

# A new species of *Pseudischyrocerus* Schellenberg (Crustacea: Amphipoda: Ischyroceridae) from the Brazilian Coast.

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## Abstract

*Pseudischyrocerus besnardi* n. sp., an amphipod living in the Brazilian southeastern coastal shelf is described. The new species is distinguished from all known species of the genus by a series of characteristics: gnathopod 2 of male densely setose and propodus with a crenulate protrusion on the palm; rami of uropod 3 slightly shorter than peduncle, outer ramus with 2 small teeth and 2 distal spines on inner margin, inner ramus with a distal spine; telson surface with 2 spines and 2 setae dorsolaterally. *Pseudischyrocerus besnardi* n. sp. was collected from a depth of 44 - 117 meters in sandy bottoms, and it is the first occurrence of this genus in the Brazilian coast.

**Key words:** Amphipoda, Taxonomy, *Pseudischyrocerus*, Ischyroceridae, Brazilian southeastern coast.

## Introduction

The genus *Pseudischyrocerus* Schellenberg 1931, belongs to the family Ischyroceridae, consists of 3 species (Barnard and Karamam, 1991): *P. denticaudata* Schellenberg 1931, *P. distichon* (K. H. Barnard, 1930) and *P. crenatipes* Bellan-Santini and Ledoyer, 1986. All these species were recorded only in Southern seas, close to the Antarctic region. *P. denticaudata* is from in the Magellanic region. *P. distichon* is from Antarctic and sub-Antarctic region whereas *P. crenatipes* is from sub-Antarctic island region (De Broyer and Jazdezowski 1993).

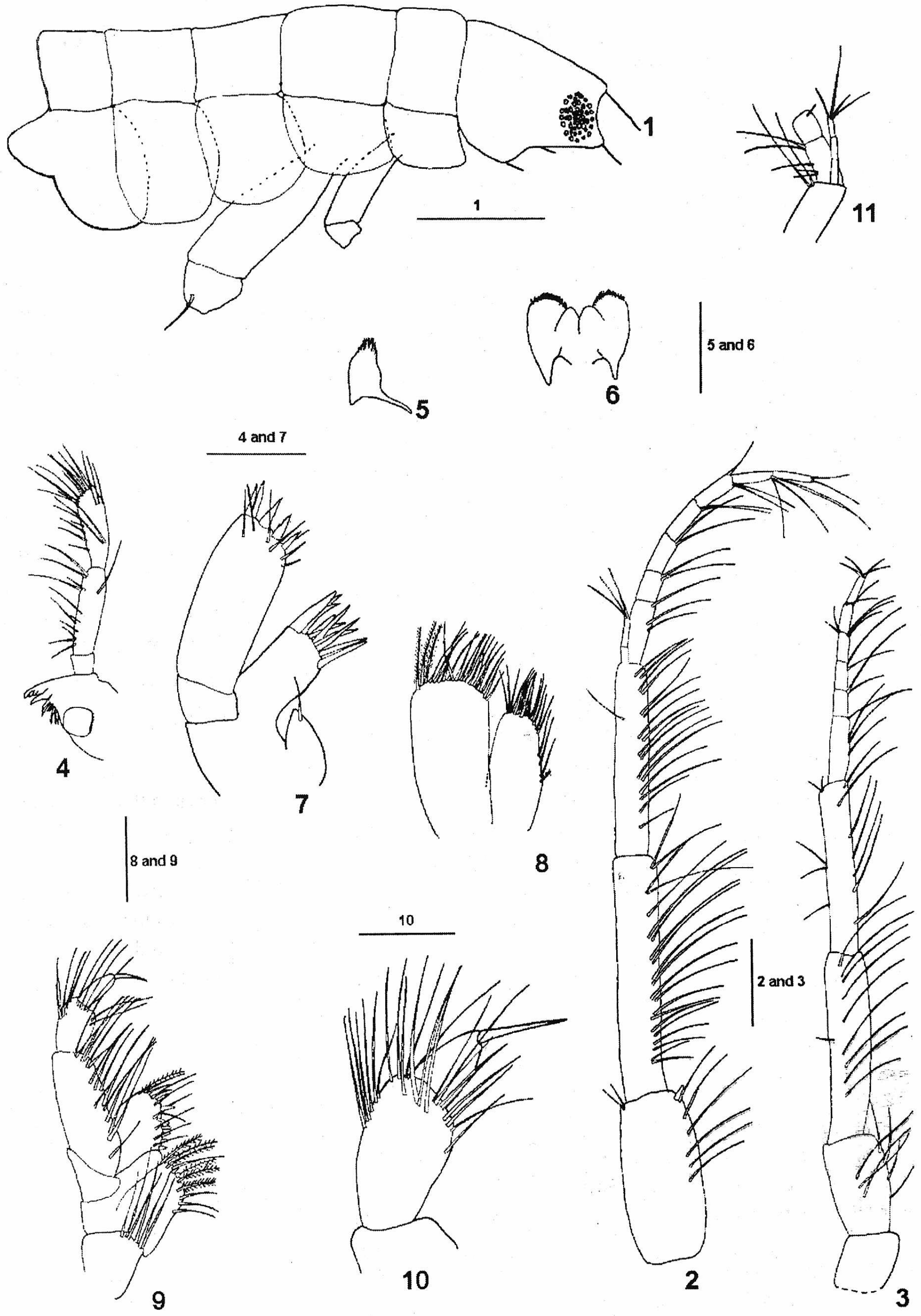
During the benthic survey in the southeastern coast of Brazil, carried out by the R/V "Prof W. Besnard", from 1970 to 1990, specimens of a new species of *Pseudischyrocerus* were collected and are here described. All the measurements of the specimens were made from the tip of the rostrum to the base of the telson according to Asochakov (1994). The specimens are deposited in the Museu de Zoologia da Universidade de São Paulo (MZUSP). This contribution constitutes an addition to the list of amphipod species recorded for the Brazilian coast (Wakabara and Serejo, 1998).

