The Ampithoidae are phycophyllous amphipods commonly found associated with several species of macroalgae. The species inhabit open ended tubes constructed among algae with a mucoid cement secreted from dactyls of pereopods 3 and 4 (CONLAN, 1982). Ampithoids are found in the shallow water of tropical, subtropical and temperate zones of the world, and they are quite abundant along the Brazilian coast. However, only the cosmopolitan Ampithoe ramondi Audouin, 1826 was previously recorded from our coast, with its distribution restricted to Rio de Janeiro and São Paulo states (SEREJO, 1998; WAKABARA & SEREJO, 1998).

Ampithoe encompasses a large number of species (61) and is the largest genus within the Ampithoidae (POORE & LOWRY, 1997). DANA (1853) first described A. brasiliensis and A. filicornis from Rio de Janeiro Harbor, both later considered synonymous with Cymadusa filosa Savigny, 1816 (BARNARD & KARAMAN, 1991). Based on material from the Brazilian coast two species of Ampithoe were herein redescribed: A. divisura Shoemaker, 1933 and A. ramondi and a new species was described, A. seticoxae. Abbreviations used in the text are the following: (MNRJ) Museu Nacional/Universidade Federal do Rio de Janeiro. Brazilian states: (BA) Bahia; (PE) Pernambuco; (RJ) Rio de Janeiro; (SC) Santa Catarina. Figures: (Ant) antenna; (Ep) epistome; (Gn) gnathopod; (Hd) head; (LL) lower lip; (Md) mandible; (Mxl) maxilla; (P) pereopod; (U) uropod; (UL) upper lip.

MATERIAL AND METHODS

The samples were obtained by SCUBA diving. In the shallow infralittoral, different types of algae, sponges and bryozoans were collected and kept in plastic bags. On the surface, the substrate was dropped in a large bucket, together with some amount of ethanol to kill the amphipods. The substrate was then taken out of the bucket and the debris with the animals was sieved through a 0.5μm mesh. The sieved material was then fixed in 70% ethanol and labeled. Some specimens of each species were dissected, and the bucal pieces mounted on permanent slides. Illustrations were made using an AxioLab Zeiss microscope with a camara lucida.

SYSTEMATICS

Family Ampithoidae Stebbing, 1899
Genus Ampithoe Leach, 1814

Diagnosis – Accessory flagellum absent. Outer lobe of lower lip notched. Mandibular molar well developed, palp 3-articulate. Gnathopod 2 larger than gnathopod 1 in males, similar in size and shape in females. Pereopods 5-7 simple or weekly prehensile. Pereopod 7 similar to pereopod 6. Uropod 1, peduncle with small rounded disto-ventral spur or lacking the spur. Uropod 3, rami broad, outer rami with 2 large recurved spines. Telson with small cusps, expanded into large hooks, or absent (from POORE & LOWRY, 1997).

Ampithoe divisura Shoemaker, 1933
(Figs.1-3)

Ampithoe divisura Shoemaker, 1933:255, fig.8.

Material examined – Boa Viagem Beach, Guanabara Bay, RJ, on algae and bryozoans, 1-2m depth, 5 and 1, MNRJ 13158; Gravatás Beach, Florianópolis, SC, on algae, 2-5m depth, 7 and 5, MNRJ 13562; Pântano do Sul Beach, Florianópolis, SC, on algae and sponges, 4-5m, 13 and 15, MNRJ 13563.

Diagnosis – Antenna 2 with flagellum shorter than peduncular article 5. Male gnathopod 2 palm with blunt tooth, palmar cleft V-shaped. Pereopods 3-4 robust, article 5 about 2/3 length of article 4. Pereopods 5-7, propodus with 2 distal robust striated spines. Uropod 1, peduncle with broadly rounded inter-ramal process.

