



First Visual Record of *Caesio cf. teres* Seale, 1906 (Perciformes: Caesionidae) in the Mediterranean Sea

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Research Article

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Abstract

An individual belonging to the *Caesio* genus was recorded with an underwater camera off the coast of Hatay Yayladağ on 20 May 2025 in the northeastern Mediterranean. The species, observed several times with an underwater camera in the same location, was identified as *Caesio cf. teres*. However, due to the lack of a physical specimen, a definitive species identification could not be made. This is the first known visual record of the *Caesio cf. teres* species in the Mediterranean basin. It is believed that the species recently arrived in the Mediterranean via the Lessepsian migration route through the Suez Canal.

Keywords: *Caesionidae*, *Caesio teres*, *Lessepsian migration*, *Iskenderun Bay*, *northeastern Mediterranean*.

Introduction

Climate change and the opening of the Suez Canal have facilitated the passage of alien species into the Mediterranean. This is causing changes in Mediterranean biodiversity (Turan et al., 2016; Langeneck et al., 2023; Deidun et al., 2024; Doğdu and Turan, 2024; Sliskovic et al., 2024; Zenetos et al., 2024; Golani, 2025). The combination of these two important factors has led to more than 100

exotic fish species entering the Mediterranean to date (Galil et al., 2018; Turan et al., 2018; Khalil et al., 2025).

The Caesionidae, commonly known as fusiliers, are distributed throughout the Indian and Pacific Oceans and comprise four genera and 24 species (Nelson, 2006; Bariche and Fricke, 2018; Froese and Pauly, 2025). They have a long fusiform body, a deep forked caudal fin, and a small mouth with a protruding upper jaw, which are important morphological characteristics (Bariche and Fricke, 2018). Members of this family are usually found near coral reefs, feed on zooplankton, and range from the surface to depths of 60 meters (Froese and Pauly, 2025).

The first member of the family Caesionidae reported from the Mediterranean coast is the species *Dipterygonotus balteatus*, reported from the coast of Lebanon (Bariche and Fricke, 2018). Subsequently, the presence of another fusilier, *Caesio varilineata*, has been reported from the coast of Egypt (Bos and Ogwang, 2018).

In this study, we present the first record of *Caesio cf. teres* in the Mediterranean Sea, identified and documented with *in situ* underwater photographs.

Material and Methods

Caesio cf. teres was observed on May 20, 2025, off the coast of Yayladağ (35.957757 N, 35.927183 E) at a depth of 12 meters and a water temperature of 24°C, as recorded by a dive computer. The fusilier specimen was documented *in situ* using a GoPro HERO 10 with underwater housing and external video lighting for photography and videography. Multiple photographs and videos were taken from different angles to capture key morphological features.

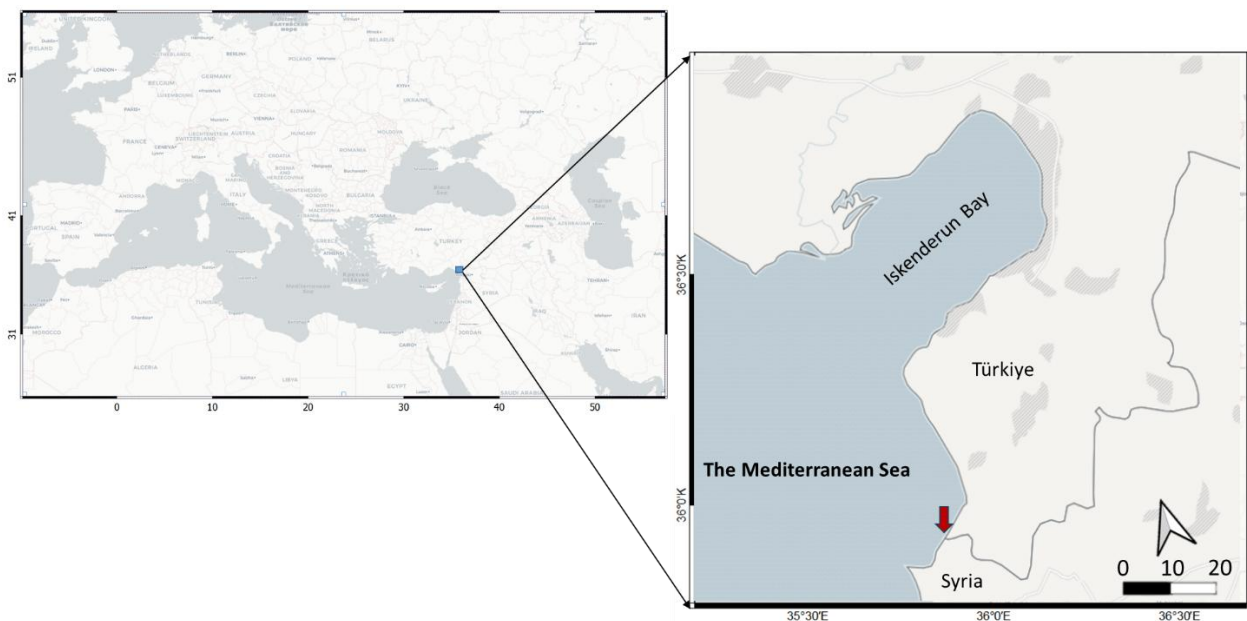


Figure 1. The red arrow indicates the visual observation site of *Caesio cf. teres* in the Mediterranean.

