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A new species of *Paracaprella* Mayer, 1890 (Amphipoda: Caprellida: Caprellidae) from southern Brazil

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Abstract

A new species of the genus *Paracaprella* is described based on the specimens associated with the algae *Sargassum cymosum* and *Laurencia obtusa* that were collected from infralittoral depths (0.5 to 3.0 m) at Sepultura Beach, Bombinhas and Paciência Beach, Penha, Santa Catarina State, Brazil. This new species differs from the others of the genus by the unique morphology of the males' gnathopod 2: its propodus has a grasping margin provided with a deep groove. An identification key for *Paracaprella* species is also presented.

Key words: taxonomy, amphipods, caprellids, identification key

Introduction

Despite the abundance and the high frequency of caprellids in the coastal epibionts communities (Thiel *et al.* 2003) and, therefore, despite their ecological importance as secondary and tertiary producers in marine benthic communities (Guerra-Garcia 2002), the taxonomy of these animals are poorly studied in Brazil.

The genus *Paracaprella* Mayer, 1890 comprises eight species, *Paracaprella alata* Mayer, 1903; *P. barnardi* McCain, 1967; *P. crassa* Mayer, 1903; *P. digitimanus* Quitete, 1971; *P. guerragarciai* Winfield and Ortiz, 2013; *P. insolita* Arimoto, 1980; *P. pusilla* Mayer, 1980 and *P. tenuis* Mayer, 1903. These species are distributed in temperate, subtropical and tropical seas, mostly from 40°N to 20°S (for details of the species distribution see Winfield and Ortiz 2013). There are only three species of *Paracaprella* recorded from Brazilian waters: *P. digitimanus* (Quitete 1971), *P. pusilla* (Serejo 1998; Leite *et al.* 2007; Dubiaski-Silva & Masunari 2008) and *P. tenuis* (Cunha *et al.* 2008; Dubiaski-Silva & Masunari 2008).

The genus *Paracaprella* is characterized by antenna 2 without swimming setae, mandibular palp absent or reduced to one seta or to 2–3 segments, molar present, pereopods 3 and 4 minutes and 2-articulated, male abdomen with a pair of appendages and a pair of lobes and female abdomen with a pair of lobes (McCain 1968).

In this study a new species of *Paracaprella* is described and compared with related species.

Material and methods

The specimens of caprellids were collected at Sepultura Beach, municipality of Bombinhas (27º08'27"S–48º28'42"W), on October, 16th, 1993 and September, 26th, 2011 and at Paciência Beach, municipality of Penha (26º46'28"S–48º36'02"W) on August, 30th, 2012, both localities in Santa Catarina State, southern Brazil. They were found associated with the phytal of the brown alga *Sargassum cymosum* C. Agardh, 1820 and of the red alga *Laurencia obtusa* (Hudson) J.V.Lamouroux 1813; these algae were attached on rocky surface in infralittoral depths, from 0.5 to 3.0 m.

A total of 54 specimens (31 males and 23 females) of the new species were examined that were preserved in ethyl alcohol 70%. The dissected material (antennae, gnathopods, mouthparts, pereopods and abdomen) was

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Discussion

The species of the genus *Paracaprella* are distributed in temperate, subtropical and tropical seas, from 40°N to 20°S (Winfield & Ortiz 2013). Among them, *Paracaprella pusilla* is probably the most widely distributed species and it has been sampled in several countries of North and South America, Africa, Asia and Oceania (for the complete information of *Paracaprella* species distribution see Winfield & Ortiz 2013).

Specimens of *Paracaprella dubiaski* **sp. n**. were firstly collected in 1993 at Sepultura Beach, and they were found again recently in 2011 from the same locality, and in 2012 at Paciência Beach, both localities in Santa Catarina State. Despite several caprellid samplings performed in the coast of other states of southern Brazil (São Paulo and Paraná), no specimens of *Paracaprella dubiaski* **sp. n**. was found there. These data can indicate an endemism of the species to Santa Catarina State coast, with highly limited geographical distribution. It seems that climatic conditions of this locality are influencing the occurrence of the species more strongly than the biological substrates, as both species of algae are widely distributed in other states of Brazil, mainly *Sargassum cymosum*.

Due to relatively reduced size of *Paracaprella* species, it is guessed that more records will come from Brazilian waters in near future. This supposition is based on the finding of a new species of this genus, *P. digitimanus*, from northern coast of the country (Quitete 1971) and the present new species, emphasizing the need for further taxonomic studies in Brazil.

Paracaprella dubiaski **sp. n**. is morphologically most similar to *P. pusilla* in having a large and triangular anteroventral projection on pereonite 2. However, the new species differs from these species by the unique propodus of gnathopod 2 provided with a deep groove, and the lack of mandibular palp (represented by a single setae in *P. pusilla*) (Table 1).

Species of the genus *Paracaprella* have been recorded from both natural and artificial substrates, mainly associated with animal colonies as bryozoan and hydroids and with alga tufts (McCain 1968; Winfield & Ortiz 2013). However, *Paracaprella dubiaski* **sp. n.** was only found associate with the algae *Sargassum cymosum* and *Laurencia obtusa*, although many other substrates were sampled in its occurrence site like colonies of bryozoans, hydroids and polychaete and other alga species. This association can indicate a specificity of the present new species for the above biological substrates.

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