Description – O (5.3-7.0mm). Antenna 2 slightly longer than antenna 2, flagellum with 17-20 articles and aesthetasc on each article. Antenna 2 setose, flagellum shorter than peduncular article 5;
flagellum with 9-11 articles. Both antennae about 2/5 of body length. Right mandible with 3 spines on setal row; mandibular palp article 2 subequal to article 3, article 3 with about 8 distal and sub-distal bipectinate setae. Lobules of lower lip slender and separated. Maxilla 1, inner lobe with two long bipectinate setae; outer lobe with 10 dentate spines, palp with 4 to 6 apical spines and 3 facial setae. Maxilla 2, inner lobe with sequence of 11-12 submarginal plumose setae; outer lobe with several long distal setae and marginal and distal setules. Maxilliped with 11 teeth on inner margin of outer lobe; outer angle of outer lobe and first article of palp with one well developed seta each.

Coxa 1 projected forward. Gnathopod 1, basis lobate antero-distally; carpus unproduced at the posterodistal angle; propodus rectangular, with one large spine on defining angle of the palm; dactylus finely serrated on inner side. Gnathopod 2, basis lobate antero-distally; propodus anterior margin setose and produced anteriorly in larger specimens (7.0mm); palm with sparse setae and defined by a blunt tooth, palmar cleft V-shaped; dactylus finely serrated on inner side. Pereopods 3-4 robust, article 5 about 2/3 of article 4. Propodus of pereopods 5-7 with four spines, two proximal smooth and two distal robust striated spines.

Fig. 1 - *Ampithoe divisura* Shoemaker, 1933, ♂, 7.2mm, Guanabara Bay, RJ, MNRJ 13158. (Ant) antenna; (Ep) epistome; (LL) lower lip; (Md) mandible; (Mxl) maxilla; (UL) upper lip.
Uropod 1, peduncle with broadly rounded disto-ventral inter-ramal process; outer ramus with 5-7 marginal spines; inner ramus with 2 marginal spines. Uropod 2, peduncle with vestigial triangular process; outer ramus with 3-4 marginal spines; inner ramus with respectively 3 and 2 marginal spines on the outer and inner side. Uropod 3, peduncle distal margin with 5 spines. Telson triangular and setose, with rounded tip.

♀ (ovigerous, 5.9mm). Antennae slightly shorter than in males, about 1/3 of body length. Antenna 2, flagellum subequal to peduncular article 5 and not shorter as in males. Gnathopod 2, palm sinuous, lacking digitiform process. Uropod 1, peduncular disto-ventral process inconspicuous.

Remarks – The Brazilian specimens agree in most aspects to the material from Florida described by SHOEMAKER (1933). Differences were noted in the palp of maxilla 1, that presented 4 spines on the Brazilian specimens, instead of 5 spines; and articles 2-3 of the mandibular palp are subequal in length and not the second article the longest, as described in the Florida material (SHOEMAKER, 1933).

*Ampithoe divisura* is part of the *A. ramondi* complex, which is characterized by a large digitiform process on the male gnathopod 2 palm and was even synonymized with *A. ramondi* by BARNARD & KARAMAN (1991). However, *A. divisura* can be distinguished from *A. ramondi* by some distinct characters such as: the flagellum of the antenna 2 is shorter than the peduncular article 5; the male gnathopod 1 carpus is unproduced at the posterodistal angle; the palm of male gnathopod 2 has a blunt digitiform process, with palmar cleft V-shaped; the propodus of pereopods 5-7 has 2 robust distal striate spines; and the uropod 1 has a broadly rounded inter-ramal process.

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*Fig.2- Ampithoe divisura* Shoemaker, 1933, ♂, 7.2mm, Guanabara Bay, RJ, MNRJ 13158. (Gn) gnathopod; (P) pereopod.
Ampithoe divisura is very close to A. kava Myers (1985), described for the Pacific, in all the characters listed above, but some differences were noted. The flagellum of antennae 2 has 9–11 articles, but 6 articles in A. kava and the uropod 1 outer ramus have 5–7 marginal spines, but 4 spines in A. kava (MYERS, 1985). On the other hand, the specimens from Hawaii described by BARNARD (1970) as A. ramondi and synonymized with A. kava by POORE & LOWRY (1997) have the flagellum of antennae 2 figured with 9 articles in a 6.8mm male. Furthermore, the anterodistal margin of the propodus male gnathopod 2 is anteriorly projected as in Brazilian specimens. POORE & LOWRY (1997), on a detailed redescription of A. kava, cited the maxilla 1 inner lobe lacking setae and the palp of outer plate with 8 apico-medial spines. The Brazilian specimens of A. divisura have the maxilla 1 with 2 long seta on the inner lobe and 4 apico-medial spines on the palp of outer lobe. This was the first record of A. divisura for the Southwestern Atlantic.

