

## First Record of *Leucothea multicornis* (Quoy & Gaimard, 1824) (Ctenophora: Leucotheidae) in Greek Waters

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**Abstract:** The lobate ctenophore *Leucothea multicornis* (Quoy & Gaimard, 1824) was recorded off Kefalonia Island, Greece, in July 2019. This new record, in the Eastern Ionian Sea, fills distribution gaps between the central Mediterranean basin and the Levantine Sea.

**Key words:** Comb jelly, Zooplankton, Ionian Sea, Greece

### Introduction

Concern about gelatinous plankton outbreaks has increased in the past decade, highlighting the dearth of information about the ctenophore fauna in the Mediterranean Sea (BOERO et al. 2009, SHIGANOVA & MALEJ 2009, DEIDUN 2011, MAMISH et al. 2019). The knowledge of the ctenophore diversity of Greek seas is based on a handful of publications focusing on the distribution and population development of the invasive ctenophores *Beroe ovata* sensu Mayer, 1912 and *Mnemiopsis leidyi* A. Agassiz, 1865 in the Aegean Sea (SHIGANOVA et al. 2001, 2007, SIAPATIS et al. 2008, ZENETOS et al. 2018), possibly due to the regional lack of taxonomic specialists (see BAILLY et al. 2016). This note reports on the first record of the lobate ctenophore *Leucothea multicornis* (Quoy & Gaimard, 1824) from Greek waters, filling regional gaps in its known distributional range in the Mediterranean Sea.

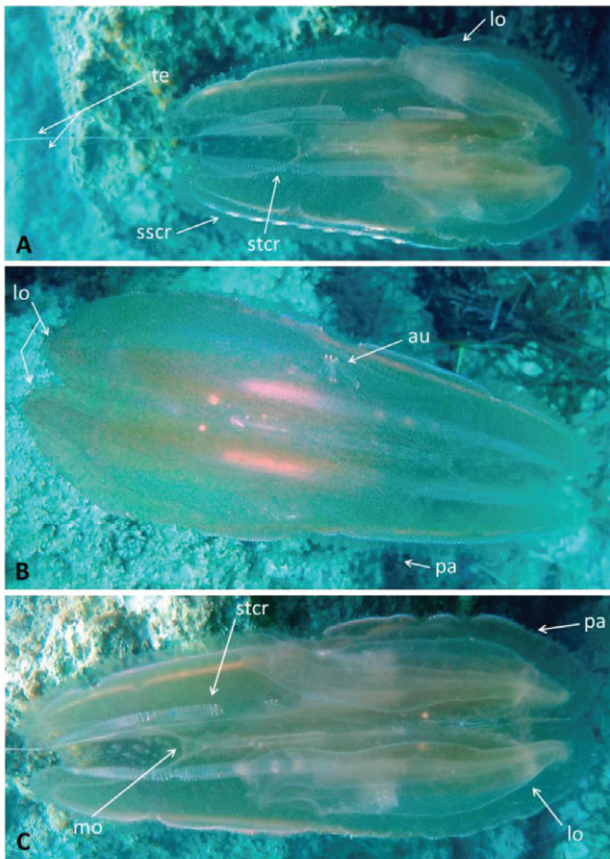
### Materials and Methods

The comb jelly was sighted on 29 July 2019, at depths of 1–2 m, at Dafnoudi Beach (38.471946° N, 20.550099° E), Kefalonia Island (Eastern Ionian Sea), Greece. Samples were not collected but specimens had been photographed (Fig. 1). Taxonomic identification was based on detailed morphological

descriptions by OLIVEIRA & MIGOTTO (2006), DEIDUN (2011), GALIL et al. (2014) and MAMISH et al. (2019).

### Results

The photographed specimen was about 18–20 cm in length and had a compressed body along the tentacular axis. Its color was translucent to milky white, while the pharynx and the inner portion of oral lobes were yellowish (Fig. 1A–C). The two large lobes were about the half of the total animal length and subdivided in two independent functional units (contracted in Fig. 1). The lobes had numerous cylindrical papillae at their outer surface and subtentacular meridional canals forming complex loops at their interior (Fig. 1B). Subtentacular ctene rows were about half the size of substomodeal ctene rows (ster and sscr in Fig. 1C, respectively). Both cteneal rows were nearly translucent, shimmering and arising near aboral extremity of the body. Subtentacular ctene rows extended to the base of lobes while substomodeal ctene rows to the extremity of lobes. Ratio of pharynx length to total length was about 2/3. Two opposing tentacle bulbs were present near mouth, at each side of flattened pharynx, and a long branching and extendable axial tentacle was associated with each bulb (Fig. 1A). Long auricles were arising at the oral end of subtentacular ctene rows between mouth and base of lobes.



**Fig. 1.** *Leucothea multicornis* photographed in Kefalonia Island, Eastern Ionian Sea, Greece. Total length of the body was approximately 18-20 cm. Abbreviations: au: auricle; lo: lobe; mo: mouth; pa: papilla; sscr: substomodale ctene row; stcr: subtentacular ctene row; te: tentilla of the oral tentacle.

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Received: 03.12.2019

Accepted: 15.02.2020

## Discussion

*Leucothea multicornis* is widely distributed in tropical, subtropical and temperate waters, spanning across the Atlantic Ocean, Baltic, Mediterranean and Black seas, Western Indian and Southwestern Pacific Ocean (OLIVEIRA & MIGOTTO 2006, DEIDUN 2011, GALIL et al. 2014, MAMISH et al. 2019 and references therein). In the Mediterranean Sea, it has been reported from the western basin, the North Adriatic, Sicily and Malta, and recently reported from Israeli and Syrian waters (GALIL et al. 2014 and references therein, MAMISH et al. 2019). The lobate ctenophore has yet to be reported from Turkish waters (ÇINAR et al. 2014). *Leucothea multicornis* is the largest species of the lobate ctenophores (DEIDUN 2011, MAMISH et al. 2019). According to GALIL et al. (2014) the sudden sighting of this large-sized and conspicuous species in the Eastern Mediterranean is likely a new record for this marine area.

Therefore, our finding from the Eastern Ionian Sea fills distribution gaps between the central and southeastern Mediterranean basins, being also the first record of this species from Greek waters. Further research on gelatinous zooplankton diversity of the Greek Seas and Eastern Mediterranean waters is required in order to investigate distribution patterns and monitor potential outbreak events. Citizen science initiatives could greatly assist towards filling relevant data gaps.