



***Pseudolernentoma brasiliensis* n. g., n. sp. (Copepoda: Poecilostomatoida: Chondracanthidae) parasitic on *Genypterus brasiliensis* (Osteichthyes: Ophidiidae) from off the State of Rio de Janeiro, Brazil**

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Abstract

Pseudolernentoma, a new chondracanthid genus was proposed to accommodate *Pseudolernentoma brasiliensis* n. g., n. sp., parasitic on the pink cusk-eel *Genypterus brasiliensis* Regan, from off the coast of Rio de Janeiro, Brazil. The new genus can be differentiated from the other genera of the Chondracanthidae by the presence of an inflated head with lateral expansions and anteroventral bifurcate processes on the trunk.

Introduction

The Chondracanthidae Milne Edwards, 1840 is one of the major families of parasitic Copepoda, comprising more than 150 species included in 42 genera and distributed in two subfamilies, the Chondracanthinae Milne Edwards, 1840 and the Lernentominae Oakley, 1927 (Ho, 1994; Boxshall & Montú, 1997; Ho et al., 2000). In South American waters, only 18 chondracanthid species have been recorded, from nine genera, mainly *Chondracanthus* Delaroche, 1811 (eight species) and *Acanthochondria* Oakley, 1927 (three species) (Villalba & Fernández, 1985; Luque et al., 1991; Boxshall & Montú, 1997). To date, only two chondracanthid species are known from the Brazilian coastal zone: *Blias prionoti* Krøyer, 1863 and *Chondracanthus merluccii* (Holten, 1802) (Carvalho, 1951; Boxshall & Montú, 1997). In this report, a new species of chondracanthid parasitic on *Genypterus brasiliensis* Regan, 1903 from off Brazil is described and illustrated, and a new genus is proposed to accommodate this species.

Materials and methods

The copepods studied are part of the material collected from 55 specimens of *Genypterus brasiliensis* Regan

taken off the coast of the State of Rio de Janeiro, Brazil (21–23°S, 41–45°W) on February, 2001. The fishes were identified according to Figueiredo & Menezes (1978). The copepods collected were fixed and preserved in 70% ethanol. For microscopic observation, specimens were cleared in 85% lactic acid and the appendages were dissected. Illustrations were made with the aid of a drawing tube mounted on a Hund Wetzlar H-600 phase contrast microscope. Measurements are indicated in millimetres (mm) unless otherwise stated, and the mean is followed by the range in parentheses. The terms prevalence and mean intensity of infection were used according to Bush et al. (1997). The holotype, allotype and paratypes were deposited in the Coleção Carcinológica do Museu Nacional (MNRJ), Quinta da Boa Vista, Rio de Janeiro, RJ, Brazil, and some paratypes in the Coleção Helminológica do Instituto Instituto Oswaldo Cruz (CHIOC), Rio de Janeiro, Brazil.

***Pseudolernentoma* n. g.**

Diagnosis

Female: Body elongate, cylindrical, divided into subspherical head, elongate neck and slender trunk. Head consisting of cephalosome only, with lateral expansions. Oral appendages on head region. Antenna

uncinate, without atrophied tip. Trunk with pair of anteroventral bifurcate processes. Two pairs of modified biramous legs. Genito-abdomen and caudal ramus of usual form. Egg-sac cylindrical.

Male: Dwarf, arched. Cephalosome fused with first pediger and globose. Genito-abdomen carrying pair of reduced, spiniform caudal rami distally. Antennule slender, subcylindrical. Antenna uncinata with atrophied tip. Oral appendages as in female. Legs 1 and 2 modified with sac-like protopod carrying long seta. Type-species: *P. brasiliensis* n. sp.

Etymology: The generic name refers to the similarity of the cephalosome appearance with the species of *Lernentoma*.

***Pseudolernentoma brasiliensis* n. sp.**

Material examined: One female (holotype) (MNRJ No. 18330), one male (allotype) (MNRJ No. 18331), six females (paratypes) (MNRJ No. 18332), five females (paratypes) (CHIOC No. 34.892), three males (paratypes) (MNRJ No. 18333) and three males (paratypes) (CHIOC No. 34.893); collected during February, 2001, buried in the oral cavity of *Genypterus brasiliensis* Regan, 1903 (Ophidiidae) (type-host) from the coastal zone of the State of Rio de Janeiro, Brazil (21–23°S, 41–45°W) (type-locality) (prevalence of infection: 25.4%, mean intensity of infection: 2.7 ± 3.2).