Distribution – Bird Key Reef, Tortugas, Florida, USA (SHOEMAKER, 1933) (type locality). Brazil: RJ and SC.

![Figure 3](image-url)

Fig. 3- Ampithoe divisura Shoemaker, 1933, ♂, 7.2mm and ♀, 5.0mm, Guanabara Bay, RJ, MNRJ 13158. (Gn) gnathopod; (T) telson; (U) uropod.
Ampithoe ramondi Audouin, 1826
(Figs. 4-5)


Material examined – Santo Aleixo Island, Serinhaém, PE, 2♀ and 5♂, MNRJ 10024; Porto da Barra Beach, BA, on sponges, 2♀ and 2♂, MNRJ 13162; Arraial do Cabo, RJ, on sponges, 12♀ and 30♂, MNRJ 9998; Pântano do Sul Beach, Florianópolis, SC, 4-5m, on algae and sponges, 1♀, MNRJ 13565.

Diagnosis – Antennae 1-2 subequal. Male gnathopod 2 palm with acute tooth, palmar cleft U-shaped. Pereopods 3-4 robust, article 4-5 subequal in length. Distal spines on propod of pereopods 5-7 acute and smooth. Uropod 1 lacking inter-ramal process.

Description – ♂ (4.8mm). Antenna 1 larger than antenna 2, flagellum with about 29 articles, antenna 2, peduncle with articles 4-5 subequal in length, flagellum with about 17 articles. Lower lip with lobules slender and separated. Maxilla 1, inner lobe with 4 long bipectinate setae, outer lobe with 10 dentate spines, palp with 6 apical spines and 4 subdistal setae. Coxa 1 projected forward. Gnathopod 1, basis lobated anteriorly; carpus with triangular process at the posterodistal angle; propod rectangular, with a large spine defining the palm; dactylus serrated internally. Gnathopod 2, basis lobated anteriorly; anterior margin of propod setose and slightly projected distally; palm defined by an acute digitiform process, palmar cleft U-shaped, dactylus serrated internally. Pereopods 3-4 robust, article 4-5 subequal in length. Propod of pereopods 5-7 with acute and smooth spines.

Fig. 4- Ampithoe ramondi Audouin, 1826, ♂, 4.8mm, Santo Aleixo Island, Serinhaém, PE, MNRJ 10024. ♂, 4.5mm, Porto da Barra Beach, BA, MNRJ 13162. ♂, 4.5mm, Arraial do Cabo, RJ, MNRJ 9998. (Hd) head; (Gn) gnathopod.
Uropod 1, peduncle lacking inter-ramal process, outer ramus with 2 and 6 spines, on inner and outer margins respectively; inner ramus with 3 spines. Uropod 2, outer ramus with 1 and 3 spines, on inner and outer margins respectively. Uropod 3 with 5 apical spines. Telson trapezoid.

♀ (6.4mm). Gnathopod 2, palm oblique, with a defining spine but lacking digitiform process.

Remarks – *Ampithoe ramondi* is a quite common species found on macroalgae and sponges from the Brazilian coast. This species was observed also as one of the largest populations living on the sponge *Dysidea robusta* Vilanova & Muricy, 2001 at Prainha, Arraial do Cabo, Rio de Janeiro (SEREJO, 1995; 1998 as *D. fragilis* Johnston). The identity of *A. ramondi* is still confusing, mainly because the original description was based on a female only. The description of the male gnathopod 2, which is quite variable in this genera, is important for the identification of *Ampithoe* species (MYERS, 1985). The great variability described for *A. ramondi* suggests that we are dealing with a complex of species, which should be revised as pointed before (SEREJO, 1998).

Distribution – Egypt (type locality). Cosmopolitan in tropical and warm temperate waters. Brazil: PE, BA, RJ and SC.

