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A new species of *Acontiophorus* Brady, 1880 (Copepoda: Siphonostomatoida) from Ushuaia, Argentina

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Abstract

A new species of *Acontiophorus* belonging to the family Asterocheridae was found in Ushuaia, Patagonia, southern Argentina. The new species is distinctive in having 9-segmented antennule, five setae on terminal endopodal segment of leg 1, seven elements on terminal segment of leg 1 and leg 4 exopods, and characteristic setation on maxillule lobes. This combination of characteristic features does not occur in any other species of the genus. The genus *Acontiophorus* is recorded for the first time from the South Atlantic.

Introduction

So far, studies of siphonostomatoids associated with invertebrates in the South Atlantic Ocean have been restricted to the western coast, primarily in southeastern and northeastern Brazil (Alvarez, 1988; Johnsson, 1997/1998, 1998, 1998a/1999, 1998b/1999; Johnsson & Bustamante, 1997). Except for the studies of Eiselt (1965), who revised the material from the 'Gauβ Station' (66° S, 90° W – Bellingshausen Sea, Antarctica) collected by the Deutsche Südpolar Expedition (1901-1903), there are no records of siphonostomatoids in the Southern Ocean.

A new *Acontiophorus* (Siphonostomatoida: Asterocheridae) was collected in Ushuaia (54° S, 68° W), Southern Argentina, in a coastal area under the influence of the cold Falklands Current. This is the first record of the genus in the South Atlantic Ocean.

Results

Taxonomy

Acontiophorus ushuaiensis n. sp.

(Figs 1 and 2) *Material examined*. Female holotype from Bahía Ensenada in Ushuaia, Argentina, found in the sediment of a cirriped sample collected by J. Calcagro on 22 October 1998. This material is deposited in the Museu Nacional / Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil (MNRJ 14019).

Description

Female. Body (Fig. 1a) cyclopiform, prosome enlarged and slightly flattened dorso-ventrally; urosome cylindrical. Length (excluding caudal setae) 768 μm; greatest width 423 μm, 1.8 times longer than wide.

First two pedigers showing pointed epimera. Ratio of length–width of prosome 1.3:1. Ratio of length of prosome to that of urosome 2.8:1.

Genital double-somite (Fig. 1b) 86 $\times$ 104 μm, ratio of length–width 0.8:1, rounded anteriorly, and with acute posterior corners. First abdominal somite 39 $\times$ 58 μm, ratio of length – width 0.7:1; with acute posterior corners. Anal somite 46 $\times$ 51 μm, ratio of length to width 0.9:1, with 5 setules around anal area. Caudal rami 55 $\times$ 20 μm, ratio of length to width 2.7:1, bearing 6 setae. Seta I absent; setae II–VII, 97, 143, 264, 270, 130 and 65 μm long, respectively. All setae plumose. Inner margin of caudal ramus covered with setules.

Antennule (Fig. 1c) 150 μm long and 9-segmented. Length of segments 1–9, measured along their posterior margins: 37 (23 along anterior margin), 32, 11, 12, 15, 6, 10, 17 and 11 μm, respectively. Formula for armature: 1, 7, 1, 1, 6, 1, 1 + spine, 3

