On the occurrence of a new Aequorea species on the Turkish Aegean coast

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Abstract

Two hydromedusa species of Aequorea, Aequorea forskalea and Aequorea globose, have previously been reported as the first record for the Turkish fauna from Iskenderun Bay on the Levantine Sea coast. The present study introduces Aequorea pensilis which was observed for the first time on the Turkish coast of the Aegean Sea in May 2016.

Keywords: Aequorea pensilis, Aegean Sea, Turkey

Received: 29.06.2016, Accepted: 19.09.2016

An unusual hydromedusa was encountered on the shore during a field study at the Dilek Peninsula, the Aegean coast of Turkey (37°39'03,75"N; 27°00'26,16"E ) on 5 May 2016 (Figure 1). At first sight, the existence of a great number of dark coloured, simple radial canals (without any branches or divisions) originating centrifugally from the base of manubrium indicated that this individual belongs to the genus Aequorea (Bouillon et al. 2004). Two species from this genus are known along the Turkish Levantine Sea coast; Aequorea globosa Eschscholtz, 1829 and Aequorea forskalea Péron & Lesueur, 1810, which were reported only from Iskenderun Bay up to date (Turan et al. 2011; Gürlek et al. 2013).

In the present specimen, 142 radial canals (Figure 2) were identified and ten tentacles and/or tentacle bulbs (Figure 3) were discerned due to the fact that some of the tentacles were partially disintegrated.

Uchida (1947), Turan et al. (2011) and Mamish et al. (2012) stated that the number of radial canals and tentacles were equal in all A. globosa specimens.
The present specimen, however, had many more radial canals than tentacles. Thus, we decided to compare it with *A. forskalea* after the elimination of *A. globosa*. *A. forskalea* is described with varying number of radial canals, usually 60-80, sometimes fewer or reaching up to 160 radial canals. The first inspection indicated that this specimen might be *A. forskalea*. To make sure we made comparison of other morphological characters. The number of tentacles of *A. forskalea* generally is fewer than its radial canals, but this property also varies from half to twice as many as radial canals (Bouillon *et al*. 2004). If the present specimen with 142 radial canals was *A. forskalea*, we would expect it to have more tentacles ranging between 71 and 280. If we assumed that a large part of the tentacles were actually disintegrated and torn already away in this specimen, a large number of tentacles or bulbs of the tentacles would be still observable, but it was not the case. Thus the existing knowledge provided by the literature suggested the number of tentacles and the number of radial canals, and their ratios are not in compliance with this specimen, indicating that it was unlikely *A. forskalea*.

Another known species of this genus observed in the Mediterranean Sea is *Aequorea pensilis* (Haeckel 1879), which had not been reported from the Turkish coasts yet. Eschscholtz (1829), Haeckel (1879) and Bouillon *et al*. (2004) described the species with the umbrella up to 10mm wide, around 150 - 250 radial canals, with 10-16 tentacles which lengths approximately as long as the umbrella radius. At first sight the present specimen was almost consistent with these characteristics. Only the number of the radial canals (142) was slightly less than the limit values of *A. pensilis*. We also made comparison of the other morphological differences. The other main difference between *A. forskalea* and *A. pensilis* is the shape of the tentacle bulbs. *A. forskalea* has elongated tentacle bulbs with a form of cylinder or tube, while *A. pensilis* has tentacle bulbs with long lateral extensions forming a large triangular basal web. After a detailed visual investigation (Figure 4), we confirmed that the existing tentacle bulbs had long lateral extensions forming a large triangular basal web, which indicated *A. pensilis* (Figure 3). Thus, a new species of hydromedusa for the Turkish fauna, *Aequorea pensilis* (Haeckel 1879), is reported in the present study.

![Figure 1. The map of the sampling area.](image-url)
Figure 2. The photograph of *Aequorea pensilis*, observed at the shore of Dilek Peninsula located at the Aegean coast of Turkey.

Figure 3. Tentacles and bulbs of *Aequorea pensilis*. Red rectangles indicate clearly observable tentacles and or tentacles bulbs, whereas yellow ones indicate largely disintegrated tentacle bulbs.
Figure 4. An example of existing tentacle bulbs with long lateral extensions forming a large triangular basal web, which indicates Aequorea pensilis. Yellow line indicates the periphery line of the umbrella and the yellow arrow indicates the distant corner of the triangular basal web.

Türkiye'nin Ege kıyısında yeni bir Aequorea türünün varlığı

Öz

Aequorea forskalea ve Aequorea globosa Türkiye faunası için ilk kayıt olarak Levanten Denizi kıyasındaki İskenderun Körfezi’nden günümüze kadar rapor edilmiştir. Bu çalışma, daha önce Türkiye kıylarında gözlemlenmemiş yeni bir tür olarak Aequorea pensilis’i tanıtmaktadır.

Anahtar kelimeler: Aequorea pensilis, Ege Denizi, Türkiye

References