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Fig.5- *Ampithoe ramondi* Audouin, 1826, ♂, 4.8mm and ♀, 4.6mm, Santo Aleixo Island, PE, MNRJ 10024. (Gn) gnathopod; (P) pereopod; (T) telson; (U) uropod.
**Ampithoe seticoxae** sp.nov.  
(Figs.6-8)

Material examined – Holotype, ♂, 9.0mm, Boa Viagem Beach, Guanabara Bay, Niterói, Rio de Janeiro, on algae and bryozoans, 1-3m, P.S.Young and C.S.Serejo cols., IV/1997, MNRJ 13457. Paratypes: same locality, on algae, 3♂, 3 juvenile ♂, MNRJ 15127; same locality, on algae and sponges, 10♂ and 2♀, MNRJ 13410; Morcego Beach, Guanabara Bay, RJ, on algae, 1-3m, 1 juvenile ♂ and 2♀ MNRJ 13411.

Diagnosis – Antennae 1 about 1/3 of body length. Articles 4-5 and flagellum of antennae 2 densely clothed with plumose setae. Coxae 1-4 with group of 2-4 setae on posteroventral margin. Gnathopod 2, propodus rectangular, palm straight, slightly oblique. Propodus of pereopods 5-7 with a row of 5 spines and a disjunct smaller distal spine.

Etymology – The name of the species refers to the presence of setae on the postero-ventral margin of coxae 1-4. From the Latin *seta* and *coxa*.

Description – ♂ (8.0-9.3mm). Body pitted with brown spots. Antenna 1 slightly shorter than antennae 2, reaching about 1/3 of body length, flagellum with 20 articles. Articles 4-5 and flagellum of antennae 2 densely clothed with plumose setae. Mandibular palp articles in rate 2:5:5, article 3 with 2 rows of plumose setae with distinct length. Lobules of lower lip slender and separated. Maxilla 1, inner lobe with one tiny seta; outer lobe with 10 spines, two of them more slender and apically bifurcated; palp with 4 apical spines and 3 facial setae. Maxilla 2, outer lobe larger than inner lobe; inner lobe with 8 plumose submarginal setae; outer lobe with long distal setae and hair like setae on external and distal margins. Maxilliped with 13 teeth on inner margin of outer lobe; outer angle of outer lobe lacking setae; first article of palp with 3-4 long setae.

![Diagram of Ampithoe seticoxae](image_url)

Fig.6- **Ampithoe seticoxae** sp.nov., holotype, ♂, 9.0mm, Guanabara Bay, RJ, MNRJ 13457. (Ant) antenna; (LL) lower lip; (Md) mandible; (Mxl) maxilla.

Coxa 1 produced anteriorly. Coxae 1-4 with group of 2-4 setae on posterodistal margin. Gnathopod 1, basis posterior margin with groups of long setae, anterodistal margin lobate; ischium lobate; propodus with large spine on posterior margin; dactylus overlapping palm and finely serrate on inner side. Gnathopod 2, basis and ischium lobate anterodistally; propodus rectangular, palm oblique and straight in adult forms, dactylus fitting palm and serrate on inner side. In some juvenile males (8.5mm), propodus more oval, with palm slightly concave. Pereopods 3-4 similar and setose, carpus slightly shorter than propodus. Pereopod 5, basis broad, not elongated as in pereopods 6-7. Basis of pereopod 6-7 with a small concavity on posterodistal angle. Pereopods 5-7, propodus with row of 5 spines increasing in length distally and one small distal spine displaced from the row.

Epimera 1-3 with lateral ridge. Uropod 1, peduncle with row of facial setae. Uropod 2, peduncle with group of facial setae, outer and inner rami with 2-3 and 2 spines respectively. Uropod 3, peduncle with group of facial setae, distal margin with a row of 4-5 spines. Telson trapezoidal, with 2 distal cusps, 3 marginal setae on each side and 2 long subdistal setae.

♀ (7.1mm, ovigerous). Gnathopod 2, propodus oval, with a large spine on posterior margin; palm oblique; dactylus serrate on inner margin.

