenderun Bay, range expansion

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The fish fauna of the eastern Mediterranean is continuously changing due to the intrusion of alien species mainly via the Suez Canal (Mavruk and Avsar 2008; Bilecenoglu 2010). These intruders are called as Lessepsian species (Por 1978). İskenderun Bay, the north-eastern corner of the eastern Mediterranean, is a hotspot for Lessepsian invasion with shallow bathymetry, wide continental shelf, high temperature, salinity and primary production (Yilmaz *et al.* 1992; Avsar 1999). Based on our inventories, a total of 68 Lessepsian fish species have been recorded in Iskenderun Bay until now (unpublished data). Mavruk *et al.* (2017) and Ozyurt *et al.* (2018) reveal that 32 of these species are frequently caught by bottom trawl operations in Yumurtalık coasts. In this area, Lessepsian fish dominate the coastal fish communities forming 27% of the total number of fish species, however, their share in total fish biomass and abundance are reported as 62 % and 82%, respectively (Mavruk *et al.* 2017).

The family Terapontidae (grunters) comprises 10 genera and 18 species dispersed in the marine and brackish waters of the western Indian Ocean (Froese and Pauly 2020). Among them, the genus *Terapon* has three species, *Terapon theraps* Cuvier, 1829, *Terapon jarbua* (Forsskål, 1775) and *Terapon puta* Cuvier, 1829. Along with their confamilial *Pelates quadrilineatus* (Bloch, 1790), all members of the genus *Terapon* were previously recorded in the various parts of the Mediterranean (Golani *et al.* 2017).

Terapon puta is a small-sized benthopelagic fish inhabiting shallow waters to a depth of 30 m. It is an amphidromous species also entering to estuaries and fresh waters. It feeds on small fishes and invertebrates (Froese and Pauly 2020). According to Golani *et al.* (2017), small scaled terapon, *T. puta*, was first recorded in the Mediterranean by Ben-Tuvia (1976) from the Bardawil Lagoon in Egypt, followed by its second record in Lebanon (Mouneimne 1977). Although, it has established populations in Egyptian (El-Haweet 2001; Bakhoum 2019), Israeli (Zenetos *et al.* 2017), Lebanese (Bariche and Fricke 2020) and Syrian (Saad 2005) waters of the Mediterranean, no record has been reported from the Turkish coasts. Here we report the occurrence of *T. puta* in Iskenderun Bay, Turkey, the north-eastern coasts of Mediterranean Sea, for the first time.

A single specimen of small scaled terapon (*Terapon puta*) was caught on 2 February 2020 by a recreational angler using a hand line baited with shrimp. The specimen was caught at 10 m depth off Zeytinbeli village of Yumurtalık, Adana, western coasts of Iskenderun Bay (Figure 1). The approximate coordinates were as follows; 36.75° N, 35.73° E. After a video was taken, the fish was released back. The identification was performed based on the screenshots taken from the video.

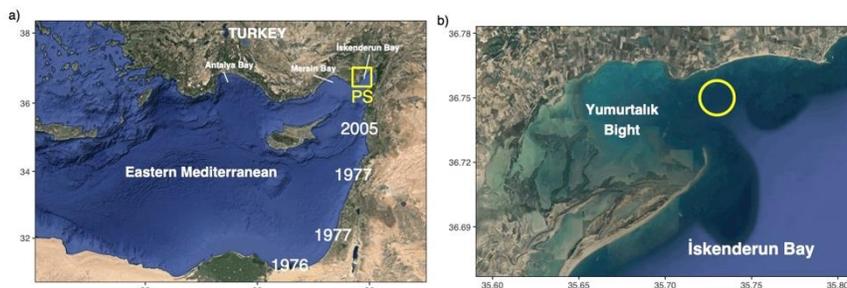


Figure 1. a) Previous records of *Terapon puta* in the eastern Mediterranean (1976: Ben-Tuvia (1976) from Egypt; 1977: Mouneimne (1977) from Lebanon, Ben-Tuvia (1977) from Israel, 2005: Saad (2005) from Syria and PS: present study), and b) the location of specimen caught in Yumurtalık Bight, Iskenderun Bay, Turkey.

