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# ***Brasilochochondria riograndensis* gen. nov., sp. nov. (Copepoda, Chondracanthidae) a parasite of flounders of Rio Grande do Sul State, Brazil <sup>1</sup>**

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**ABSTRACT.** *Brasilochochondria riograndensis* **gen. nov., sp. nov.** (Copepoda, Chondracanthidae) a parasite of the flounder, *Paralichthys orbignyanus* (Valenciennes, 1839), is described. The new genus has a spherical head a post-mandibular "neck" and two pairs of modified biramous legs. In these respects, it resembles *Argentinochochondria patagonensis* Etchegoin, Timi & Sardella, 2003. In the Argentine genus, however, the bulbous head has a medial constriction and the posterior of the female lacks the lateral extensions that are present in the new genus. *Pseudolernentoma brasiliensis* Luque & Alves, 2003, also resembles the new genus but it lacks the lateral extensions of the trunk and the latter is cylindrical rather than flat. The second leg of the new genus is small and the endopod is shorter than the exopod. The other two genera have large second legs with subequal rami.

**KEY WORDS.** Copepod parasite, chondracanthid, Southern Brasil, South Atlantic.

**RESUMO.** *Brasilochochondria riograndensis* **gen. nov., sp. nov.** (Copepoda, Chondracanthidae), um parasito do linguado, *Paralichthys orbignyanus* (Valenciennes, 1839), é descrito. O novo gênero tem uma cabeça esférica, um "pescoço" pós-mandibular e dois pares de pernas que são birremes e modificados na fêmea. Nestes aspectos, ela parece com *Argentinochochondria patagonensis* Etchegoin, Timi & Sardella, 2003. Nesta, no entanto, a cabeça é esférica com uma constricção medial e na parte posterior do tronco faltam as extensões póstero-laterais que o novo gênero possui. *Pseudolernentoma brasiliensis* Luque & Alves, 2003, é também parecido com o novo gênero, mas carece das extensões póstero-laterais e o mesmo tronco é cilíndrico em vez de achatado. A segunda perna no novo gênero é pequena e o endopodito é mais curto que o exopodito. Nos outros dois gêneros, as segundas pernas são grandes e os ramos são sub-iguais.