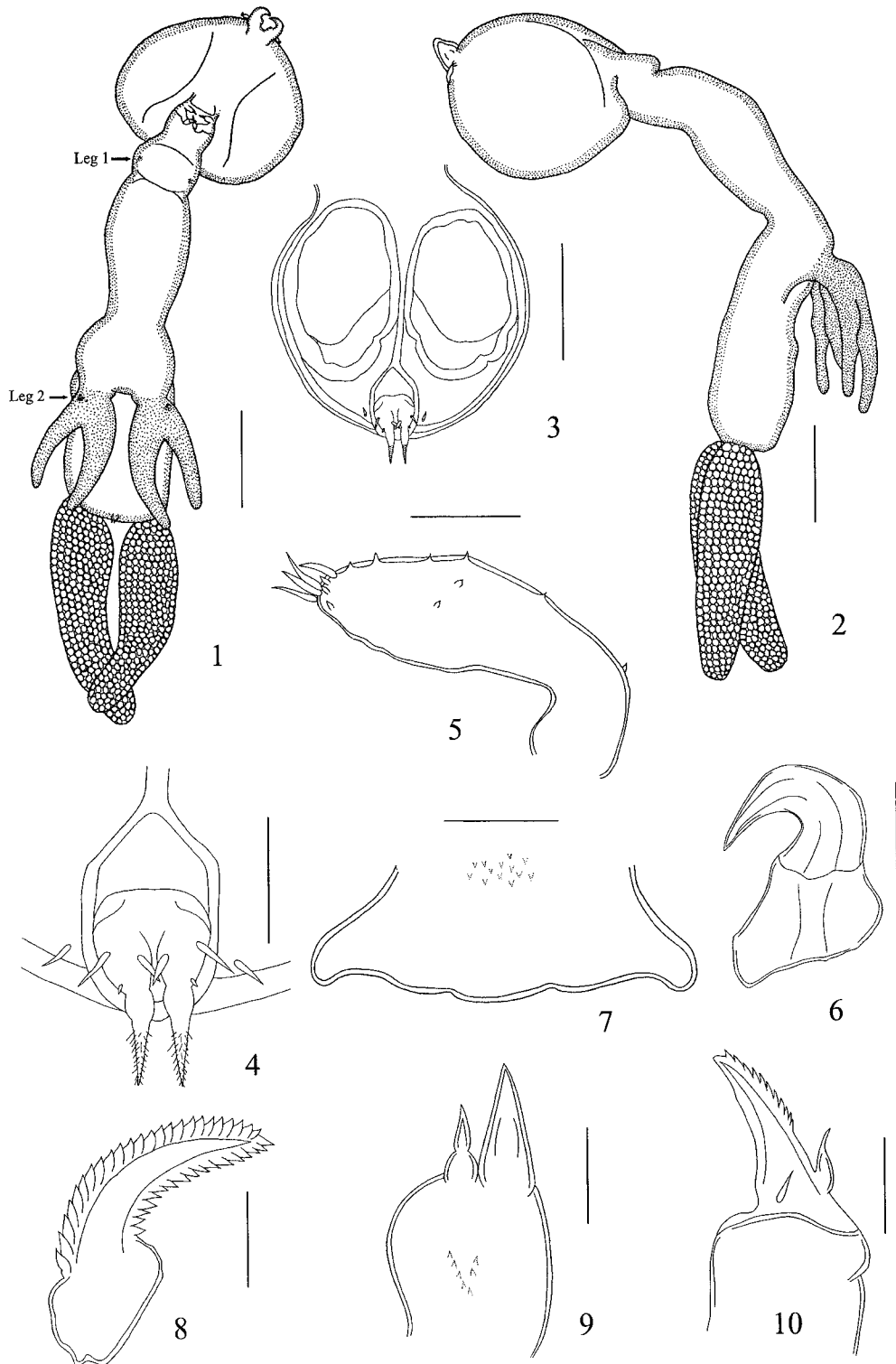
Etymology: The specific name refers to the known geographical distribution of the fish host.

Description (Figures 1–22)