*Pseudischyrocerus besnardi* n. sp.

(Figures 1-3)

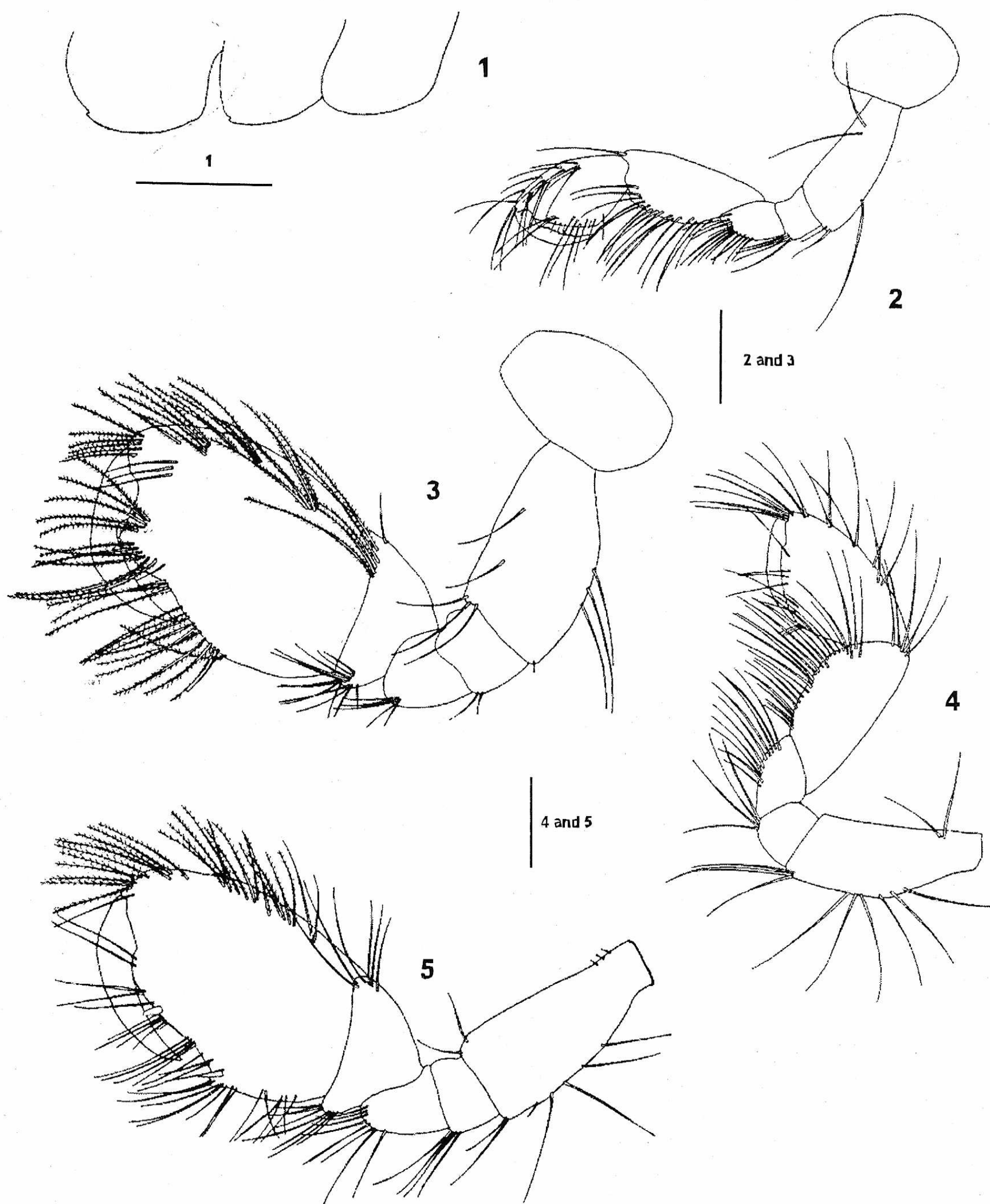
Material examined: Holotype, MZUSP 13459: 1 male, 6.3mm at 34° 34'S- 52° 29'W, 65m, Gelso Vazoller col.; Paratypes: MZUSP 13460: 1 female, 5.5mm collected in the same locality; MZUSP 13461: 1 male 5.5 mm collected in the same locality; MZUSP 13462: 1 female, 5.1mm at 23° 49'S 44° 39'W, 70m. Ana Maria Pires Vanin col.; MZUSP 13463 : 1 male, 6.3mm at 32° 27'S - 51° 22'W, 57 m and MZUSP 13564 : 1 female 6.6mm at 32° 27'S - 51° 22'W, 57m.