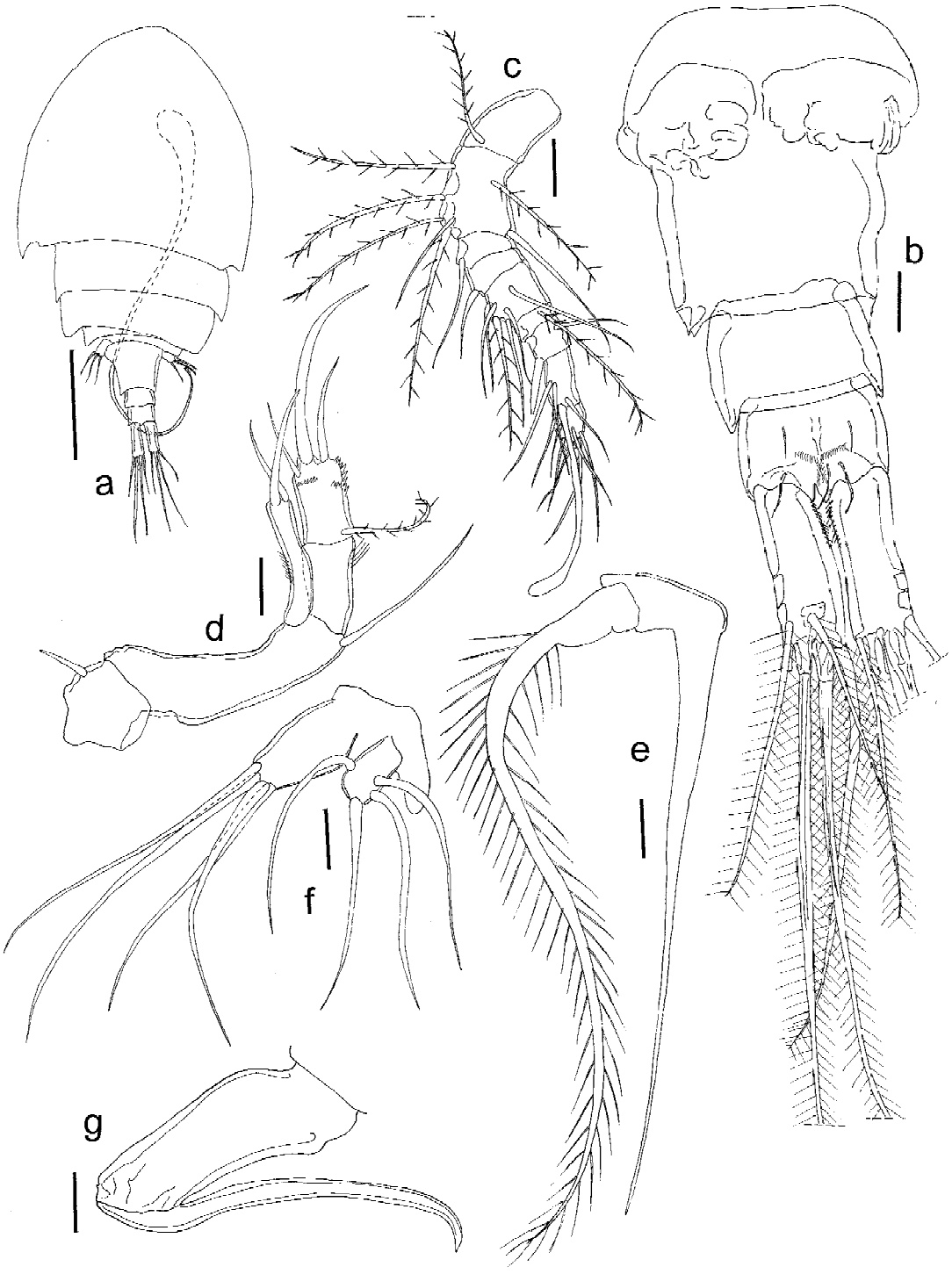

Figure 1. Acontiophorus ushuaiensis n. sp.; female holotype, (a) habitus dorsal, showing the unusually long siphon, (b) genital double-somite to caudal ramus dorsal, (c) antennule, (d) antenna, (e) mandible, (f) maxillule, (g) maxilla. Scale bars: a: 200 μm; (b–g) 20 μm.

