Mar. Life Sci. (2023) 5(1): 37-39 E-ISSN: 2687-5802

Marine and Life Sciences

Journal Homepage: https://dergipark.org.tr/en/pub/marlife

First occurrence of *Zu cristatus* (Trachipteridae) in the Turkish Aegean Sea (Eastern Mediterranean Sea)

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Please cite this paper as follows:
Akyol, O., & Tosunoğlu, Z. (2023). First occurrence of *Zu cristatus* (Trachipteridae) in the Turkish Aegean Sea (Eastern Mediterranean Sea). *Marine and Life Sciences*, 5(1), 37-39. https://doi.org/10.51756/marlife.1285550

Short Communication

Article History
Received: 19.04.2023
Accepted: 07.06.2023
Published Online: 23.10.2023

Keywords:

Scalloped ribbonfish
Long-line fishery
Incidental catch
Saros Bay

A B S T R A C T

This ichthyologic note presents the incidental catch of *Zu cristatus* from a commercial long-liner from the northeastern Aegean Sea. On 14 March 2023, a specimen of *Zu cristatus* was collected by a commercial deep-sea long-liner, targeting European hake at a depth of 600 m in Saros Bay on the northern Aegean coast of Türkiye. In this short report, we confirmed its occurrence in the Turkish Aegean waters of the eastern Mediterranean.

INTRODUCTION

Though Trachipteridae family are poorly known due to the scarcity of data, they are represented by ten species belonging to three well-defined genera: *Zu* (Walters and Fitch, 1960), *Desmodema* (Walter and Fitch, 1960), and *Trachipterus* (Goüan, 1770) all these genera are found to be in all oceans, and among these, the genus *Zu* comprises two species, *Zu cristatus* (Bonelli, 1819) and *Zu elongatus* (Heemstra and Kannemeyer, 1984) (Albano et al., 2022a).

Scalloped ribbonfish, *Zu cristatus* (Bonelli, 1819) is an epi and mesopelagic species that is a particular head-up swimmer and feeds on fishes, squids and other large invertebrates; its size to 120 cm total length (Golani et al., 2006; Albano et al., 2022a). They occur in wide distribution, including the southern Atlantic and throughout Indo-Pacific and are rare in the eastern Mediterranean (Golani et al., 2006). Moreover, *Zu cristatus* is a unique species of the genus that inhabits the Mediterranean Sea (Albano et al., 2022a).

Since 1918, *Zu cristatus* has been documented sporadically from the Balearic Sea and off Blanes, Palma de Mallorca and Cataluña (Spain) in the western Mediterranean; Ligurian, Tyrrhenian, Ionian and Adriatic Seas, and also Tunisian waters in the central part of the Mediterranean Sea (Albano et al., 2022b). In addition, eggs of *Zu cristatus* were described from the Adriatic Sea (Dulcic, 2002). On the other hand, a recent check-list study focused on fish spreading in the Israeli coasts has corroborated *Zu cristatus* is very rare in the eastern Mediterranean (Golani et al., 2023).

In the Aegean Sea, Bilecenoğlu et al. (2014) reported *Zu cristatus* in the Aegean fish checklist according to Geldiay (1969). However, it has been mentioned only by name as a probable invasion of the Aegean Sea (and the Mediterranean) without confirmation. Recently, Kaminas et

al. (2021) reported via the citizen science contribution of *Zu cristatus* from the Dodecanese Islands and Lesvos Island (Greece), respectively.

This ichthyologic note presents the northernmost record of *Zu cristatus* from a commercial long-liner from the north-eastern Aegean Sea. At the same time, we report the first substantiated record of *Zu cristatus* from the Turkish waters of the Levantine Sea.

MATERIALS AND METHODS

On 14 March 2023, a specimen of *Zu cristatus* (Figure 1) was captured by a commercial deep-sea long-liner, targeting European hake (*Merluccius merluccius*) at a depth of 600 m in Saros Bay (40.48416°N-26.37583°E) at the northern Aegean coast of Türkiye. The bait was sardine. The fish was measured and weighed by the angler.

Figure 1. *Zu cristatus* specimen, captured from Saros Bay, northern Aegean Sea (scale bar: 100 mm) Photo credits: angler Hayri Şahin

RESULTS AND DISCUSSION

In this study, the fish was 120 cm TL and 6250 g according to the angler. Moreover, regarding the total length and weight, this fish is likely to be one of the longest and most heavy specimens, captured among the reported Mediterranean ones (*see*, Albano et al., 2022a). Also, it is close to the sample (1275 mm TL) of Palmahim on the Mediterranean coast of Israel (Golani et al., 2023). The maximum length is 118 cm SL according to Fishbase (Froese and Pauly, 2023).

The photograph is examined and all morphologic aspects and colour patterns are in accordance with the descriptions of Golani et al. (2006; 2023) and Froese and Pauly (2023). The large eye that it's a diameter of 3 times in head length and body colouration with prominent vertical dark bars, and red dorsal and pectoral fins, but no anal fin, and protrusible mouth shows that this fish is undoubtedly *Zu cristatus*. Then, we made an interview with the angler via phone for details; he said that a similar fish was caught more than ten years ago in the same area for the first time, and not retained for the examination.

This short report represents the new occurrence of an adult big-sized specimen of *Zu cristatus*, which was captured in one of the deeper zone (600 m) from the eastern Mediterranean Sea. At the same time, this report represents the third occurrence of *Zu cristatus* in the Aegean Sea.

CONCLUSION

Though this report does not reflect the true regional abundance, the occurrence of new specimens is likely to increase where deep-sea fishing is. Its biology and ecology are not well-known due to the rarity of *Zu cristatus*, so further records are needed to better understand the life cycle of *Zu cristatus* in the Mediterranean.

ACKNOWLEDGEMENT

The authors thank both Mr. Hayri Şahin, who caught the fish, for his cooperation and Mr. Akın Aşık from the Tekirdağ regional association of fisheries cooperatives for bringing the fish to our attention.

COMPLIANCE WITH ETHICAL STANDARDS

Authors' Contributions

OA: Conceptualization, Writing - original draft; Writing -review and editing. **ZT:** an interview with a fisherman, review and editing.

Conflict of Interest

The authors declare that there is no conflict of interest.

Ethical Approval

The authors declare that formal consent is not required for this type of study.

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