Diagnosis: Head lobes bearing sharp anterior cusp with lower antennal margin deeply concave. Maxilla 1 inner plate with 1 seta. Gnathopod 2 propodus densely setose, palm oblique with crenulate protrusion near the hinge of dactylus. Uropod 3 rami slightly shorter than peduncle, outer ramus with 2 spines and 2 small teeth in the inner margin. Telson surface with 2 spines and 2 setae dorsolaterally.



Nauplius

Figure 1: *Pseudischyrocerus besnardi* n. sp., male 6.4mm; 1- anterior end; 2- antenna 1; 3- antenna 2; 4- mandible; 5- labrum; 6- labium; 7- maxilla 1; 8- maxilla 2; 9- maxilliped; 10- detail of maxilliped palp. Female 7.0mm, 11- detail of accessory flagellum. Scale bars: 1- 0.5mm; 2,3,4,5,6,8,9,11 - 0.5mm; 7 - 0.5mm; 10 - 0.2mm.



**Figure 2:** *Pseudischyrocerus besnardi* n. sp., male 6.4mm, 1- epimera 1-3; 2- gnathopod 1; 3- gnathopod 2. Female 7.0mm, 4- gnathopod 1; 5- gnathopod 2. Scale bars: 1- 0.5mm; 2,3,4,5 -0.5mm.

Description ( male 6.4mm): Head lobes anteriorly acute lower antennal margin deeply concave. Eyes composed of irregular mass of ommatidia. Antennae subequal. Antenna 1 moderately setose, distal margin of article 1 with 1 spine, article 3 longer than article 1, flagellum shorter than peduncle and 7-articulate, accessory flagellum 2-articulate. Antenna 2 lightly setose, flagellum with about 6 articles, with the first article longest than others.



