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SHORT COMMUNICATION

A new alien jellyfish species in the Mediterranean Sea - *Aequorea globosa* Eschscholtz, 1829 (Cnidaria: Hydrozoa)

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Abstract

Aequorea globosa Eschscholtz, 1829 is recorded for the first time from the Mediterranean Sea. The presence of this Indo-Pacific jellyfish in the Mediterranean is probably due to ship-mediated transport. *A. globosa* has been observed in Iskenderun Bay almost all year round from January 2011 until October 2011. This finding suggests that *A. globosa* has been established in this region.

Keywords: Alien jellyfish, *Aequorea globosa*, Iskenderun Bay, Mediterranean Sea

Introduction

Aequoreidae family has five genera (*Aequorea, Aldersladia, Gangliostoma, Rhacostoma* and *Zygocanna*) in the world, of which only *Aequorea* and *Zygocanna* are found in the Mediterranean Sea (Uchida 1947; Kramp 1968; Navas-Pereira and Vannucci 1991; Bouillon *et al.* 2004; Schuchert 2011). The genus *Aequorea* has 24 species in the world and 3 species in the Mediterranean Sea (Bouillon *et al.* 2004; WoRMS 2011). *Aequorea globosa* is a colonial, free medusae and found in the central Pacific Ocean, Indian Ocean, Western Atlantic Ocean (Uchida 1947; Kramp 1968; Navas-Pereira and Vannucci 1991; Schuchert, 2010; Palma *et al.* 2011). *A. globosa* is a tropical species and lives in salinity lower than 35 $^{0}/_{00}$ and temperatures up to 27°C or higher (Uchida 1947; Navas and Vannucci 1991). *Aequorea globosa* Eschscholtz, 1829 is not native to the Mediterranean Sea.

Between January and October 2011, collecting by landing and trammel nets were performed and 5-10 individuals of *A. globosa* per m^2 were observed in the intertidal zone to the depth of 30m on the coast of Iskenderun Bay (36° 33'52" N, 36° 01' 58" E) in the Northeastern Mediterranean.

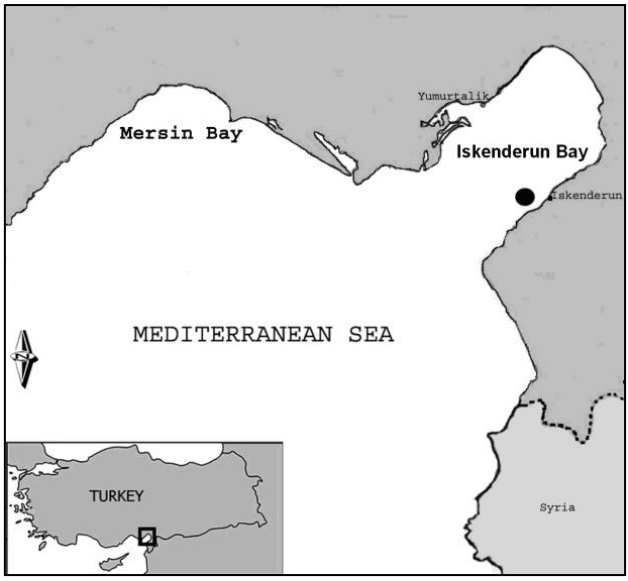

Figure 1. Sampling location (●) of *Aequorea globosa*

The size range of individuals was 46-53 mm umbrella width. The sea temperature and salinity during the collection were 29.6 °C and 39 $^{0}/_{00}$, respectively. The specimens were photographed and taken for further investigation in the laboratory deposited at the Fisheries Faculty of the Mustafa Kemal University (Figure 2).

