



<http://dx.doi.org/10.11646/zootaxa.3835.1.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:98E76FDF-C0D5-4FF4-BDB0-A3FECD5D2B63>

A new snapping species of the shrimp genus *Typton* Costa, 1844 (Decapoda: Palaemonidae) from the coast of São Paulo, southeastern Brazil

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Abstract

A new species of the palaemonid shrimp genus *Typton* Costa, 1844, *Typton fapespae* sp. nov., is described based on several specimens collected in Ubatuba and São Sebastião, northern coast of the state of São Paulo, Brazil. Most specimens were found in association with sponges, including *Mycale* (*Zygomycale*) *angulosa* (Duchassaing & Michelotti, 1864) (Demospongiae: Mycalidae); however, one paratype from Ubatuba was extracted from a colony of the bryozoan *Schizoporella errata* (Waters, 1878) (Gymnolaemata: Schizoporellidae). In *T. fapespae* sp. nov., the posterodorsal margin of the sixth abdominal segment bears a strong median tooth, a feature shared with *T. hephaestus* Holthuis, 1951, *T. holthuisi* De Grave, 2010 and *T. spongicola* Costa, 1844. However, the new species can be separated from each of these three species by at least two morphological features.

Key words: Brazil, Caridea, Pontoniinae, South-West Atlantic, sponge-dwelling shrimp, symbiosis

Introduction

The Palaemonidae is a large family of caridean shrimps currently comprising almost 1000 species worldwide (De Grave & Fransen 2011). Most taxa remaining to be described in this family are expected to be small-sized shrimps (less than 10 mm total length) with ecologically cryptic, i.e. hidden and often symbiotic, life style, such as members of the genus *Typton* Costa, 1844 in the subfamily Pontoniinae. This genus includes shrimps found solitarily or in heterosexual pairs in association with various sponge hosts (Đuris *et al.* 2011). The general term “association” is frequently used for cases where the actual nature of the relationship between the shrimp and its host is largely unknown (Bauer 2004). However, Đuris *et al.* (2011) demonstrated, based on functional morphology and analysis of stomach contents, that at least some species of *Typton* are adapted to feed on tissues of their host sponges, thus indicating a parasitic nature of association. On the other hand, symbiotic shrimps might benefit the host sponge by preventing infestation by potentially more host damaging symbionts and microbes (Đuris *et al.* 2011).

Typton presently contains 17 valid species worldwide (De Grave & Fransen 2011) having the following distribution: *T. spongicola* Costa, 1844 (type species) in the eastern Atlantic; *T. ascensionis* Manning & Chace, 1990, *T. holthuisi* De Grave, 2010 in the central Atlantic; *T. carneus* Holthuis, 1951, *T. distinctus* Chace, 1972, *T. gnathophylloides* Holthuis, 1951, *T. prionurus* Holthuis, 1951, *T. tortugae* McClendon, 1911, *T. vulcanus* Holthuis, 1951 in the western Atlantic; *T. crosslandi* Bruce, 1978, *T. hephaestus* Holthuis, 1951, *T. serratus* Holthuis, 1951 in the eastern Pacific; *T. australis* Bruce, 1973, *T. bawii* Bruce, 1972, *T. capricorniae* Bruce, 2000, *T. manningi* Bruce, 2000, and *T. wasini* Bruce, 1977 in the Indo-West Pacific (Costa 1844; McClendon 1911; Holthuis 1951; Chace 1972; Bruce 1972, 1973, 1977, 1978, 2000; Manning & Chace 1990; De Grave 2010).

lateral teeth in *T. fapespae* **sp. nov.** vs. not reaching beyond them in *T. spongicola* (cf. Fig. 1F, G and Bruce 2009: figs. 1, 3J). *Typton fapespae* **sp. nov.** differs specifically from *T. holthuisi* by the pollex of the minor second pereopod ending in a simple tip (vs. with bifid tip in *T. holthuisi*, cf. Fig. 2J, L and De Grave 2010: fig. 2J); the dactyli of the ambulatory pereopods (P3–5) furnished with much smaller denticles on the corpus and with an unarmed unguis (vs. with much larger denticles on the corpus and some denticles also on the unguis in *T. holthuisi*, cf. Fig. 3D, E and De Grave 2010: fig. 3D, F); the shorter dorsolateral spines of the telson (about 0.10 telson length in *T. fapespae* **sp. nov.** vs. 0.14 in *T. holthuisi*, cf. Fig. 1H and De Grave 2010: fig. 1I); and the presence (in most specimens) of a minute median tooth on the posterior margin of the telson (absent in *T. holthuisi*, cf. Fig. 1J and De Grave 2010: fig. 1J). Regarding its size, *T. fapespae* **sp. nov.** (pocl 1.9–3.4 mm) is intermediate between the somewhat smaller *T. holthuisi* (pocl 1.4–1.5 mm, De Grave 2010) and much larger *T. spongicola* (pocl of ovigerous females 6.5–7.5 mm, Bruce 2009).

Typton fapespae **sp. nov.** can be easily distinguished from all other western Atlantic species of *Typton*, including all species previously reported from Brazilian waters (*T. carneus*, *T. distinctus*, *T. gnathophylloides*, *T. prionurus*, *T. tortugae*), by the presence of a strong median tooth on the posterodorsal margin of the sixth abdominal somite.

Acknowledgements

The authors are indebted to the following foundations for their support during the development of this project: FAPESP (Temático Biota Proc. 2010/50188-8; Coleções Científicas Proc. 2009/54931-0), CNPq (Proc. 491490/2004-6; 490353/2007-0; 471011/2011-8; 504322/2012-5; 302748/2010-5) and CAPES/DAAD (Proc. 315/09), all to FLM. AOA and FLM also thank Fernando Zara for his help during the Biota field trip to Ubatuba. AA is grateful to Marcos Tavares, Joel B. Mendonça (MZUSP) and Paulo P.G. Pachelle (Universidade Federal do Ceará, Fortaleza) for their help during field research conducted at CEBIMar/USP, São Sebastião. The collection of the material reported in this study complied with the current applicable state and federal laws of Brazil (Ubatuba: DIFAP/IBAMA/126/05; permanent license for collection of Zoological Material No. 11777-1 MMA/ IBAMA/ SISBIO to FLM; São Sebastião: general scientific collection license to MZUSP).

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