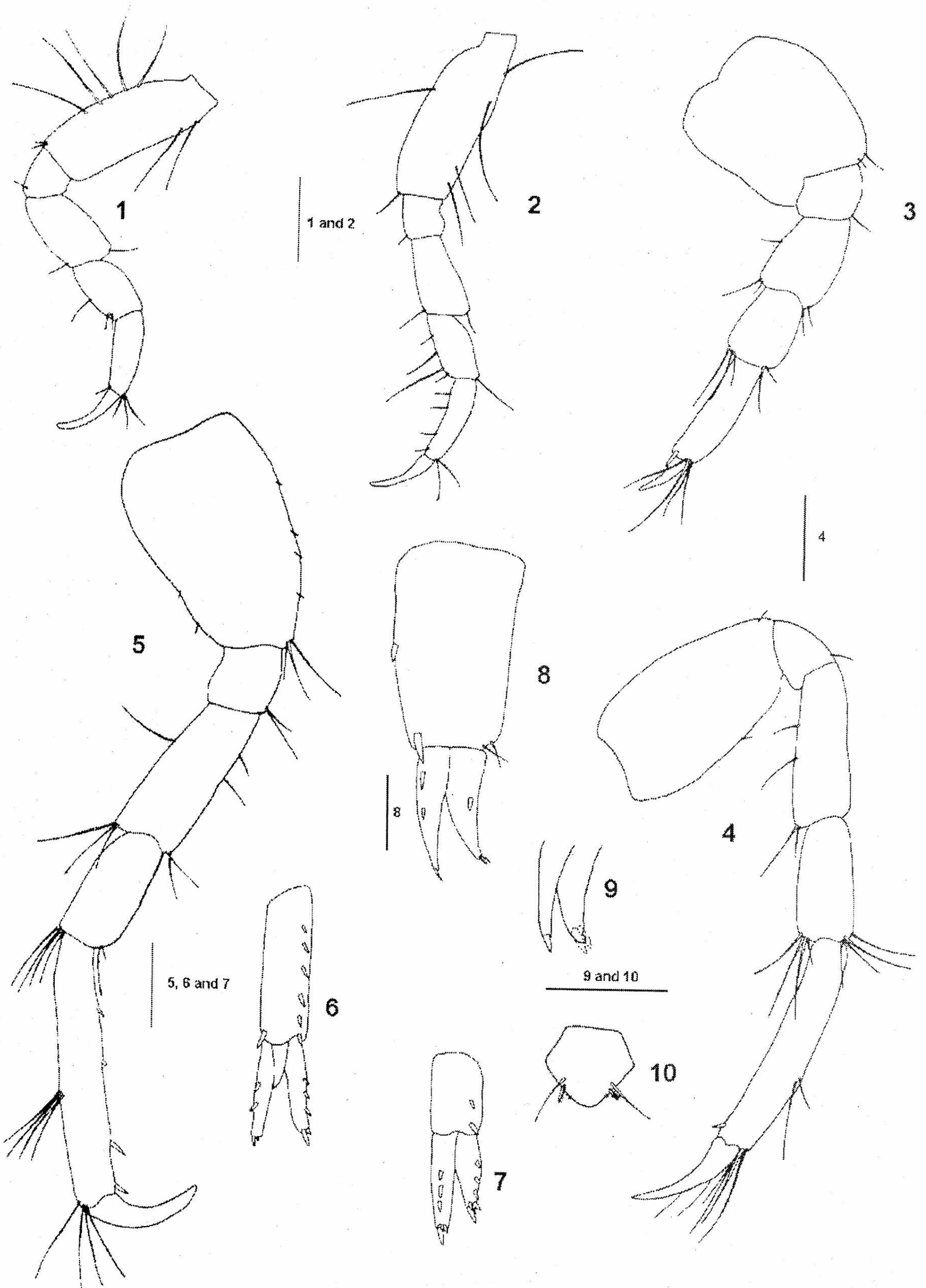


Figure 3: *Pseudischyrocerus besnardi* n. sp., male 6.4mm, 1- pereopod 3; 2- pereopod 4; 3- pereopod 5; 4- pereopod 6; 5- pereopod 7; 6- uropod 1; 7- uropod 2; 8- uropod 3; 9- details of uropod 3 rami; 10- telson. Scale bars: 1,2,3,4,5,6,7,-0.5mm; 8- 0.3mm; 9,10- 0.2mm.

Labrum with epistome acute. Mandibular palp strong, article 3 wider distally than proximally, slightly shorter than article 2. Maxilla 1, inner plate with a single seta, outer plate apex with 9 strong spines, palp extending beyond outer plate, 2-articulate, apex of terminal segment with 6 spines and 9 setae. Maxilla 2 plates with rectangular form, inner plate with inner margin heavily setose, outer plate longer and wider than inner one, apical margin with 3 pectinate and 18 simple setae. Maxilliped, palp article 4 coniform with a long distal spine.

Coxa 1 slightly extending anterodistally, smaller than coxa 2 - 4. Coxa 2 square not dominant, coxa 3 - 4 similar, rectangular longer than wide, posterior margin not excavate. Coxa 5 excavate posteriorly. Gnathopod 1 propodus shorter than carpus, broadest medially with oblique palm, dactylus slender, curved, with 6 small teeth in the inner margin. Gnathopod 2 carpus short, propodus ovoid and with pectinate setae, palm oblique without defining spine and with crenulate protrusion near the hinge with dactylus, inner margin of dactylus 7 smooth. Pereopods 3-4 similar, dactylus slender and shorter than propodus. Pereopod 5 basis ovoid, carpus not expanded. Pereopods 6 -7 basis slender and subrectangular.