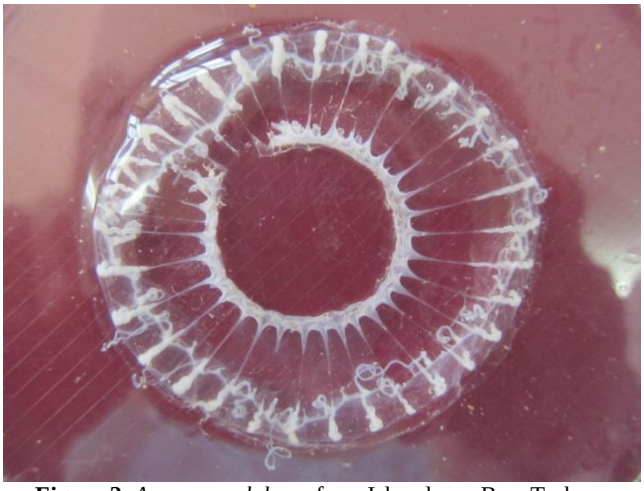

Figure 2. *Aequorea globosa* from Iskenderun Bay, Turkey.

Some measurements and counts were taken from the sampled individuals as given in Table 1. The species identification was made according to Uchida (1947), Kramp (1968) and Maas (1905).

Table 1. Meristic and metric data for the collected specimens of *Aequorea globosa* from Iskenderun Bay, Turkey.

Specimen number	Umbrella wide (mm)	Umbrella high (mm)	No of radial canals	No of tentacles	No of bulbs
1	47	23	32	32	58
2	51	20	33	33	57
3	51	22	31	31	59
4	53	23	36	36	60
5	52	23	32	32	60
6	46	23	32	32	56
7	53	23	34	34	56
8	53	23	38	38	59
9	46	18	34	34	48
10	50	22	33	33	58

Iskenderun Bay is located along the northeastern Levantine Basin and has an average depth of 70 m (İyiduvar 1986). The bay has a euphoric water column and nutrition amounts are 2-4 times higher than offshore. There is neither a thermal stratification nor significant eutrophication, because of the dynamic structure of the bay (Yılmaz *et al.* 1992).

Studies along the Turkish Mediterranean coasts carried out since 1970 revealed that some cnidarian species, inhabited in the Red Sea and the Indo-Pacific, entered to the Mediterranean via the Suez Canal, have established dense populations in the Mediterranean Sea (Maas 1903; Galil *et al.* 1990).

The finding of *A. globosa* from Iskenderun Bay in the north-eastern Mediterranean Sea, represents the first record from the Mediterranean basin and the monthly observations suggest a probable establishment of its population in the area. It is to be emphasized that *A. globosa* had never been recorded in the Mediterranean basin before. Therefore the introduction of *A. globosa* in the Mediterranean Sea may be realized by ship-mediated transport.

In addition to the entrance of new species from both Suez and Gibraltar (the Atlantic flow never stopped), the Mediterranean is experiencing also the transport of exotic species (Zaitsev and Öztürk 2001; Vella and Deidun 2008; Turan *et al.* 2010) by ships, both in hulls' fouling and in the ballast waters of big ships. These ships release their ballast water in the harbour of destination, and sail away with a load of goods. This pattern is particularly evident in Iskenderun Bay, especially with the traffic of oil tankers.

The establishment this tropic jellyfish in Iskenderun Bay can be related to the undeniable temperature increase that characterizes the Mediterranean surface waters and that is probably due to a tendency towards global warming. Its possible establishment in the area may detrimentally affect the fish community and fisheries. Therefore, surveys of this species in this region or in the Mediterranean Sea must be carried out.

Acknowledgement

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Akdeniz için yeni bir yabancı denizanası türü: - *Aequorea globosa* Eschscholtz, 1829 (Cnidaria: Hydrozoa)

Özet

Aequorea globosa Eschscholtz, 1829'nın Akdeniz'den ilk kaydı bu çalışmada yapılmıştır. Indo-Pasifik bir denizanası türü olan *A. globosa*'nın Akdeniz'de varlığı muhtemelen gemi aracılı taşıma yoluyla olmuştur. *A. globosa* İskenderun Körfezinde Ocak 2011'den Ekim 2011'e kadar olmak üzere hemen hemen yıl boyunca gözlendi. Bu bulgular *A. globosa*'nın bu bölgeye yerleşik bir tür olduğunun işaretini vermektedir.

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