**PALAVRAS CHAVE.** Copépodo parasito, chondracanthídeo, Sul do Brasil, Atlântico Sul.

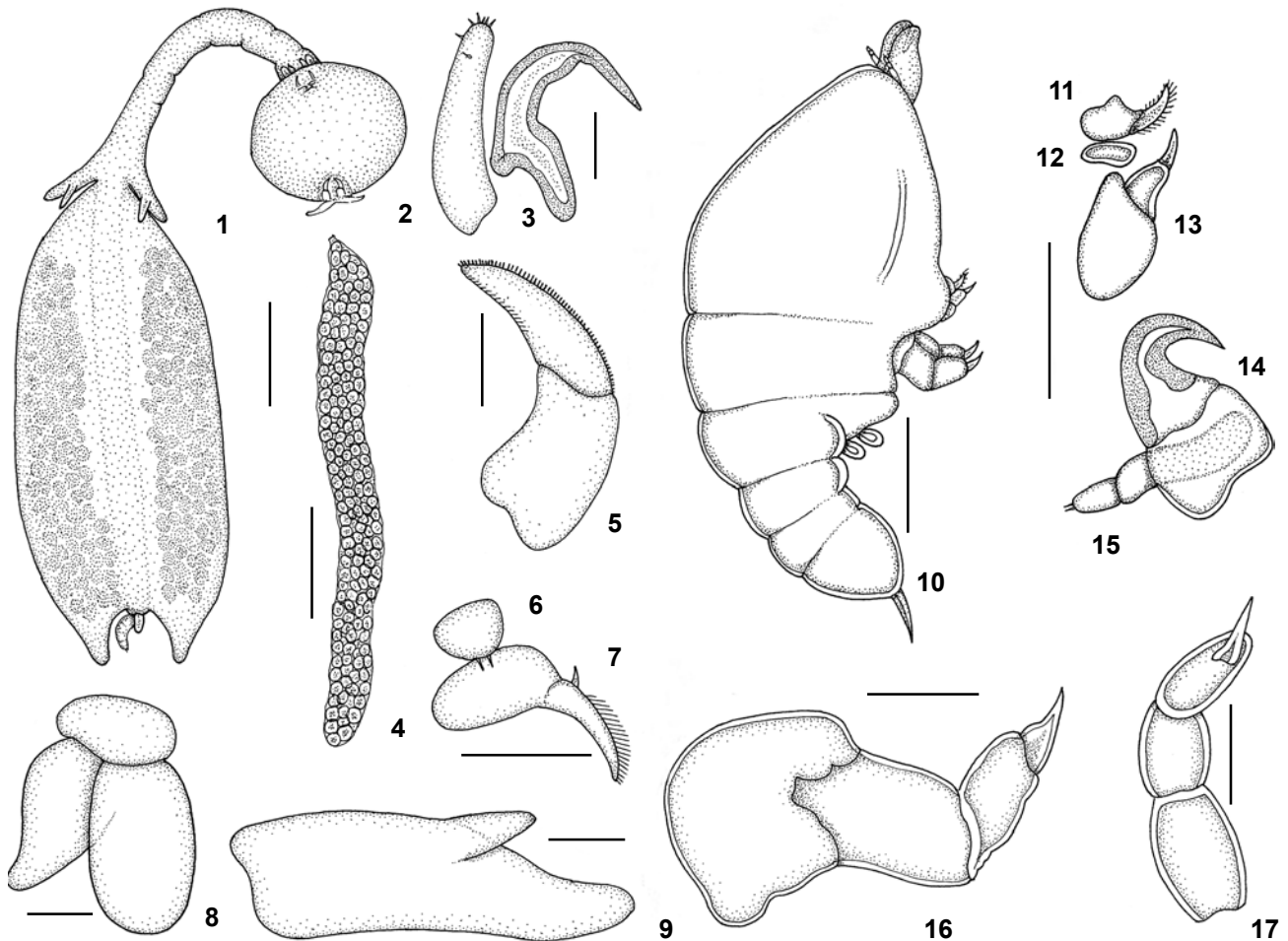
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Chondracanthidae is a family of copepods found parasitizing marine fishes throughout the world. YAMAGUTI (1963) listed 37 genera and 133 species in this family with a majority of species ascribed to *Acanthochondria* Oakley, 1927 (48) and *Chondracanthus* Delaroche, 1811 (27). Since that time, a few additional genera and species have been described. Ho (1994) offered a key to 41 genera of chondracanthids. BOXSHALL & MONTÚ (1997) listed only two representatives of this family for Brazil, namely, *Blias prionoti* Kroyer, 1863, and *Chondracanthus merlucii* (Holten, 1802). Recently, ETCHEGOIN *et al.* (2003) described a new genus and species, *Argentinochochondria patagonensis*, from a marine fish of Patagonia. LUQUE & ALVES (2003) proposed a new genus and species that they called, *Pseudolernentoma brasiliensis* from a marine fish of Rio de Janeiro State, Brazil. ALVES *et al.* (2003) described a new species, *Acanthochon-*

*dria triangularis* from a Brazilian coastal fish. The present paper describes a new genus and species of Chondracanthidae from flounders of Rio Grande do Sul State, Brazil.

## **MATERIAL AND METHODS**

Fish hosts were netted in the sea near Rio Grande in Rio Grande do Sul State, Brazil. The copepods were removed from the gills and the inner sides of the opercula by means of dissecting needles and fixed in 70% ethanol. The specimens were cleared in pure phenol for study. Digital photographs were made at five megapixels. Measurements were obtained with a measuring ocular and are expressed in microns (µm) unless indicated as millimeters (mm). Extremes are followed by the means in parentheses.



Figures 1-17. *Brasilochondria riograndensis* sp. nov. (1-9) Female: (1) entire, ventral; (2) antennule; (3) antenna; (4) egg sac; (5) mandible; (6) maxillule; (7) maxilla; (8) leg 1; (9) leg 2; (10-16) male: (10) entire, lateral; (11) mandible; (12) maxillule; (13) maxilla; (14) antenna; (15) antennule; (16) maxilliped, male; (17) maxilliped, female. Scale bars: 1 = 2000 mm; 2, 3, 8, 11-15 and 17 = 100 mm; 4 = 1000 mm; 5-7, 16 = 50 mm; 9 = 200 mm; 10 = 200 mm.

