New and additional records of the sponge shrimp genus *Typton* Costa, 1844 (Decapoda: Palaemonidae) from the Brazilian coast

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**ABSTRACT**

The present study deals with Brazilian material of four sponge-dwelling species of the pontoniine shrimp genus *Typton* Costa, 1844: *T. distinctus* Chace, 1972, *T. fapespae* Almeida, Anker & Mantelatto, 2014, *T. prionurus* Holthuis, 1951, and *T. vulcanus* Holthuis, 1951. *Typton distinctus* and *T. fapespae* are recorded for the first time from Rio de Janeiro, representing a significant southward range extension for the former species (previously known only from Pernambuco) and a slight northward extension for the latter species (previously known only from São Paulo). *Typton prionurus* and *T. vulcanus* are recorded for the first time from Bahia. The former species was previously known from Brazil based on a single questionable record from the coast of Pará, whereas the latter species is recorded from Brazil and the southwestern Atlantic for the first time. Illustrations are provided for *T. prionurus* and *T. vulcanus*.

**KEY-WORDS:** Palaemonidae; Sponge-dwelling shrimp; *Typton*; Brazil; Western Atlantic; New records.

**INTRODUCTION**

The pontoniine genus *Typton* Costa, 1844 includes small marine shrimps (usually less than 10 mm total length) that appear to be almost exclusively associated with demosponges (Holthuis, 1951). These shrimps dwell deep in sponge canals and at least some species are known to be parasites, occasionally feeding on the tissues of their sponge hosts (Duris et al., 2011).

Members of the genus *Typton* can be recognised by a combination of several morphological features, the most important being the non-toothed and laterally compressed rostrum, extremely reduced antennal scale, carapace bearing only antennal spine, mandible without palp, maxillipeds with exopods, second cheilipeds highly asymmetrical, third to fifth pereiopods robust and with biunguiculate dactyls, and male second pleopod without appendix masculina (Holthuis, 1951; Vieira et al., 2012).

In the Atlantic Ocean, *Typton* is represented by 10 species, most of them found in shallow tropical and subtropical waters of the western Atlantic. Six species of *Typton* have been reported from Brazilian waters: *T. carneus* Holthuis, 1951, *T. distinctus* Chace, 1972, *T. fapespae* Almeida, Anker & Mantelatto,
2014, *T. gnathophylloides* Holthuis, 1951, *T. prionurus* Holthuis, 1951 and *T. tortugae* McClendon, 1911 (Ramos-Porto & Coelho, 1998; Coelho *et al.*, 2006; Vieira *et al.*, 2012; Almeida *et al.*, 2014; Sole-dade *et al.*, 2015). However, the Brazilian record of *T. prionurus* was based on a single table listing with uncertain identification (as “*T. prionurus* Holthuis?”) in Bullis & Thompson (1965); this unconfirmed record was later merely repeated in Coelho *et al.* (2006). In addition, all records of *T. gnathophylloides* from southern Brazil were re-attributed to *T. fapespae* by Almeida *et al.* (2014), although more recently *T. gna-
thophylloides was found in the Abrolhos (Bahia), thus representing the first actual record of the species in Brazil (Soledade et al., 2015).

While identifying caridean samples deposited in the Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil (MZUSP), we found several interesting specimens of Typton, collected on the coasts of the Brazilian states of Rio de Janeiro and Bahia. These specimens belong to three species previously reported from Brazil, viz. Typton distinctus, T. fapespae (representing range extensions), T. prionurus (confirming its presence in Brazil, with significant range extension), and one species, T. vulcanus Holthuis, 1951, previously known only from the Caribbean Sea, Gulf of Mexico and Florida (Holthuis, 1951; Chace, 1972; Abele & Kim, 1986; Duris et al., 2009), thus representing a new record for Brazil and the southwestern Atlantic. These four species are reported in the present study, accompanied by illustrations of the Brazilian material of T. prionurus and T. vulcanus. Drawings were made using a stereomicroscope equipped with camera lucida. Carapace length (cl, in mm) was measured along the dorsal midline from the tip of the rostrum to the posterior margin of the carapace.

**Taxonomy**

**Family Palaemonidae Rafinesque, 1815**

**Subfamily Pontoniinae Kingsley, 1879**

**Genus Typton Costa, 1844**

*Typton distinctus* Chace, 1972

*Typton prionurus* Holthuis, 1951 (Fig. 1)

*Typton fapespae* Almeida, Anker & Mantelatto, 2014

*Typton vulcanus* Holthuis, 1951

**Remarks:** The female of *Typton distinctus* from Arraial do Cabo represents a significant southward range extension of this species from Pernambuco (8°S) to Rio de Janeiro (22°S). Among the Brazilian species, *T. distinctus* is morphologically closest to *T. carneus*, but can be distinguished from the latter by the rostrum not deepening near midlength (versus rostrum deepening near midlength), the more strongly twisted major chela dactylus, the less produced ventral margin of the major chela carpus, and the mandible having a reduced incisor process (versus well-developed incisor process) (Chace, 1972).

*Typton fapespae* Almeida et al., 2014: 111, figs. 1-5.

*Typton fapespae* Almeida et al., 2014: 111, figs. 1-5.

*Typton gnathophylloides* – Nalesso et al., 1995: 96; Duarte & Nalesso, 1996: 143; Amaral et al., 2010: 249 [not *T. gnathophylloides* Holthuis, 1951].

