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First record of five free-living Isopod species from the coast of Cyprus

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*The study was carried out along the Cyprus coast, Levantine basin. A total of 9 samplings were conducted at 5 stations and 2 different biotopes. One species (*Gnathia dentata*) is reported for the first time from the Mediterranean Sea, two species (*Campecopea hirsuta* and *Eurydice truncata*) are new for the eastern Mediterranean Sea, and two species (*Cyathura carinata* and *Paradella diana*) for the fauna of Cyprus.*

Key words: Isopoda, Crustacea, Cyprus island, eastern Mediterranean

INTRODUCTION

Cyprus is the third largest island in the Mediterranean Sea, and a Eurasian island in the eastern part of the Mediterranean Sea. It is near the Middle East and south of the Anatolian Peninsula. Cyprus is surrounded by the waters of the Levantine Sea of the eastern Mediterranean, characterized by higher temperature and salinity as compared to the rest of the Mediterranean Sea (GALIL, 1992; KOCATAŞ *et al.*, 2001). The faunistic aspects of the Levantine Sea are poorly known and only recently marine biology researchers have focused on the Isopoda community aspects of this area.

The number of known isopod species from Cyprus has increased from 34 (KOCATAŞ *et al.*, 2001) to 38 (KIRKIM *et al.*, 2009) during a very short period.

MATERIAL AND METHODS

The study on which our present report is based was conducted along the northern coast of Cyprus in the period from 18. October 2003 to 03. November 2003. Specimens were obtained by means of a Van Veen grab employed over sandy-silt bottoms and sandy-silt with *Caulerpa* sp bottoms at depths ranging from 8 to 53 m (Fig. 1). The specimens, including those photographed, are preserved in 4% formaldehyde and deposited in the Museum of the Faculty of Fisheries, Ege University, Bornova-Izmir (ESFM). These species are identified according to BRUCE & HOLDICH (2002), HANSEN (1890, 1905), HARRISON & HOLDICH (1982) and NAYLOR (1972). The nomenclature for these species follows MARINE SPECIES (2008).

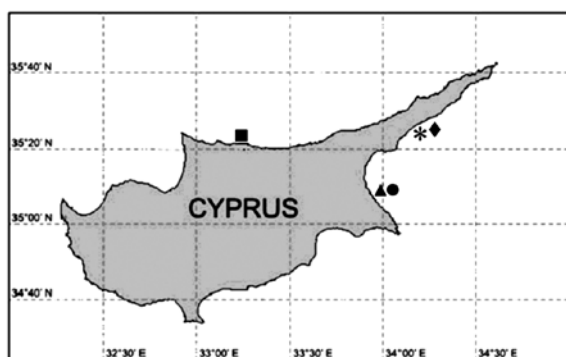


Fig. 1. Map of study area. (* *Gnathia dentata*; ■ *Compecopea hirsuta*; ▲ *Paradella diana*; ● *Cyathura carinata*; ◆ *Eurydice truncata*)

RESULTS

The salinity values ranged from 36.1‰ to 39.3‰. The maximum temperature value (29.8°C) was measured at station K15 while the minimum value (25.4°C) was detected at station K37. Dissolved oxygen values fluctuated with location and ranged from 4.7 mg l⁻¹ to 6.55 mg l⁻¹.

ISOPODA

Family GNATHIIDAE

Gnathia dentata (G. O. Sars, 1872)

Material — [1♀-1♂] ESFM-MAL/2003-6 [grab, 37 m, sandy-silt *Caulerpa* sp bottom (35°24'46" N; 34°09'08" E)],

The species is recorded for the first time from the Mediterranean Sea.

Distribution — Northeastern Atlantic, from Norway to the south of the Iberian Peninsula (JUNOY & CASTELLÓ, 2003).

Family SPHAEROMATIDAE

Campecopea hirsuta (Montagu, 1804)

Material — [4♀-2♂] ESFM-MAL/2003-11 [0.5 m, rocky bottom (35°20'24" N; 33°19'59" E)],

The species is recorded for the first time from the eastern Mediterranean Sea.

Distribution — Northeastern Atlantic, Mediterranean Sea (CASTELLÓ & CARBALLO, 2001; JUNOY & CASTELLÓ, 2003).

Paradella diana (Menzies, 1962)

Material — [3♀-2♂] ESFM-MAL/2003-8 [grab, 8 m, sandy bottom (35°07'81" N; 33°56'67" E)],

Previous records from the Levantine basin were from the Mediterranean coast of Egypt and Turkey (RAMADAN *et al.*, 1998; ÇINAR *et al.*, 2008). This alien invasive species is recorded for the first time from the Cypriot coast.

