

## Two new records of caridean shrimps from Turkish waters: *Eaulus sollaudi* (Zariquiey Cenarro, 1935) (Caridea, Hippolyte) and *Palaemonella rotumana* (Borradaile, 1898) (Caridea, Palaemonidae)

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Received: 19.09.2008

**Abstract:** This paper concerns 2 new shrimp records, *Eaulus sollaudi* (Zariquiey Cenarro, 1935) and *Palaemonella rotumana* (Borradaile, 1898), found during sampling performed by scuba divers near the coast in Fethiye Bay (the eastern Mediterranean, Turkey) in June and July 2008.

**Key words:** *Eaulus sollaudi*, *Palaemonella rotumana*, Caridea, Crustacea Decapoda, the eastern Mediterranean, Turkey

### Türkiye suları için iki yeni caridean karides kaydı: *Eaulus sollaudi* (Zariquiey Cenarro, 1935) (Caridea, Hippolyte) ve *Palaemonella rotumana* (Borradaile, 1898) (Caridea, Palaemonidae)

**Özet:** Bu makale Haziran ve Temmuz 2008'de Fethiye Körfezi (doğu Akdeniz, Türkiye) kıyılarında scuba dalıcıları tarafından gerçekleştirilen örnekleme sırasında bulunan iki yeni karides, *Eaulus sollaudi* (Zariquiey Cenarro, 1935) ve *Palaemonella rotumana* (Borradaile, 1898) kaydıyla ilgilidir.

**Anahtar sözcükler:** *Eaulus sollaudi*, *Palaemonella rotumana*, Caridea, Crustacea Decapoda, doğu Akdeniz, Türkiye

#### Introduction

The shrimp fauna in Turkish seas consists of a total of 84 species (Özcan, 2007). More recent publications indicate the presence of several new species and new records for the shrimp fauna of Turkish Mediterranean shores. Among these, the alpheid shrimp, *Salmones kekovae*, was recently diagnosed

by Grippa (2004) as a new species from the Mediterranean Sea shores of Turkey. In more recent times, the Indo-Pacific palaemonid shrimp, *Urocaridella pulchella* Yokeş and Galil, 2006, was recorded for the first time from the Mediterranean Sea (Kaş coast, Turkey) (Yokeş and Galil, 2006). Then Özcan et al. (2006) reported the Indo-West Pacific

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shrimp, *Fenneropenaeus merguensis* (De Man, 1888), from the Mediterranean Sea for the first time; subsequently, Özcan et al. (2008) reported the occurrence of another Indo-West Pacific shrimp, *Ogyrides mjoebergi* (Balss, 1921), from the Mediterranean coast of Turkey.

### Materials and methods

The shrimp specimens presented herein were collected by scuba divers on various bottoms (substrates covered with *Cymodocea nodosa* and *Posidonia oceanica* meadows, rocky, sand, and sandy mud) from the depths between 0 and 31 m near the coast in Fethiye Bay, the Turkish Mediterranean, in June and July 2008 (Figure 1). The specimens caught are preserved in 4% formaldehyde and deposited in the Museum of the Faculty of Fisheries, Ege University, Bornova, İzmir (collection numbers: ESFM-MAL/2008-990, 991, 992, 993, 994, 995, 996, 997, 998).

### Results

*Eualus sollaudi* (Zariquiey Cenarro, 1935) (Figure 2).

*Thorulus sollaudi* (Zariquiey Cenarro, 1935)

Material examined. - Fethiye Bay (the eastern Mediterranean): GPS coordinates 36°38'30"N

28°50'33"E, 0-5 m, rocky bottom, 22.06.2008, 1♂, GPS coordinates 36°36'42"N 28°49'32"E, 5-30 m, rocky bottom, 23.06.2008, 2♂ 1♀, GPS coordinates 36°40'36"N 28°55'58"E, 5-30 m, rocky bottom covered with sand, 27.06.2008, 1♀, GPS coordinates 36°43'09"N 28°59'08"E, 5-30 m, rocky bottom, 09.07.2008, 1♀.

The genus *Eualus* Thallwitz, 1892 (Caridea, Hippolytidae) is represented by the more than 30 species in the seas of the world (Noël, 1987). Among these, only 4 species [*Eualus complexe cranchii* (Leach, 1817), *E. drachi* Noël, 1978, *E. occultus* (Lebour, 1936), and *E. sollaudi* (Zariquiey Cenarro, 1935)] are distributed in the Mediterranean Sea ecosystem (d'Udekem d'Acoz, 1999).