Epimera 2 - 3, postero-ventral corner with small tooth. Urosomites smooth. Uropod 1 not extending beyond uropod 2, peduncle longer than rami, inner margin with 6 spines, outer margin with 1 distal spine, with a medium inter - ramal tooth, rami equal to each other in length with 2-3 medial spines and 2 spines on apex. Uropod 2 shorter than uropod 1, peduncle shorter than inner ramus, with 2 spines on outer margin, outer ramus shorter than inner one with 3 spines on the outer margin and four spines on apex, inner margin of inner ramus with 3 spines and 4 spines on apex, 3 short and one long. Uropod 3 with rami equal to each other and shorter than peduncle, outer ramus with 2 small recurved teeth and 2 distal spines, inner ramus with one distal spine. Telson with 2 pairs of spine and setae dorsolaterally.

**Description (female 7.0mm):** Accessory flagellum of antenna 1 with 3 articles. Gnathopod 1 similar to that of male. Palm of gnathopod 2 with 2 spines, the posterior one defining the palm, less densely setose than male.

**Etymology:** Named in honour of Prof. Wladimir Besnard, the first director of Instituto Oceanográfico da Universidade de São Paulo.

**Remarks:** This genus is distinguished from others genera of the family Ischyroceridae by the multiarticulate accessory flagellum, carpus of gnathopod 1 longer than propodus, coxa 2 larger than coxa 1, peduncle of uropod 3 elongate with ramus slightly shorter than peduncle and outer ramus with 2 or 3 accessory teeth near apex and several marginal spines. This diagnoses is reported by Barnard (1973) but modified in relation to the coxa 1 and 2 sizes. According Myers (pers. comm.) coxa 2 is always larger than coxa 1, and not of the same size as reported by Barnard (1973).

*Pseudischyrocerus besnardi* has the lateral lobes produced and acute, male gnathopod 2 densely setose and palm with crenulate protrusion, telson surface without teeth and spinules but with spines and setae dorso-laterally, pereopod 5 with basis ovate and carpus not expanded. These characteristics together distinguish this new species from others of the same genus.

*P. besnardi* resembles *P. crenatipes* Bellan-Santini and Ledoyer, 1986 in relation to cephalic lobes with acute projection, epimeron 3 with postero-inferior angle rounded and with a small tooth on the telson. There are, however several other features distinguishing the two species: 1- merus of pereopod 5 strongly broad in *P. crenatipes* instead of slender in *P. besnardi*; 2- urosome 1 with 2 teeth dorsolaterally in *P. crenatipes*, while it is naked in *P. besnardi*. Other characteristics that could distinguish these two species are: morphology and ornamentation of male gnathopod 2 and in the ramus and the peduncle proportion of uropod 3. The main feature of *P. crenatipes* is the crenulation present in the posterior margin of basis of pereopods 6 and 7 that does not occur in *P. besnardi*.

*P. distincton* (K. H. Barnard, 1930) has as diagnostic characteristic the shape and ornamentation of telson: triangular apex narrowly rounded and two parallel bands of minute spinules on the distal half.

Other characteristics that distinguish this species from *P. besnardi* are : rounded cephalic lobes, morphology and ornamentation of male gnathopod 2, broad merus of pereopod 5, and uropod 3 rami shorter than peduncle (based in illustrations of K. H. Barnard 1930).

*P. besnardi* closely resembles *P. denticaudata* Scellenberg, 1931 in the setation of male gnathopod 2 and with a rounded projection in palmar margin, as well as not lobate merus of pereopod 5 and the rami of uropod 3 about 2/3 of the peduncle's length. Despite of this similarity, some characteristics could distinguish these two species. *P. denticaudata* has accessory flagellum 1 articulate, the posterior margin of epimeron 3 with a short setae, the uropod 3 naked, without setae and spines, except for the 2 recurved spines in the inner ramus. And finally, the ornamentation of telson surface with a row of teeth in both margins can distinguish *P. denticaudata* from *P. besnardi*.

Ecology: This species was recorded in samples of sandy bottoms with a depth range of 44 - 117 meters.

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