## RESULTS

### *Brasilochondria* gen. nov.

Female: Body consisting of a spherical cephalothorax, elongate, cylindrical, post-mandibular "neck" and flattened trunk. Head composed of cephalosome only; "neck" formed from first two pedigerous segments; trunk extended postero-laterally on either side. Leg 1 small, immediately behind head, biramous, rami flattened; leg 2 just anterior to trunk, biramous. Egg sacs elongate, cylindrical, multiseriate.

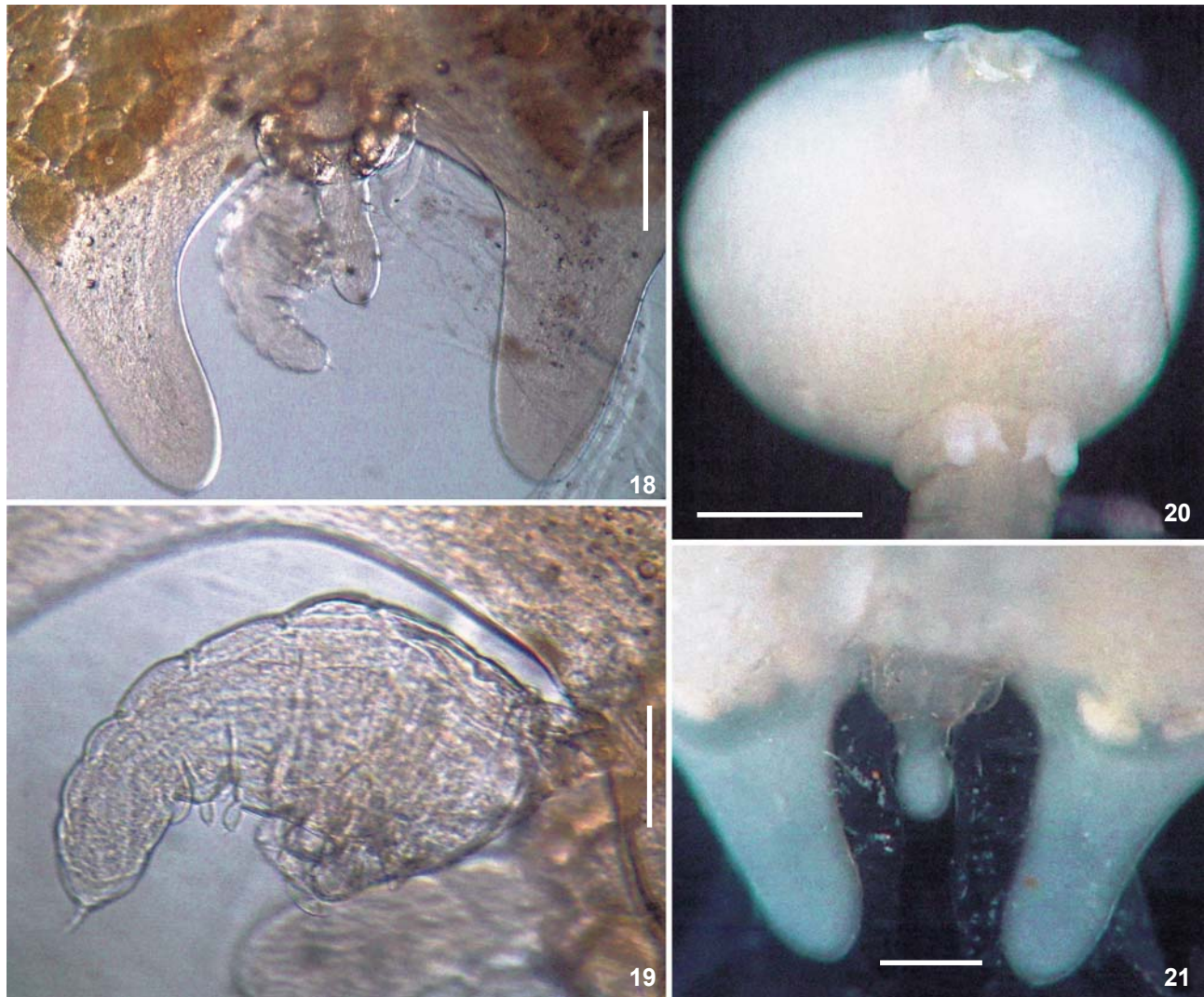
Male: Dwarf, with expanded cephalothorax; body segmentation indistinct; genitoabdomen terminates in two spiniform caudal rami. Antennule short and cylindrical; antenna uncinata and robust. Legs 1 and 2 represented by simple lobes.

