

Occurrence of the alien jellyfish *Cassiopea andromeda* (Scyphozoa: Rhizostomeae: Cassiopeidae) in Hisarönü Bay, Muğla, Turkey

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Abstract. Four individuals of the invasive alien jellyfish *Cassiopea andromeda* were collected in June, 2011 at 4-9 m depth in Hisarönü Bay, Muğla, Turkey. This is the fourth record of this invasive species off Turkey, but the first record from its Aegean coast.

Key words: *Cassiopea andromeda*, Turkey, Aegean Sea, alien.

Red Sea species constitute an important part of the flora and fauna of the eastern Mediterranean, especially along its Levantine coast. *Cassiopea andromeda* (Forsskål, 1775), collected in the Suez Canal in 1886, was recorded off Cyprus soon after (Maas, 1903). It was subsequently found in the southern Aegean Sea, Lebanon, Israel, Turkey and Malta (Schembri et al. 2010). More than 15 live individuals were recently observed in Paros Island and in S. Evvoikos (Zenetos et al. 2011). The first Turkish record, based on a single specimen, was collected in Sarsala Bay, Fethiye (Bilecenoglu 2002), six specimens were reported from the Bay of İskenderun (Çevik et al. 2006) and an established population from Ölüdeniz Lagoon (Özgür & Öztürk 2008). The present finding is the first record from the Aegean coast of Turkey (Fig. 1).

Four *C. andromeda* specimens were collected by scuba diving in June, 2011 off Inbükü, Hisarönü Bay, Datça Peninsula, Muğla, Turkey (36° 47' 29.23"N, 28° 04' 40.06"E) (Fig. 1). They were observed lying upside-down on sandy bottom at 4-9 m depth. Their umbrellas measured 15, 17, 22, 28 cm across (Fig. 2). The specimens are preserved in the laboratory of Muğla Sıtkı Koçman University Faculty of Fisheries.

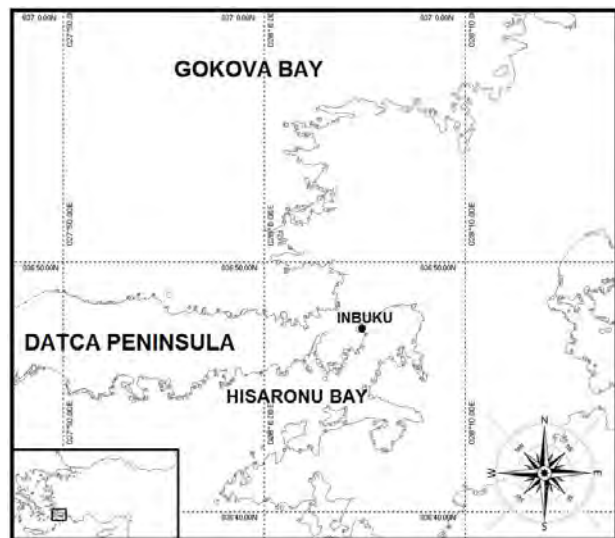


Figure 1. Sampling area (36° 47' 29.23"N, 28° 04' 40.06"E).

The genus *Cassiopea* has a wide circumtropical distribution in the western Atlantic and Indo-Pacific, including the



Figure 2. Four individuals of *C. andromeda* (Photograph by Sedat Guşa).

Red Sea. *Cassiopea andromeda* is well established in the Levantine and Aegean Seas, with an interesting record from the central Mediterranean (Schembri et al. 2010). Though hitherto unknown from the southern Aegean coast of Turkey, this record fills in the gap.

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References

- Bilecenoglu, M. (2002): Türkiye kıyılarında ilk kez rastlanan bir denizanası türü: *Cassiopea andromeda* (Forsskal, 1775) (Cassiopidae, Scyphozoa). *Journal of Underwater World* 72: 42-43.
- Çevik, C., Erkol, I.L., Toklu, B. (2006): A new record of an alien jellyfish from the Levantine coast of Turkey—*Cassiopea andromeda* (Forsskal, 1775) [Cnidaria: Scyphozoa: Rhizostomea]. *Aquatic Invasions* 1: 196–197.
- Galil, B.S., Spanier, E., Ferguson, W.W. (1990): The scyphomedusae of the Mediterranean coast of Israel, including two Lessepsian migrants new to the Mediterranean. *Zoologische Mededelingen (Leiden)* 64: 95–105.
- Goy, J., Lakkis, S., Zeidane, R. (1988): Les Méduses de la Méditerranée Orientale. *Rapports et Procès -Verbaux des Réunions. Commission Internationale pour l'Exploration Scientifique de la Mer Méditerranée* 31(2): 299.
- Maas, O. (1903): Die Scyphomedusen der Siboga-expedition [Siboga-expeditie 11.] Leiden: E.J. Brill; viii + 91 pp. + plates I–XII.
- Özgür, E., Öztürk, B. (2008): A population of the alien jellyfish, *Cassiopea andromeda* (Forsskal, 1775) [Cnidaria: Scyphozoa: Rhizostomea] in the Ölüdeniz Lagoon, Turkey *Aquatic Invasions* 3(4): 423–428.
- Schäffer, W. (1955): Eine Qualle aus dem Indischen Ozean in der Agais. – *Natur Volk* 85: 241–245.
- Schembri, P.J., Deidun, A., Vella, P.J. (2010): First record of *Cassiopea andromeda* (Scyphozoa: Rhizostomeae: Cassiopeidae) from the central Mediterranean Sea. *Marine Biodiversity Records* 3: e6.
- Spanier, E. (1989): Swarming of jellyfishes along the Mediterranean coast of Israel. *Israel Journal of Zoology* 36(1): 55–56.
- Turan, C., Özbalcılar, B., Ergüden, D., Uygur, N. (2011): Occurrence and abundance of Lessepsian jellyfish *Cassiopea andromeda* (Forsskal, 1775) in İskenderun Bay, the Northeastern Mediterranean Sea First National Workshop on Jellyfish and Other Gelatinous Species in Turkish Marine Waters. Published by Turkish Marine Research Foundation, Istanbul, Turkey, No:35, p.73–77.
- Verde, E.A., McCloskey, L.R. (1998): Production, respiration, and photophysiology of the mangrove jellyfish *Cassiopea xamachana* symbiotic with zooxanthellae: effect of jellyfish size and season. *Marine Ecology Progress Series* 168: 147–162.
- Zenetos, A., Katsanevakis, S., Poursanidis, D., Crocetta, F., Damalas, D., Apostolopoulos, G., Gravili, C., Vardala-Theodorou, E., Malaquias, M. (2011): Marine alien species in Greek Seas: Additions and amendments by 2010. *Mediterranean Marine Science* 12(1): 95–120.