The specimen was 8.4 cm in total length and 7.3 cm in standard length (SL). The body was moderately compressed, anal fin located at 55% SL, head length (HL) was 32% of SL and body depth at pectoral was 27% of SL. Color was silver gray

with three brownish green stripes over the body. The stripes were straight, and their width was narrower than the space between them. A long opercular spine and small preopercular spines were apparent in the photo. There was a single continuous dorsal fin arched in the middle of spinous part. The elevated rayed part of the dorsal fin looked like separated from the spinous part with a notch. Between 2nd and 6th spines of the dorsal fin, there was an explicit black spot. Meristic characters were as follows; D: XI+10, A: III+8. There were more than 10 rows of scales above the lateral line to the base of dorsal fin sheath at the narrowest place (Figure 2).



Figure 2. A specimen of small scaled terapon, *Terapon puta*, caught in Iskenderun Bay, Turkey

All descriptive characteristics of *T. puta* observed in the northeastern Mediterranean Sea were in accordance with Fischer and Bianchi (1984). *Terapon puta* can be distinguished from other congeners with the shape of longitudinal stripes. The stripes are narrow and straight in *T. puta* whereas they are curved in *T. jarbua*. The width of stripes is equal to the spaces between them in *T. therapes* although it is explicitly narrower in *T. puta* (Golani and Appelbaum-Golani 2010). In addition, the scales are smaller in *T. puta*. While 10 to 17 rows of scales are present above lateral line in *T. puta*, there are 6 to 8 rows of scales in *T. therapes* (Fischer and Bianchi 1984).

Terapon puta is consumed as food in its native range (Ahmed *et al.* 2015) and in the Suez Canal (El-Drawany 2017). It is also considered as bycatch in the Egyptian waters of Mediterranean (El-Haweet 2001). However, it seems unlikely that it gains economic importance, even if it can establish a population in Turkish waters, due to its small size (El-Drawany 2017). Two morphologically and ecologically similar species, *Pelates quadrilineatus* and *Pomadasys stridens*, are quite abundant in the shallow soft bottoms of Iskenderun Bay. Although they are frequently caught by bottom trawlers (Mavruk *et al.* 2017), neither of the species has economic importance yet.

Terapon puta reaches the first sexual maturity at 13.2 and 13.7 cm for males and females in Bardawil Lagoon, southern Mediterranean (El-Aiatt and Shalloof 2019). Our specimen was 8.4 cm in total length and most likely a juvenile. Although *T. puta* has demersal eggs (Froese and Pauly 2020), its larval stages are planktonic (Leis and Trnski 1989). Therefore, the single specimen we report, may be a vagrant drifted in the early life stage from one of the established populations inhabiting the eastern coasts of Mediterranean (Bariche *et al.* 2015; Zenetos *et al.* 2017).

The specimen reported here was caught in an area which is regularly monitored by scientists with field samplings. In addition, scientists also monitor social media networks of professional and recreational fishers operating in the area. However, a second specimen has not been observed since February after our specimen was collected. Therefore, there is no sign of an established population of *T. puta* in the northeastern Mediterranean yet. Its establishment, spreading and potential influences on the ecosystem, however, should be monitored in Turkish coasts.

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Küçük pullu terapon, *Terapon puta* Cuvier, 1829'un Türkiye'deki ilk kaydı

Öz

Küçük pullu terapon, *Terapon puta* Cuvier, 1829, deniz, acısu ve tatlı su ortamlarında yaşayabilen, Hint Okyanusu ve Batı Pasifik Okyanusu'na özgü amfidrom bir türdür. Akdeniz'e Süveyş Kanalı aracılığıyla girerek, Levant Havzası'nın güneydoğu ve doğu kıyılarında yerleşik popülasyonlar oluşturmuştur. Bu çalışmada, *T. puta*'nın Türkiye kıyılarındaki ilk kaydı verilmekte olup, türün yakalandığı pozisyon şimdiye kadar tespit edildiği en kuzeydeki noktayı temsil etmektedir. Bir amatör balıkçı tarafından 02.02.2020 tarihinde İskenderun Körfezi, Yumurtalık kıyılarında (36.75° K, 35.73° D) 8.4 cm boyunda bir *T. puta* bireyi yakalanmış ve tarafımıza bildirilmiştir. Türün yakalandığı bölgede derinlik yaklaşık 10 m'dir.

Anahtar kelimeler: Terapontidae, Lesepsiyen, Levant Baseni, İskenderun körfezi, yayılım

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