*E. sollaudi* was previously named *Thorulus sollaudi* by several authors (such as Zariquiey Alvarez, 1968; Lagardère, 1971; Noël, 1992; Vaso, 1993; Falciai and Minervini, 1996). This species was previously reported from the Alboran Sea (the western Mediterranean) (García Raso, 1982), Toscana coasts (Tyrrhenian Sea) (Grippa, 1991), and the southern Adriatic Sea (Vaso, 1993) in the Mediterranean basin. The caridean shrimp *E. sollaudi* is commonly found in southern parts of the Adriatic Sea (Štević, 2002) and it mostly prefers the soft bottoms with *Posidonia oceanica* meadows, photophilic algae, and rocky bottoms of the depths between 20 and 40 m (D'Udekem d'Acoz, 1999).

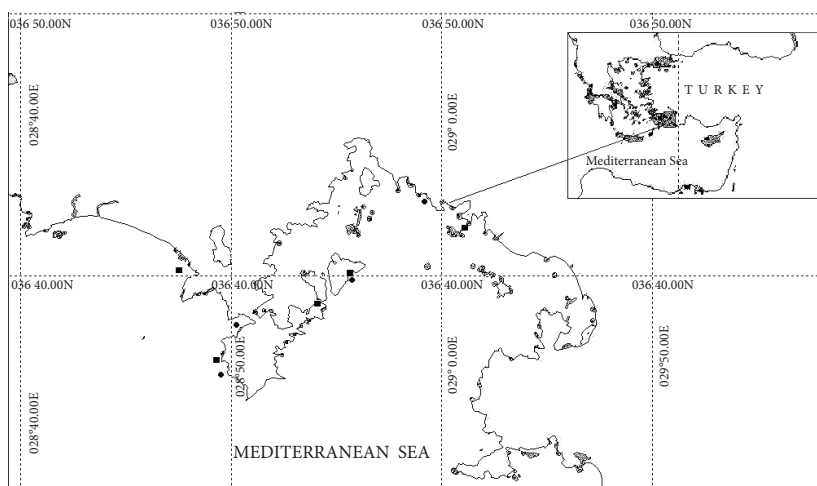


Figure 1. Map showing the new records of *Eualus sollaudi* (●) and *Palaemonella rotumana* (■) in Fethiye Bay.

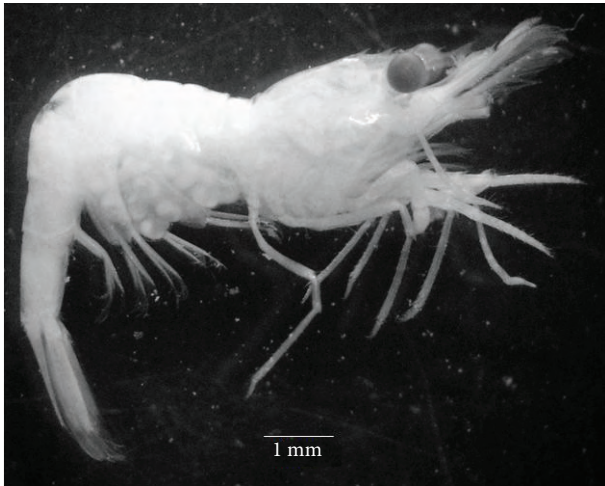


Figure 2. Lateral view of *Eualus sollaudi* (Zariquiey Cenarro, 1935) (♀, TL: 14.7 mm) caught in Fethiye Bay (the Mediterranean shores of Turkey).

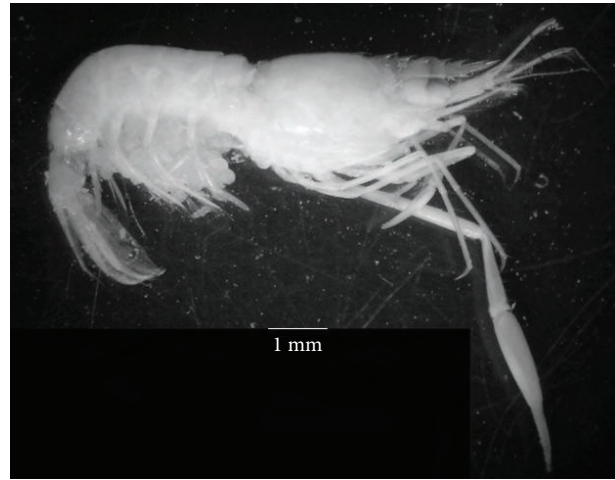


Figure 3. Lateral view of *Palaemonella rotumana* (Borradaile, 1898) (♀, TL: 10.8 mm) collected off the Fethiye coast, the Turkish Mediterranean Sea.