Remarks – *Ampithoe seticoxae* sp.nov. has some aspects in common with the group *A. lacertosa* Bate, 1858, *A. valida* Smith, 1873 and *A. plumulosa* Shoemaker, 1938, discussed by CONLAN & BOUSFIELD (1982), as follows: coxae 1-2 in males shallower than coxae 3-5; gnathopod 2, articles 2-3 with prominent antero-distal lobe, propodus

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Fig. 7 - *Ampithoe seticoxae* sp.nov., holotype, ♂, 9.0mm, Guanabara Bay, RJ, MNRJ 13457. (Gn) gnathopod; (P) pereopod.
rectangular with palm nearly transverse and epimera 1-3 with lateral ridge. Within this group, *Ampithoe seticoxae* sp.nov. is closer to *A. plumulosa* in bearing the antenna 2 clothed ventrally with dense plumose setae. Despite these similarities, *Ampithoe seticoxae* sp.nov. can be distinguished from *A. plumulosa* by the antenna 1 shorter than antenna 2, reaching 1/3 of the body length, in *A. plumulosa* the antenna 1 is slightly longer than antenna 2; the plumose setae of antenna 2 appear on article 4 of the peduncle instead of on article 5; the inner lobe of maxilla 1 has one seta and not 4 setae; the posterior lobe on article 5 of gnathopod 1 is not distally produced under the segment 6; coxae 1-4 have a group of setae on postero-distal margin, which was not described for *A. plumulosa*; and by the absence of a ventral oval keel on the seventh thoracic segment, observed on *A. plumulosa* by SHOEMAKER (1938).

**Distribution – Guanabara Bay, RJ.**

**KEY FOR THE AMPITHOE SPECIES OCCURRING ON THE BRAZILIAN COAST**

1a. Antenna 2 densely clothed with plumose setae; palm of male gnathopod 2 lacking digitiform process; coxae 1-4 with group of 2-4 setae on postero-ventral margin .................................................. *A. seticoxae* sp.nov.

1b. Antenna 2 clothed with simple setae; palm of male gnathopod 2 with digitiform process; coxae 1-4 lacking group of 2-4 setae on postero-ventral margin ........... 2

2a. Flagellum of antenna 2 shorter than peduncular article 5; male gnathopod 2 palm with blunt digitiform process, palmar cleft V-shaped; uropod 1 with broadly rounded inter-ramal process ........................................... *A. divisura* Shoemaker

2b. Flagellum of antenna 2 much longer than peduncular article 5; male gnathopod 2 palm with acute digitiform process, palmar cleft U-shaped; uropod 1 without inter-ramal process..................... *A. ramondi* Audouin

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**Fig.8- Ampithoe seticoxae** sp.nov., holotype, ♂, 9.0mm, Guanabara Bay, RJ, MNRJ 13457. Paratype, ♀, 7,1mm, Guanabara Bay, RJ, MNRJ 15127. (Gn) gnathopod; (T) telson; (U) uropod.
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ABSTRACT

This study comprises the redescription of two species of *Ampithoe*: the cosmopolitan *A. ramondi* Audouin, 1826, previously recorded from Brazil and *A. divisura* Shoemaker, 1933, a new record from the Southwestern Atlantic. *Ampithoe seticoxae* sp. nov. is also described based on material from Guanabara Bay, Rio de Janeiro. A key for the species of *Ampithoe* from the Brazilian coast is provided.

Key words: Ampithoe, new species, Brazil.

RESUMO

GÊNERO *AMPITHOE* (CRUSTACEA, AMPHIPODA, AMPITHOIDAE) NA COSTA BRASILEIRA

Este estudo compreende a redescrição de duas espécies de *Ampithoe*: *A. ramondi* Audouin, 1826, espécie cosmopolita previamente registrada para o Brasil e *A. divisura* Shoemaker, 1933, novo registro para o Atlântico Sul Ocidental. *Ampithoe seticoxae* sp. nov. é descrita com material proveniente da Baía da Guanabara, Rio de Janeiro. Uma chave das espécies de *Ampithoe* que ocorrem na costa brasileira é fornecida.

Palavras-chave: Ampithoe, espécie nova, Brasil.

LITERATURE CITED