Morphological identification was carried out by comparing the observed features with published descriptions and identification keys for *Caesio teres* and other Caesionidae members

(Carpenter, 1988; Nelson, 2006; Allen and Erdmann, 2012; Bariche and Fricke, 2018). The diagnostic features considered are: fusiform body shape, distinct yellow back color and bluish sides, deeply forked tail fin, small, protruding mouth with upper jaw extending beyond the eye line. The abbreviation “cf.” was used to indicate that the recorded specimen closely resembles *Caesio teres* based on its observable morphology but cannot be fully confirmed because genetic and other measurable morphological analyses could not be performed on the specimen.

Result and Discussion

The number of alien species in Turkish waters has been increasing rapidly in recent years (Langeneck et al., 2023; Turan et al., 2024). The increasing number of alien species is affecting food webs, leading to significant changes in Mediterranean biodiversity (Arndt et al., 2018; Turan et al., 2024). In this study, we report the first visual record of the Yellow and blueback fusilier, *Caesio cf. teres*, a new alien fish species in the Mediterranean.

Caesio teres is distinguished by its fusiform body, deeply forked tail fin, and small, protruding mouth. The sides of the body are blue, while the belly is whitish. This species is characterized by a bright yellow dorsal surface extending from the nape to the tail stalk and a completely yellow tail fin. (Carpenter and Allen, 1989; Nelson, 2006; Bariche and Fricke, 2018; Froese and Pauly, 2025). The detected specimen has a moderately deep, fusiform, and compressed body. Based on the visual descriptions in the photos and videos, the caudal fin, caudal, and dorsal fins are bright yellow along a diagonal line from the start of the dorsal fin to the beginning of the caudal peduncle. The upper body is bright blue, while the lower abdominal area is silvery white. The base of the pectoral fin is black, the pectoral, pelvic, and anal fins are white, and the front part of the dorsal fin is bluish, transitioning to yellow at the rear (Figure 2).



Figure 2. Different views of *Caesio cf. teres* observed at a depth of 12 meters off the coast of Yayladağ on May 20, 2025 (The video is available at: <https://youtu.be/5EA8GP-Ctug>).

A few species within the Caesionidae family that can be confused with *Caesio cf. teres* in terms of external appearance as *C. cuning*, *C. caeruleaurea*, and *C. xanthonota*. In terms of external appearance, *C. teres* differs from *C. cuning* in both body shape and coloration. *C. teres* has a slenderer body structure, while *C. cuning* has a distinctly stouter body. In terms of coloration, *C. teres* has a broad yellow area along the back and a yellow tail, while *C. cuning* has a grey-blue or greenish back, a white-pinkish belly, and only the tail fin is yellow. The yellow coloration along the back observed in *C. teres* is absent in *C. cuning*. Therefore, external morphology and color patterns allow the two species to be reliably distinguished (Carpenter and Allen, 1989; Bariche and Fricke, 2018).

C. teres is often mistaken for *C. caeruleaurea*, but they have distinct features. *C. caeruleaurea* is identified by a single, narrow yellow stripe running along its side and prominent black bands on both lobes of its caudal fin. In contrast, *C. teres* lacks the yellow stripe and black markings, instead displaying a broad yellow area on the dorsal part of its body and a completely yellow tail. These color pattern differences make it easy to distinguish *C. teres* from *C. caeruleaurea* (Carpenter and Allen, 1989; Allen and Erdmann, 2012).

C. teres also resembles *C. xanthonota* in overall body form. Externally, *C. xanthonota* displays a yellow dorsal region and a bluish to whitish underside, but it is readily distinguished by the presence of black-tipped caudal lobes. In contrast, *C. teres* has an entirely yellow caudal fin without black tips. Thus, although both species share a yellow dorsal region, the caudal fin coloration clearly separates *C. teres* from *C. xanthonota* (Allen and Erdmann, 2012; Bariche and Fricke, 2018).

In conclusion, our study documents the first record of the yellow- and blue-backed fusilier *Caesio cf. teres* for the Mediterranean Sea, supported by underwater photographs and videos taken in situ. Although this species bears superficial similarities to its close relatives such as *C. cuning*, *C. caeruleaurea*, and *C. xanthonota*, its external morphological characteristics and color patterns allow for reliable differentiation.

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Conflict of Interest

The authors declare that for this article they have no actual, potential or perceived conflict of interest.

Author Contributions

S.A.D. and C.T. performed taxonomic identification and drafted the main manuscript text. S.A.D., M.İ. and N.U. observed the specimen. The authors reviewed and approved the final version of the manuscript.

Ethical Approval Statements

No ethics committee permissions are required for this study.

Data Availability

The visual data used in the present study are available upon request from the corresponding author.

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