A new pontoniine shrimp species, *Eupontonia nudirostris* sp. nov. (Crustacea: Decapoda: Palaemonidae: Pontoniinae), was found in association with the thalassematid spoon worm *Listriolobus* sp. (Echiura: Thalassematidae) in the mangrove littoral of Dam Bay of Tre Island, Nhatrang Bay, Vietnam. This is the first record of an association between symbiotic pontoniine shrimp and spoon worm as their host. The new shrimp species clearly differs from other representatives of the genus *Eupontonia* Bruce, 1971 by the unarmed rostrum with a blunt tip and the reduced antennal tooth on the carapace, which can be considered as an adaptation to symbiotic lifestyle inside cramped burrows of the host. A revised key to the genus *Eupontonia* Bruce, 1971 is presented.

**Key words:** Crustacea, Decapoda, Caridea, Palaemonidae, Pontoniinae, *Eupontonia*, shrimp, new species, spoon worms, Echiura, Thalassematidae, *Listriolobus*, Pacific, South-China Sea, Nhatrang Bay, Vietnam

**INTRODUCTION**

Four pontoniine shrimp genera, *Palaemonella* Dana, 1852, *Exoclimenella* Bruce, 1995, *Eupontonia* Bruce, 1971 and *Vir* Holthuis, 1952, are known to possess a mandibular palp (e.g. Bruce, 1971; Holthuis, 1993; Duriš & Bruce, 1995; De Grave & Fransen, 2011), often considered to be an ancestral character. Members of these genera possess a slender cylindrical body and slender appendages, both characteristic of free-living species. Nevertheless, some species are known as symbionts. *Palaemonella aliska* Marin, 2008 and *Palaemonella pottsi* (Borradaile, 1915) are known as associates of burrowing snapping shrimps (Crustacea: Decapoda: Alpheidae) and crinoids (Echinodermata: Comasteridae), respectively (Marin & Savinkin, 2007; Marin, 2008, 2012), while *Palaemonella rotumana* (Borradaile, 1898), *Exoclimenella* spp., and *Eupontonia oahu* Bruce, 2010 are known as facultative and *Vir* spp. as obligate associates of scleractinian corals (Marin & Savinkin, 2007; Marin, 2007; 2008; Marin & Anker, 2006; Bruce, 2010). Herewith a new species of the genus *Eupontonia* is described from Dam Bay of Tre Island, Nhatrang Bay, Vietnam (12°12′19.53″N 109°18′11.12″E), with unusual morphology possibly as an adaptation to a symbiotic lifestyle in association with thalassematid innkeeper or spoon worms (Echiura: Thalassematidae), representing the first record of pontoniine shrimps with echiurian hosts (review in Anker et al, 2005). Mangrove littoral of Dam Bay presenting an interesting biotope with numerous new burrowing species observed (e.g. Dworschak et al, 2006; Anker et al, 2006; Anker & Marin, 2007; Marin, 2008).

The genus *Eupontonia* Bruce, 1971 currently includes 3 known species: *Eupontonia noctalbata* Bruce, 1971 (type species), known from the Seychelles and Xisha Islands in the South China Sea (Bruce, 1971; Li, 1997), *Eupontonia oahu* Bruce, 2010, known from Oahu, Hawaii only (Bruce, 2010) and the recently described *Eupontonia gracilipes* Komai & Minemizu, 2014, only known from the southern Ryukyu Islands, Japan (Komai & Minemizu, 2014).

Postorbital carapace length (pcl., in mm), the length from the orbit to the distal margin of the telson, and total body length (tl., in mm), the length from the tip of the rostrum to the distal margin of the telson, are used as standard measurements of size. The examined material is deposited in Zoological Museum of Moscow State University, Moscow (ZMMU).
Pleopods normal, without specific features; pleopod II with appendix interna (Fig. 2k). Uropods relatively stout, exceeding telson (Fig. 2e, f); distolateral margin of uropodal exopod (Fig. 2f) with sharply produced distolateral margin and small movable distolateral spine.

**Coloration.**—Generally body and appendages generally transparent, covered with tiny orange-red bars and bands; cornea black, eyestalk transparent; pereiopods II (chelipeds) covered with particularly broad orange-red band along all segments (Fig. 5a, b).

**Host.**—The species was found in association with the thalassematid spoon worm *Listriolobus* sp. (Echiura, Thalassematidae) (Fig. 5c). The other shrimp collected in the same echiurian hole was a male specimen of *Alpheus* sp. (Crustacea: Decapoda: Alpheidae), probably a new specialized echurian-associated species (Anker & Marin, in prep.). All animals were collected with the help of yabby-pump.

**Distribution.**—The species is presently known exclusively from its type locality, Dam Bay of Tre Island, Nhatrang Bay, Vietnam.

**Discussion.**—The new species can be easily differentiated from congeners by the unarmed rostrum and the reduced antennal tooth on the carapace (see Fig. 2a, b). Such morphological features differ greatly from the other three species and likely present an adaptation to the symbiotic lifestyle in the cramped confines of the burrow of a thalassematid spoon worm, the host of the species. The rostrum of *Eupontonia nudirostris* sp. nov. resembles that of other echurian-associates, namely the alpheid shrimp genus *Athanopsis* Coutière, 1897 (Crustacea: Decapoda: Alpheidae) (Berggren, 1991; Anker & Ahyong, 2007; Marin et al, 2014) and highly-specialized bivalve-associated pontoniine shrimps, such as some *Anchistus* spp., *Conchodytes* spp., *Neoanchistus* cardiodytes Bruce, 1975, *Bruceonia ardea* (Bruce, 1981) and *Pinnotherotonia rumphiusi* Marin & Paulay, 2010 living inside the narrow mantle cavity space of bivalve shells (Bruce, 1972; 1975; 1981; 1989; Marin & Paulay, 2010; Anker et al, 2010; Britayev & Marin, 2011) or some ascidian-associated species living inside their hosts (see Fransen, 2002). From representatives of the genera *Exoclimenella*, *Palaemonella* and *Vir* the species can be separated by the absence of a hepatic tooth on the carapace (characteristic for the genus *Palaemonella*), stripes on eyestalk (characteristic for all species of the genus *Vir*) and the simple chela of the first pereiopod (vs. spatulated in *Exoclimenella*). The new species undoubtedly belongs to the genus *Eupontonia*, as demonstrated by the presence of a 2-segmented mandibular palp and the sharp processes on the fourth and fifth thoracic sternites (see diagnosis in Bruce, 1971 and Komai & Minemizu, 2014).

**Revised key to species of *Eupontonia* Bruce, 1971**

1. Dorsal and ventral margin of rostrum armed with well-developed teeth ................................................................. 2
   – Rostrum unarmed .................................................................................................................. *E. nudirostris* sp. nov.

2. Carapace with supraorbital tooth .................................................................................................................. 2
   – Carapace without supraorbital tooth ......................................................................................... *E. noctalbata*

2. Posteriormost tooth of dorsal rostral series distinctly postrostral; pereiopod II with carpus distinctly longer than palm, unarmed .......................................................... *E. gracilipes*
   – Posteriormost tooth of dorsal rostral series not postrostral; pereiopod II with carpus distinctly shorter than carpus, armed with small distomesial tooth .................................................................................. *E. oahu*

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**LITERATURE CITED**


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