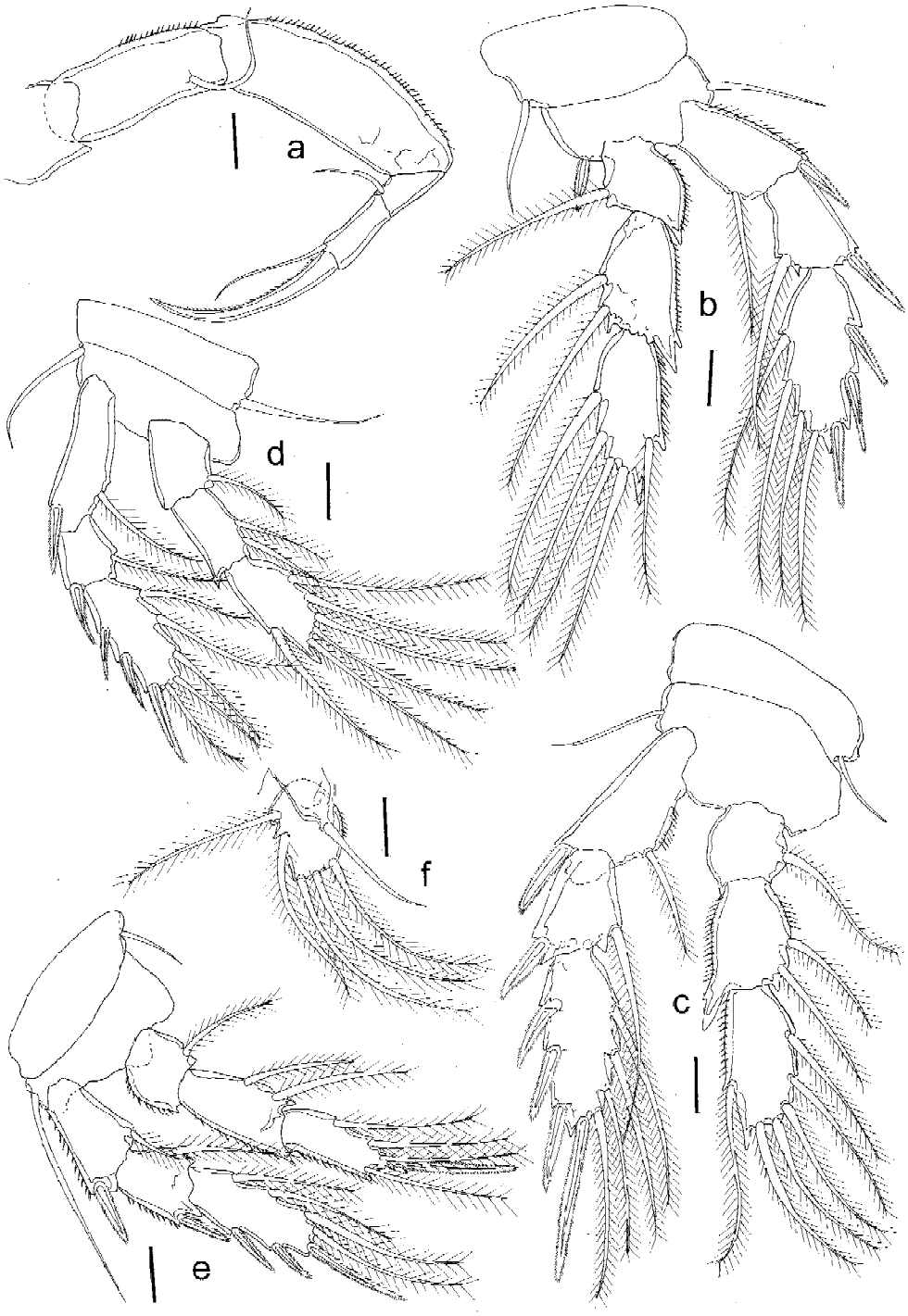

Figure 2. Acontiophorus ushuaiensis n. sp.; female holotype, (a) maxilliped, (b) leg 1, (c) leg 2, (d) leg 3, (e) leg 4, (f) leg 5. Scale bars: 20 μm.

+ aesthetasc, and 7. Aesthetasc 73 μm long. Antenna (Fig. 1d) 236 μm long; coxa and basis 29 and 74 μm long, respectively. Exopod 43 μm, longer than any endopodal segment, with small setules on lateral margin and 2 distal setae. Endopod 2-segmented; first segment 33 μm long, unarmed; second segment 29 μm long, with 1 proximal seta, 2 distal setae, and a 71-μm-long claw-like element.

Siphon (Fig. 1a) 811 μm long, reaching beyond caudal rami. Mandible (Fig. 1e) comprised of distally pointed stylet and long plumose seta. Maxillule (Fig. 1f) bilobed, both lobes stout. Outer lobe 23 μm long and inner lobe 39 μm long, each armed with 4 distal plumose setae. Maxilla (Fig. 1g) syncoxa 85 μm long, and bearing a curved claw, 141 μm long. Maxilliped (Fig. 2a) 301 μm long and 4-segmented; syncoxa 67 μm long and bearing long seta on inner margin; basis 108 μm long and unarmed. Both syncoxa and basis with outer margins covered with setules. Endopod 2-segmented, 25 and 27 μm long respectively, each armed with distal seta. Second endopodal segment with curved claw, 74 μm long.

Legs 1–4 (Fig. 2b–2e) biramous, with 3-segmented rami. Armature formula as follows (Table 1):

Table 1. Acontiophorus ushuaiensis n. sp. Ornamentation of legs 1–4

	Coxa	Basis	Endopod	Exopod
Leg 1	0-1	1-I	0-1; 0-2; 1,2,2	I-1; I-1; II,I,4
Leg 2	0-1	1-0	0-1; 0-2; 1,2,3	I-1; I-1; III,I,4
Leg 3	0-1	1-0	0-1; 0-2; 1,2,3	I-1; I-1; II,I,5
Leg 4	0-1	1-0	0-1; 0-2; 1,1+I,2	I-1; I-1; II,I,4

Fifth leg (Fig. 2f) with hirsute seta near insertion of free segment, armed with 5 setae, 3 distal and 2 lateral.

Male. Unknown.

Etymology

The specific name refers to Ushuaia, the type locality of the species.

Remarks

Acontiophorus ushuaiensis n. sp. has 9-segmented antennule, with an aesthetasc on the penultimate segment; 5 setae (1,2,2) on the endopod 3 of leg 1; 7 elements (II,I,4) on the exopod 3 of legs 1 and 4; a long siphon extending beyond the caudal rami; and a maxillule armed with 4 setae on each lobe. These characteristics combined do not occur in any other species of the genus. In addition, the caudal rami have a length–width ratio of 2.7:1. Among its congeners only *A. scutatus* (Brady & Robertson, 1872) (according to Canu, 1892) and *A. zealandicus* Nicholls, 1944 have the caudal rami at least 1.5 times longer than wide (Nicholls, 1944).

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