Type and only species: *Brasilochondria riograndensis* sp. nov.

### *Brasilochondria riograndensis* sp. nov.

#### Figs 1-21

Female (10 measured: Figs 1-9, 17-18, 20-21) Total length, 11.4-16.4 (13.6) mm; maximum width at mid-level of trunk, 2.1-3.4 (2.8) mm. Cephalothorax spherical, 1.39-2.46 (1.90) mm in diameter, bearing antennae and mouthparts; antennule short, cylindrical with few spines terminally, 210-280 (252) long and 50-100 (76) in diameter; antenna hook-like, 260-325 (294) long by 140-165 wide. Mouthparts (Figs 5-7) of typical poecilostome form. Maxilliped of three articles. Neck cylindrical, expanding posteriorly, 462-616 (519) in diameter and 4.62-7.82 (5.62) mm in length. Neck bearing two pairs of modified legs; leg 1 of two flattened rami, endopod 190-325 (240) long and 85-175 (128) wide; exopod 180-350 (256) long by 100-175 (165) wide; leg 2



Figures 18-21. *Brasilochondria riograndensis* sp. nov.: (18-19) posterior extremity of female with attached male; (20) cephalothorax of female showing antennae and first pair of legs; (21) posterior extremity of female showing postero-lateral extensions and caudal projection. Scale bars: 18 and 21 = 500  $\mu$ m, 19 = 200  $\mu$ m, 20 = 1000  $\mu$ m.

of two tapered, cylindrical rami; endopod 125-225 (173) long and 55-90 (73) wide; exopod 290-1263 (969) long by 75-462 (308) wide. Trunk broadly flattened, terminating in a tapered lateral extension on either side and a medial caudal projection, measures 5.2-6.7 (6.0) mm long and 2.1-3.4 (2.8) mm wide. Caudal cone (Figs 18, 21) 500-662 (600) long by 425-539 (478) wide at base. Egg sac elongate, slender, 5.0-5.7 (5.6) mm long and 115-500 (462) in diameter.

Male (five measured: Figs 10-16). Body cylindrical, tapering anteriorly and posteriorly segmentation indistinct, 450-750 (625) long and 250-447 (374) in height. Antennules small, bisegmented (Fig. 14); antennae strong, hook-like, used to at-

tach to caudal projection of female. Mouthparts (Figs 11-16) typically poecilostome, maxilliped of four articles.

Host. *Paralichthys orbignyanus* (Valenciennes, 1839).

Site. Interior of the mouth with the cephalothorax embedded in the skin.

Locality. Atlantic Ocean near Rio Grande, RS, Brazil.

Type material. Holotype female, 10 paratype females and four paratype males deposited in the Crustacean Collection of the Instituto Nacional de Pesquisas da Amazônia, Manaus, AM, Brazil.

Etymology. The generic name refers to the country of origin and the specific name to the state.

## DISCUSSION

*Brasilochondria* **gen. nov.** clearly belongs to the subfamily Chondracanthinae as defined by KABATA (1979) because it has a post-mandibular neck, an expanded cephalothorax and two pairs of modified legs in the female. The new genus most resembles *Argentinochondria* Etchegoin, Timi & Sardella, 2003, and *Pseudolernentoma* Luque & Alves, 2003, but differs from these in several important respects. The new genus has a completely spherical cephalothorax without projections or constrictions. Also, the trunk is flattened (not cylindrical) and is provided with postero-lateral flat extensions. Furthermore, the caudal projection (Fig. 21) is unlike those of the other genera and leg 2 is short with unequal rami (not large with subequal rami).

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