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Aquatic Invasions Records

Not far behind: First record of *Beroe ovata* Mayer, 1912 (Ctenophora: Beroida: Beroidae) off the Mediterranean coast of Israel

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Abstract

The American brown comb jelly, *Beroe ovata,* was first noted off the Mediterranean coast of Israel on 10 June 2011, outside the port of Ashdod. The occurrence of *B. ovata* soon after its prey, *Mnemiopsis leidyi*, had been recorded follows the pattern of spread elsewhere, yet its presence in the warm and saline waters of the SE Levant is a surprise.

Key words: *Beroe ovata*, Ctenophora, invasive species, Mediterranean, Israel

Introduction

Beroe ovata Mayer, 1912 is indigenous to western Atlantic coastal waters, from the USA to Argentina, (Mayer 1912; Mianzan 1999). The first occurrence in the Mediterranean was noted in November 2004, from the northern Evvoikos Gulf, Greece (Shiganova et al. 2007), and soon after, in fall of 2005, in the Bay of Piran, northern Adriatic Sea (Shiganova and Malej 2009). In both cases *B. ovata* was found together with it prey *Mnemiopsis leidyi* A. Agassiz, 1865. In the present paper we report the first record of the species from the Levantine Basin of the Mediterranean Sea.

Results and discussion

Several specimens were recorded and photographed (Figure 1) outside the main breakwater of the Port of Ashdod (31°49'00"N, 34°39'00"E), along the southern Mediterranean coast of Israel, on June 10th, 2011. The photographs of the thimble-shaped body, widened oral end, rounded aboral end, eight rows of ciliary combs (ctene) extending from the aboral end but stopping well short of the oral end, and length to width ratio of less than 1.5, leave no doubt as to their identity. They are identical to photographs of *B. ovata* specimens from the Black Sea, Aegean and Adriatic (Figure 4 in Shiganova et al. 2007; Figure 3G in Shiganova and Malej 2009).

The occurrence of *B. ovata* in the Evvoikos Gulf was attributed to the outflow of the Black Sea water masses via the Bosphorus strait, the Sea of Marmara and the Dardanelles (Shiganova et al. 2007), though its presence in the nearly landlocked Gulf, but not in the localities in the northern Aegean where masses of *M. leidyi* swarms had been observed, is puzzling. We suggest it likelier that *B. ovata* arrived with ballast offloaded from one of the 1,000 cargo vessels, which visit the port of Chalkis annually (http://www.elefshipagent.gr/greece/chalkis/chalkisbut.htm). In the Bay of Piran *B. ovata* may have been "released with ballast water originating from the Black Sea, as there is direct connection between the Port of Koper and various Black Sea ports." (Shiganova and Malej 2009: 64). We suggest that *B. ovata,* like *M. leidyi,* may have been transported to Israel in vessels arriving from ports in the Black Sea (Galil et al. 2009). Following the massive swarming of *M. leidyi* in 2009, and to lesser degree in 2010, *B. ovata* has possibly established a local population, though it remained unrecorded until this summer.

The native habitat of *B. ovata* is in temperate to subtropical gulfs and estuaries along the

Figure 1. *Beroe ovata* Mayer, 1912. Photographed off Ashdod port breakwater, June 2011 (Photograph by R. Gevili).

Atlantic coast of the Americas, where it is a specialized predator of *M. leidyi*. Though tolerant of a wide range of salinity and temperature over a broad range of inshore habitats, it has flourished when introduced to bodies of water of low salinities and temperatures and high productivity – the Black Sea, Azov Sea and the Marmara, and in the Mediterranean – in enclosed, eutrophic gulfs along the northern reaches of the sea (Konsulov and Kamburska 1998; Finenko et al 2001; Shiganova et al 2001; Isinibilir et al 2004; Mirsoyan 2006). Yet, the high seawater temperatures and salinity in the SE Levant are far from the values deemed optimal for the species.

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