Distribution — North American Pacific and Atlantic coasts, Australia, Arabian Sea and Mediterranean Sea (CASTELLÓ & CARBALLO, 2001; JUNOY & CASTELLÓ, 2003).

Cyathura carinata (Krøyer, 1847)

Material — [3♂-3♀] ESFM-MAL/2003-7 [grab, 27 m, sandy-silt bottom (35°07'55" N; 33°56'80" E)],

Previous records from the Levantine basin were from the Mediterranean coast of Egypt (NEGOESCU, 1980). *Cyathura carinata* tolerates salinities between 0‰ and 31‰ (NEGOESCU, 1997). This cosmopolitan euryhaline species is recorded for the first time from the Cypriot coast.

Distribution — North American Pacific and Atlantic coasts, Australia, Arabian Sea and Mediterranean Sea (CASTELLÓ & CARBALLO, 2001).

Eurydice truncata (Norman, 1868)

Material — [2♀] ESFM-MAL/2003-10 [grab, 53 m, sandy-silt bottom (35°25'00" N; 34°10'59" E)],

The species is recorded for the first time from the eastern Mediterranean Sea. This benthopelagic isopod was found on pelagic tar particles with pelagic members of fouling biota (HORN *et al.*, 1970).

Distribution — Northeastern Atlantic and western Mediterranean Sea (JUNOY & CASTELLÓ, 2003).

DISCUSSION

On Cypriot coasts thirty-eight isopod species have been reported so far. In this study, five isopod have been reported from the coast of Cyprus in the Levantine basin. Among them *Gnathia dentata* is new for the Mediterranean Sea, *Campecopea hirsuta* and *Eurydice truncata* new for the eastern Mediterranean Sea while *Cyathura carinata* and *Paradella diana* are new for the Cypriot fauna.



Fig. 2. *Gnathia dentata* (G. O. Sars, 1872); a) General view, b) Head (♀, TL= 5.1 mm)



Fig. 3. General view of *Compecopea hirsuta* (Montagu, 1804; ♀, TL= 2.4 mm)



Fig. 4. *Paradelia diana* (Menzies, 1962); a) General view, b) Telson and uropods (♀, TL= 4.2 mm)



Fig. 5. *Cyathura carinata* (Krøyer, 1847); a) General view, b) Head and 1st, 2nd antennae (♀, TL= 10.3 mm)

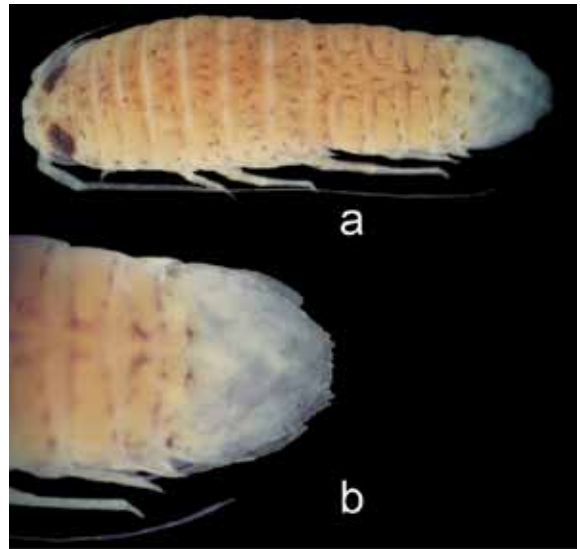


Fig. 6. *Eurydice truncata* (Norman, 1868); a) General view, b) Telson and uropods (♀, TL= 5.9 mm). Photo by Dr. T. Ozcan

In conclusion, the number of species of Isopoda known to occur on Cypriot coasts has increased to 43.

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Prvi nalaz pet vrsta slobodnoplivajućih rakova jednakonožaca uzduž ciparske obale

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SAŽETAK

Istraživanje je provedeno duž ciparske obale u levantinskom zaljevu. Obavljeno je ukupno 9 uzorkovanja na 5 postaja i 2 različita biotopa (životna staništa). Jedinka *Gnathia dentate* je prvi put zabilježena u Sredozemnom moru, a preostale dvije (*Campecopea hirsuta* i *Eurydice truncata*) su novi nalazi za područje istočnog Sredozemlja kao i *Cyathura carinata* i *Paradella diana*e za faunu Cipra.

Ključne riječi: račić jednakonožac, Crustacea, Cipar, istočno Sredozemlje