**Material examined:** 1 ovigerous female (cl 4.2 mm), MZUSP 31504, Brazil, Rio de Janeiro, Angra dos Reis, Praia Grande, 05.ix.1979.

**Description:** For original description and figures see Almeida et al. (2014).

**Distribution:** Western Atlantic; Brazil (São Paulo and Rio de Janeiro) (Almeida et al., 2014; present study).

**Remarks:** The ovigerous female of *Typton fapespae* from Angra dos Reis represents a slight northward range extension of this species from São Paulo to Rio de Janeiro. The species is unique among the Brazilian species of *Typton* in having three sharp teeth (one median and two lateral) on the posterior margin of the sixth abdominal somite (Almeida et al., 2014).

*Typton prionurus* Holthuis, 1951

(Fig. 1)

*Typton prionurus* Holthuis, 1951: 165, pl. 52, figs. a-l; Holthuis, 1952: 19; Bullis & Thompson, 1965: 8; Chace, 1972: 52; Abele & Kim, 1986: 17, 187, figs. a-c; Camp, 1998: 140; Coelho et al., 2006: 51; Duris et al., 2009: 1056; Santana-Moreno et al., 2013: 233, fig. 2L.
**Material examined:** 1 male (cl 2.7 mm), 1 ovigerous female (cl 2.8 mm), MZUSP 31143, Brazil, Bahia, Baía de Todos os Santos, Porto da Barra, sta. MT6 CA6, 13°00’05”S, 38°32’01”W, associated with *Callospongia* sp., depth 4-6 m, coll. C. Menegola & L. Martins, 20.xi.2012.

**Figure 2:** *Typton vulcanus* Holthuis, 1951: male (cl 2.6 mm), MZUSP 31144, from Baía de Todos os Santos, Bahia, Brazil, a: frontal region, dorsal; b: same, lateral; c: sixth abdominal somite, dorsal; d: telson, dorsal; e: third maxilliped, lateral; f: first cheliped, lateral; g: major second cheliped, lateral; h: same, distal merus, carpus and chela, mesial; i: minor second cheliped, lateral; j: same, distal merus, carpus and chela, mesial; k: third pereiopod, lateral; l: same, distal propodus and dactylus, lateral; m: uropod, dorsal.
**Typton prionurus** Holthuis, 1951

(Fig. 1)


**Material examined:** 1 male (cl 2.6 mm), MZUSP 31144, Brazil, Bahia, Baía de Todos os Santos, Porto da Barra, sta. MT2 DA3, 13°00'05"S, 38°32'01"W, associated with *Callyspongia* sp., depth 4-6 m, coll. C. Megnola & L. Martins, 20.xi.2012; 1 ovigerous female (cl 3.2 mm), MZUSP 29180, same collection data.

**Description:** For original description and figures see Holthuis (1951); the male specimen from Bahia is illustrated in Fig. 1.

**Distribution:** Western Atlantic: USA (Florida), Mexico (Gulf of Mexico), Brazil (Pará, Bahia) (Holthuis, 1951; Bullis & Thompson, 1965; Camp, 1998; Duris *et al.*, 2009; Santana-Moreno *et al.*, 2013; present study).

**Remarks:** The present material confirms the occurrence of *Typton prionurus* in the southwestern Atlantic (Brazil). The single previous record of *T. prionurus* from off Pará by Bullis & Thompson (1965) remains doubtful as it was listed as “*Typton prionurus* Holthuis?”, with no further remarks, illustrations or indication of where the corresponding material was deposited. Bullis & Thompson’s (1965) record was apparently overlooked by Vieira *et al.* (2012), although it was listed in an earlier checklist of Coelho *et al.* (2006). We found no noticeable difference between the present material of *T. prionurus* (Fig. 1) and Holthuis’ (1951) description and figures. The species may be readily distinguished from its West Atlantic congener by the serrate distolateral margin of the uropodal exopod (Fig. 1 m).

**Typton vulcanus** Holthuis, 1951

(Fig. 2)


**Material examined:** 1 male (cl 2.6 mm), MZUSP 31144, Brazil, Bahia, Baía de Todos os Santos, Porto da Barra, sta. MT2 DA3, 13°00'05"S, 38°32'01"W, associated with *Callyspongia* sp., depth 4-6 m, coll. C. Megnola & L. Martins, 20.xi.2012; 1 ovigerous female (cl 3.2 mm), MZUSP 29180, same collection data.

**Description:** For original description and figures see Holthuis (1951); the male specimen from Bahia is illustrated in Fig. 2.

**Distribution:** Western Atlantic: USA (Florida), Mexico (Gulf of Mexico), Colombia (Cape la Vela), Brazil (Bahia) (Holthuis, 1951; Camp, 1998; Duris *et al.*, 2009; present study).

**Remarks:** The present material represents the first record of occurrence of *Typton vulcanus* in the southwestern Atlantic. The Brazilian material agrees well with Holthuis’ (1951) description and figures of *T. vulcanus*, although differing in presenting a conspicuous longitudinal depression on the dorsal surface of the major chela (Fig. 2g), a character not mentioned nor illustrated by Holthuis (1951). The importance of this character for species differentiation is yet to be determined by a direct comparison between the Brazilian and Caribbean-Florida materials.

**RESUMO**


**Palavras-Chave:** Palaemonidae; Camarões associados a esponjas; *Typton*; Brasil; Atlântico Ocidental; Novos registros.

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