

Expansion of the flat needlefish *Ablennes hians* (Valenciennes, 1846) distribution in the eastern Mediterranean

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Abstract: The flat needlefish *Ablennes hians* was recorded for the first time from the coast of Turkey in the eastern Mediterranean. Two specimens were captured, one in May 2021 and the second in April 2022. One of the specimens was preserved and deposited in fish collection, while only the photograph of the other was obtained.

Keywords: Belonidae; Lessepsian migrant; non-indigenous; garfish; new record

Sažetak: POVEĆANJE RASPROSTRANJENOSTI PLOSNA TE IGLICE *ABLENNES HIANS* (VALENCIENNES, 1846.) U ISTOČNOM SREDOZEMNOM MORU. Plosnata iglica *Ablennes hians* po prvi put je zabilježena u vodama Turske u istočnom Sredozemnom moru. Dva primjerka su uhvaćena, jedan u svibnju 2021. godine, a drugi u travnju 2022. godine. Jedan je primjerak sačuvan u ihtiološkoj zbirci, dok je drugi primjerak samo fotografiran.

Ključne riječi: Belonidae; lesepsijski migrant; nezavičajna vrsta; iglice; novi nalaz

INTRODUCTION

Needlefish and garfish are primarily marine fish that inhabit surface waters, although some species can also be found in freshwater environments (Collette, 2003). In the ichthyofauna of Turkey, family Belonidae is represented by three species belonging to two genera. These include *Belone belone* (Linnaeus, 1760), *Belone svetovidovi* Collette & Parin, 1970, and *Tylosurus acus* (Lacepède, 1803) (Bilecenoğlu *et al.*, 2014).

The flat needlefish *Ablennes hians* is distributed in tropical and subtropical waters of the Atlantic, Pacific and Indian Oceans including the Red Sea. It was first reported in the Mediterranean from Israel in 2019 (Golani, 2019). It was subsequently reported from the Syrian coast (Alshawy *et al.*, 2019), in 2021 from Lebanon (Tsagarakis *et al.*, 2021) and in 2021 erroneously reported from Malta (Deidun *et al.*, 2021).

The present study reports the first record of the flat needlefish *A. hians* in the Turkish waters and its westward expansion in the eastern Mediterranean.

MATERIAL AND METHODS

On April 5th 2022 one *Ablennes hians* specimen was captured in the Taşucu (eastern Mediterranean coast of Turkey; 36°16'24"N, 34°00'19"E) at a depth between 5 and 10 m. The specimen was caught by trammel net and photographed (Fig. 1A). Morphometric measurements and meristic counts were recorded according to Collette (1999). The specimen was deposited in the Fish Collection Centre of İzmir Kâtip Çelebi University (IKC PIS 1259).

In addition, in May 2021, an approximately 70 cm (TL) specimen of *A. hians* was caught by an amateur fisherman in the Taşucu (eastern Mediterranean coast of Turkey) region by shore jigging. This specimen was photographed but could not be preserved because it was consumed by the fisherman (Fig. 1B).

RESULTS AND DISCUSSION

Description of the *Ablennes hians* specimen: body very elongated and compressed laterally, one dorsal fin, caudal fin forked (well developed), curved dorsal and anal fins posteriorly elongated, both jaws long with small teeth, large eye. Color (fresh material): dorsal surface blue and ventrally white, fins dark, vertical bars only posterior of the body. A white dot on pupil. Total length (TL) 72.7 cm; head length (HL) 19 cm, pre dorsal length 70.1% of TL, pre anal length 68.9 % of TL, pre pelvic length 53.6 % of TL, head length 26.1 % of TL, pectoral fin length 7.2 % of TL. Eye diameter 10 % of HL, interorbital 12.6 % of HL. Meristic formula: D: 24; P: 13; A: 26; C: 17.

The flat needlefish *Ablennes hians* is distinguished from other species in the same family by having a laterally compressed body, all fins falcate, and having vertical bars in the posterior part of the body (Collette and Parin, 1970; Golani, 2019). It has almost equal and deeply forked caudal fin in contrast to *Tylosurus acus* which has lower lobe of caudal fin prominently elongated. According to these characters, it is clear that the specimens recorded from Malta in 2021 (Deidun *et al.*, 2021) were misidentification of *T. acus*. It is possible

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Fig. 1. Specimen of *Ablennes hians* caught in April 2022 from the coast of Turkey (A); specimen of *A. hians* captured in May 2021 (B); photograph of *Tylosurus acus* from 1999 (C).

that the lateral bands play a misleading role in determining the species. Similar lateral bands were clearly seen in the *T. acus* sample obtained in 1999 by the authors (Fig. 1C). Vertical lateral bands in *T. acus* are seen especially in live or fresh specimens caught by angling and are caused by stress (personal observation).

Although *A. hians* is widely distributed in both the Atlantic and the Indo-Pacific region including the Red Sea, molecular analysis by Tadmor-Levi *et al.* (2020) which included one Mediterranean specimen, highlighted lower probability of Lessepsian migration for the species. Conversely, we think that it is likely that these specimens have passed into the Mediterranean *via* the Suez Canal especially since they are reported only from

the Levantine Sea. Despite the uncertainty surrounding the mode of entry into the Mediterranean, *A. hians* is step by step expanding its distribution, especially in the eastern part of the Mediterranean, and its populations are likely to increase over time.

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