*Palaemonella rotumana* (Borradaile, 1898) (Figure 3)

*Palaemonella vestigialis* Kemp, 1922

Material examined. - Fethiye Bay (the eastern Mediterranean): GPS coordinates 36°40'44"N 28°47'46"E, 5-31 m, *Posidonia oceanica* meadows, 20.06.2008, 1♀, GPS coordinates 36°37'01"N 28°49'32"E, 5-30 m, rocky bottom, 23.06.2008, 1♀, GPS coordinates 36°39'16"N 28°54'02"E, 5-30 m, rocky bottom, 26.06.2008, 1♀, GPS coordinates 36°40'36"N 28°55'58"E, 5-30 m, rocky bottom with sand, 27.06.2008, 1♂, GPS coordinates 36°42'07"N 29°01'02"E, 5-30 m, rocky bottom, 1♂.

The iosk shrimp, *Palaemonella rotumana* (Borradaile, 1898), is 1 of 13 species known of the genus *Palaemonella* Dana, 1852, and it is one of the commonest species in shallow waters of the Indo-West Pacific area (Bruce, 2008). The type locality of this palaemonid shrimp is the coast of Rotuma Island and Fijian Islands in the Central Pacific region and it is widely distributed in the entire Indo-Pacific area (Bruce, 1970), with a distribution area from the northern Red Sea to Mozambique (Li and Bruce, 2006).

The species is widely distributed in the entire Indo-Pacific area, eastern Africa (Red Sea to Mozambique) to the Philippines and Indonesia, also in New Caledonia, French Polynesia, and Hawaii

(Bruce, 1970). The first Mediterranean record of the species was reported as *Palaemonella vestigialis* by Holthuis and Göttlieb (1958) from the Mediterranean coast of Israel. Recently, Grippa (2004) announced in a personal communication the second occurrence of the species near the Fethiye coast, Turkey. While this species is known as a symbiont of corals (Bruce, 1970), it is also found on various substrates such as with *Halimeda*, seagrasses, hard, fine sand bottoms, and on sponges and coral heads at the depths of 0-120 m (Li and Bruce, 2006). Moreover, it is found as an endobiont species inside sponges (Clark et al., 2008). Bruce (1970) found the specimens of this species at a depth of 128 m in the southern China Sea.

Only 2 (*P. rotumana*, *P. tenuipes*) of 13 palaemonid species inhabit shallow waters. Actually, the Indo-West Pacific species such as *Palaemonella aliska*, *P. burnsi*, *P. crosnieri*, *P. foresti*, *P. hachijo*, *P. lata*, *P. maziwi*, *P. pottsii*, *P. pusilla*, and *P. spinulate* all occur in shallow water. In more recent times, Bruce (2008) defined *Palaemonella meteorae*, which is new for the genus *Palaemonella*, at the depths of 519-544 m off the Sudan coast of the Red Sea.

The occurrence of *P. rotumana* in the eastern Mediterranean Sea is a result of Lessepsian migration (Holthuis and Göttlieb, 1958). *P. rotumana* is now known to be particularly variable (De Grave, 2000). The present specimens of the 2 species in our material

are in accordance with the descriptions by Lagardère (1971), Bruce (1970, 1976), and Li and Bruce (2006). Most Atlantic and Indo-west Pacific species have been colonizing the Turkish coast for years.

Consequently, while the hippolyte shrimp, *Eualus sollaudi*, reported herein is new for the Levantine basin of the Mediterranean Sea, the palaemonid shrimp, *Palaemonella rotumana*, specimens recorded herein constitute the first record for the Mediterranean as a whole. The number of known

shrimps from Turkish waters increased to 86 with the addition of these 2 new records.

### Acknowledgement

This study was funded by the Republic of Turkey Ministry of Environment and Forestry (project of determination of biodiversity of coast and marine areas in special environmental protected area of Fethiye, Göcek).

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