

SHORT COMMUNICATION

First documented records of *Apolemia cf. uvaria* (Lesueur, 1815) (Cnidaria: Siphonophorae) and *Cestum veneris* Lesueur, 1813 (Ctenophora: Cestidae) in the Lebanese waters, the eastern Mediterranean Sea

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Abstract

Two jellyfish species are documented for the first time from the Lebanese waters. A string jellyfish, siphonophore, *Apolemia cf. uvaria*, was observed first on 25 May 1993, at 5 m depth, off Tripoli (north of Lebanon) and recently on 25 April 2021 photographed off Saida (south Lebanon) at 16 m depth. The other species, a rare ctenophore, venus girdle, *Cestum veneris*, was observed and photographed at around 2 m depth off Tyre (south Lebanon), on 4 March 2021.

Keywords: Siphonophorae, Ctenophora, *Apolemia cf. uvaria*, *Cestum veneris*, Lebanese waters, eastern Mediterranean Sea

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Apolemia uvaria (Lesueur, 1815), known as string jellyfish, is a siphonophore colony, recorded for the first time from the Mediterranean Sea along the coast of Nice, and later throughout its western basin and the northeastern Atlantic coasts of Europe (Hiscock *et al.* 2010). Mapstone (2003) provided a thorough redescription of the species; however, *A. uvaria* is the only apolemiid taxon so far identified in the Mediterranean Sea. In recent years, *Apolemia cf. uvaria* has been reported from Malta (Deidun and Piraino 2019). Its occurrence in the Levantine Basin has been rarely documented between 1965 and 1969 (Alvariño 1974; Kimor and Wood 1975). Approximately 60 years later, an *Apolemia* sp. colony

fragment has been reported from Turkish waters (Gokoglu and Galil 2020). The species is known as potentially interfering with fishing and aquaculture activities in the eastern Atlantic (Båmstedt *et al.* 1998) and the western Mediterranean (Bosch *et al.* 2020).

A ctenophore, *Cestum veneris* Lesueur, 1813, known as venus girdle, is widely distributed in tropical and subtropical seas worldwide (Gokoglu and Galil 2020). In the Mediterranean Sea, massive stranding of *C. veneris* was reported from its western basin, and the Adriatic Sea (Shiganova and Malej 2009), but rarely recorded from its eastern basin (Gülşahin *et al.* 2014; Gokoglu and Galil 2020), and Aegean Sea (Gulsahin and Tarkan 2013; Çinar *et al.* 2014). In Lebanese waters Lakkis (2013) considered it as “rare in our waters”.

In this context, this note aims to report the first documented record of the siphonophore string jellyfish *Apolemia cf. uvaria* and confirm the presence of the venus girdle, *Cestum veneris*, in Lebanese waters.

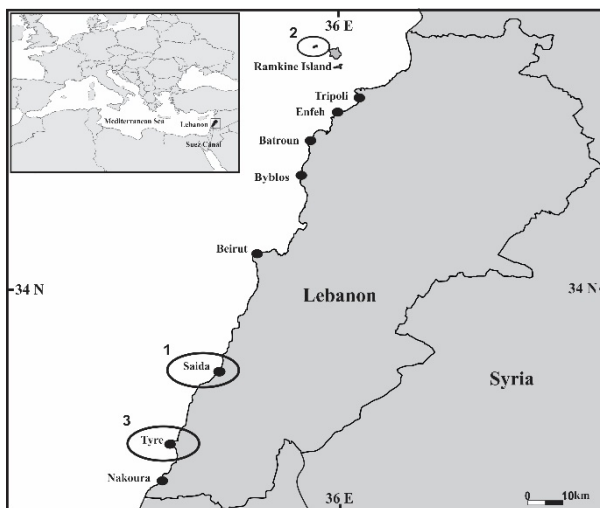


Figure 1. Locations of records of *Apolemia cf. uvaria* (number 1 and 2) and *Cestum veneris* (number 3) at Tyre in the Lebanese coastal waters

On 25 May 1993, a string jellyfish, Siphonophorae, *Apolemia cf. uvaria*, was firstly detected by one of the authors (GB) at 5 m depth in Ramkine Island off Tripoli (34°29'48.87"N; 35°45'39.80"E) (Figure 1). Subsequently, a specimen of *A. cf. uvaria* was photographed and filmed by a professional diver (MS), at around 16 m depth in Zireh Island off Saïda (33°34'25.93"N; 35°22'8.90"E), on 25 April 2021.

one specimen of *C. veneris* was observed, and photographed by another professional diver (YJ), at around 2 m depth off Tyre (33°16'19.10"N, 35°11'24.07"E) on 4 March 2021.

Video footages of the two species were shared with one of the authors (AB). Accordingly, clear and appropriate photos of the two species were made available from the shared videos as screenshots and represented in Figure 2 (*A. cf. uvaria*) and Figure 3 (*C. veneris*).

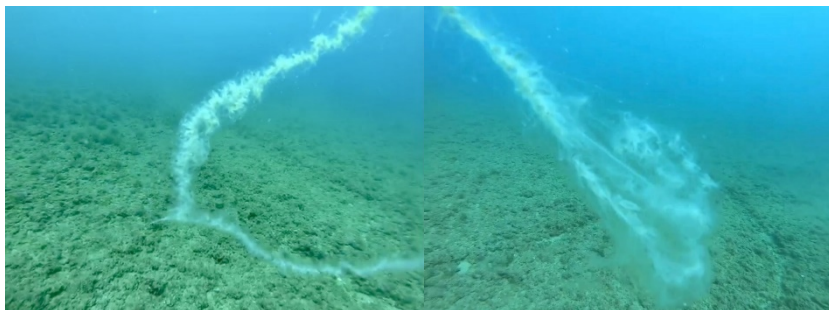


Figure 2. *Apolemia cf. uvaria* observed and photographed off Saida
Photo: Mohamed Elsarji.

The photographed *A. cf. uvaria* colony (Figure 2) was around 18 m in length, with the drifting siphosome as the only visible body part, apparently missing the swimming nectosome. *Apolemia cf. uvaria* is distinguished by cormidia with gastrozooids containing white and red palpons (Hiscock *et al.* 2010)



Figure 3. *Cestum veneris* observed and photographed off Tyre, southern Lebanon
Photo: Youssef Jundi.

The photographed specimen of *C. veneris* (Figure 3) was around 25 cm in length, with a transparent body, shaped like a ribbon. It is distinguished by its well-developed musculature and swims with an undulating motion, and the position of the comb rows are on the aboral edge of the body, opposite the tentacles and mouth (Piraino *et al.* 2016).

Recently, comb jellies are increasingly reported in the Mediterranean Sea, including Lebanese waters (Badreddine and Bitar 2020). This is partly due to the fact that citizen science campaigns are increasingly supporting both the detection of non-indigenous species and the recording of such rare species (Badreddine *et al.* 2020).

There is urgent need to research on gelatinous zooplankton diversity in the eastern Mediterranean, where field studies and research projects have been limited so far, in view of filling relevant data gaps, thus to collect accurate information about rare taxa or species with potential impacts on human activities. In this framework, cooperation between researchers and other people working at seas, such as divers and fishers, in the context of citizen science campaigns should be supported to ensure long-term monitoring of key marine species and to anticipate the impact of invasive non-indigenous species.

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