

SHORT COMMUNICATION

First record of *Leucothea multicornis* (Quoy & Gaimard, 1824) (Ctenophora: Lobota: Leucotheidae) in the Lebanese coastal waters, eastern Mediterranean Sea

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Abstract

The warty comb jelly *Leucothea multicornis* (Quoy & Gaimard, 1824) is reported for the first time in the Lebanese waters. It was observed and photographed in Enfeh (north Lebanon) at a depth of 2 m on 12 May 2019. The details about this observation are presented.

Keywords: Ctenophora, *Leucothea multicornis*, Lebanese waters, eastern Mediterranean Sea

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Introduction

Leucothea multicornis (Quoy & Gaimard, 1824), known as the warty comb jelly, is belonging to the phylum Ctenophora which includes almost 190 species worldwide and 30 species in the Mediterranean Sea (Appeltans *et al.* 2012; Çinar *et al.* 2014). Particularly, the warty comb jelly 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 and Migotto 2006; Shiganova and Malej 2009; Deidun 2011; Galil *et al.* 2014; Mamish *et al.* 2019; Digenis and Gerovasileiou 2020; Gokoglu and Galil 2020). In the Mediterranean Sea, it has been reported from the western basin, the North Adriatic, Sicily, Malta, and Greece (Shiganova and Malej 2009; Deidun 2011; Digenis and Gerovasileiou 2020). In the eastern Mediterranean Sea, specimens of *L. multicornis* were noted for the first time in 2014, in the southern Levantine Sea (Galil *et al.* 2014). Subsequently, the species was observed in the Syrian waters in 2018 (Mamish *et al.* 2019), and recently it was recorded off the

Turkish waters (Gokoglu and Galil 2020). Hereby, this note aims to report the presence of *L. multicornis* in the Lebanese waters.

On 12 May 2019, a specimen of *Leucothea multicornis* was observed and photographed by GB at a depth of 2 m, during the fieldwork, in the coast of Enfeh (34°21'37.12"N, 35°43'40.37"E), northern Lebanon (Figure 1).

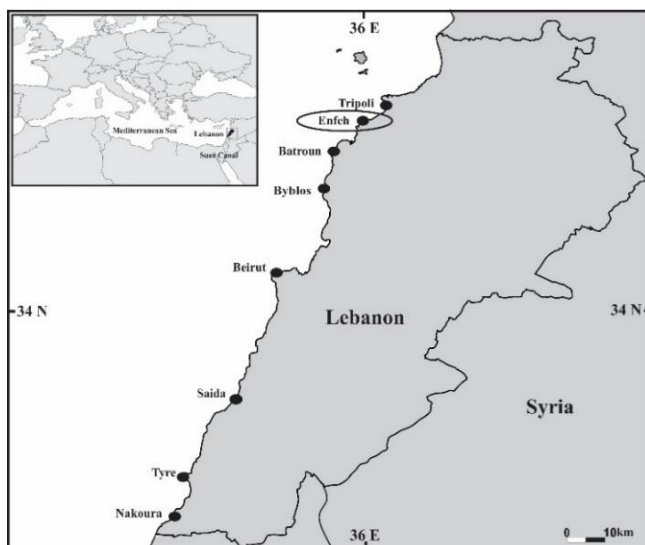


Figure 1. Enfeh, the location where *Leucothea multicornis* was observed and photographed, in the Lebanese waters

The photographed specimen was about 12-15 cm in length (Figure 2). It was characterized by its large, elongate, translucent to milky white body with two large oral lobes. Subsequently, *L. multicornis* is almost unique among ctenophores in having papillae, distributed widely over the outer surface (Shiganova and Malej 2009; Mamish *et al.* 2019). The subtentacular ctene rows are forming complex loops at their interior and are extended to the base of lobes while substomodeal ctene rows to the extremity of lobes (Oliveira and Migotto 2006; Galil *et al.* 2014; Digenis and Gerovasileiou 2020) (Figure 2).

The specimen of *L. multicornis* was observed and photographed off Enfeh, associated with many individuals of *Mnemiopsis leidyi* A. Agassiz, 1865, an invading alien species in the Mediterranean. Remarkably, after ten days the mauve stinger *Pelagia noctiluca* (Forsskål, 1775) appeared for the first time in the Lebanese waters (Badreddine and Bitar in Stern *et al.* 2019). This event is in agreement with Mamish *et al.* (2019). As a result, *L. multicornis* was observed for the first time associated with the invader *M. leidyi* in the Syrian waters, and suddenly disappeared after the first outbreak of *P. noctiluca* (Mamish *et al.* 2019). These observations in the Lebanese and Syrian waters may potentially be related

to the fact that *P. noctiluca* is an important predator of *M. leidy* (Tilves *et al.* 2013).



Figure 2. A specimen of *Leucothea multicornis* photographed in Enfeh.
OL: oral lobes; PA: papillae; SSCR: substomodeal ctenes rows;
STCR: subtentacular ctenes rows.

In the Lebanese waters, new records of comb jelly species are continuously reported (Badreddine *et al.* 2020). However, the knowledge of the ctenophore diversity in the Lebanese waters is limited to few publications focusing on the distribution and population development of the invasive ctenophores *Beroe ovata* Bruguière, 1789, and *Mnemiopsis leidy* A. Agassiz, 1865 (Badreddine *et al.* 2020). This fact is possibly due to lack of taxonomic specialists in the region. In this context, further researches on gelatinous zooplankton diversity of the Lebanese waters are required to monitor the status of the existing species, especially the non-indigenous ones, and investigate the presence of new records.

From a monitoring point of view, it is recommended to enhance the citizen science initiatives, already launched in the Lebanese waters, as an effective tool to fulfil relevant data gaps.

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