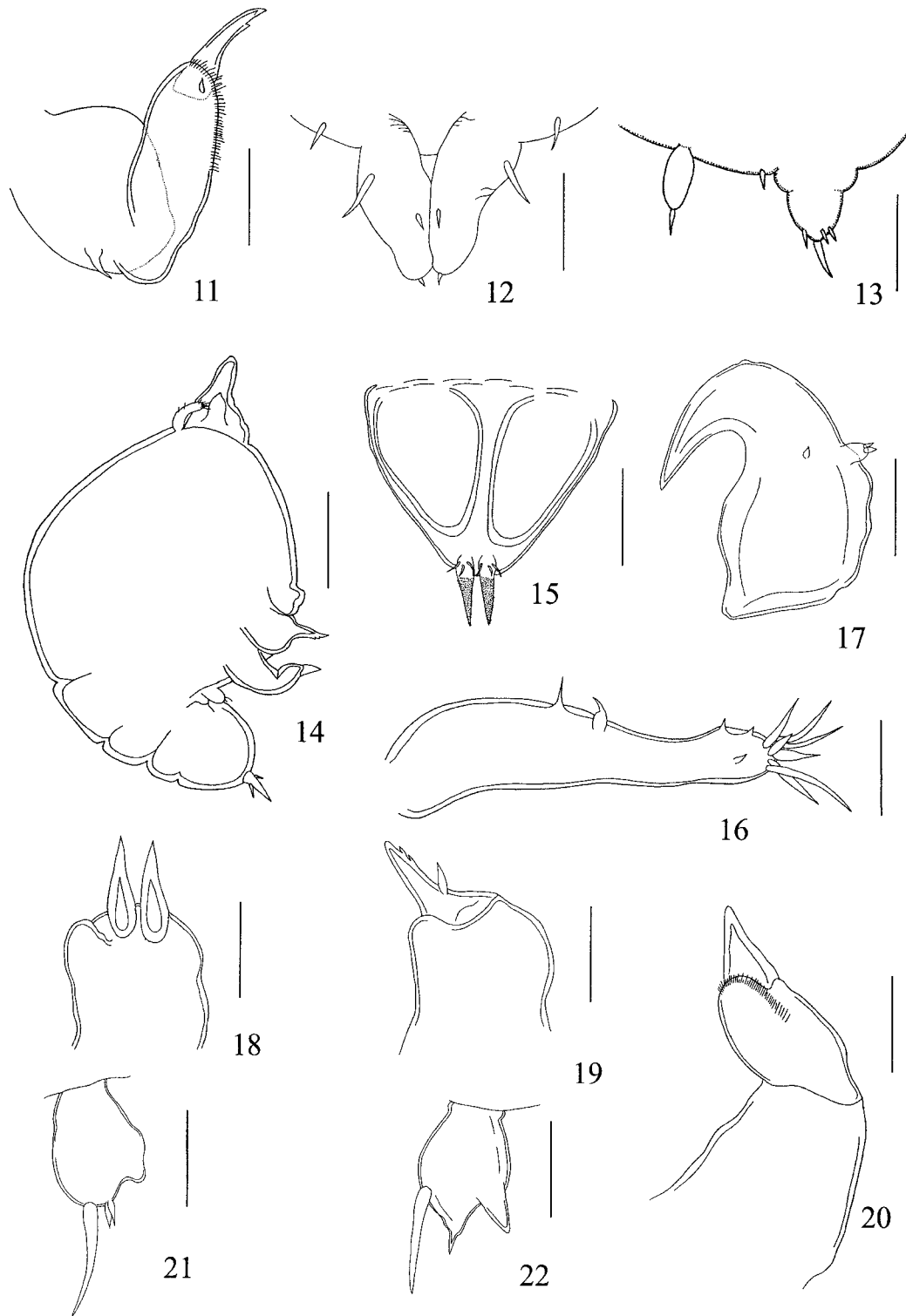
Female. Body (Figures 1, 2) comprising subspherical head, elongate neck and slender trunk. Total length 8.65 (7.22–10.14) (from anterior end of head, excluding antenna, to end of trunk) (n=12) and 1.27 (0.92–1.66) (n=12) wide (at middle region of trunk). Head devoid of processes, with lateral expansions, slightly wider than long, 2.19 (1.89–2.36) long, 2.31 (1.95–2.72) wide. Neck region distinct, slightly shorter than trunk (0.96:1). Trunk much longer than wide, 3.08 (2.86–3.61) long, 1.27 (0.92–1.66) wide, bearing pair of anteroventral bifurcate processes. Genital double somite (Figure 3) indistinguishably fused to trunk,

with pair of setae in posterior region, near to caudal rami. Caudal rami (Figure 4), diminutive, bearing 3 unequal setae on swollen basal portion; terminal portion covered with numerous spinules. Antennule (Figure 5) subcylindrical; armature (from proximal to distal) 1-1-3-1-1-7. Antenna (Figure 6): first segment heavily sclerotised; second segment strongly curved claw. Labrum (Figure 7) with patch of anterior spinules. Mandible (Figure 8) with 22–26 teeth on convex side and 14–18 teeth on concave side. Maxillule a lobe bearing 2 terminal spines (Figure 9), with some dorsal spinules on middle portion. Maxilla 2-segmented (Figure 10); first segment robust and unarmed; second segment bearing 1 small, simple, basal seta, 1 large seta with hyaline tip and row of 11 teeth on terminal process. Maxilliped 3-segmented (Figure 11); first segment robust bearing setiform process with inflated base; second segment with patch of spinules extending from segment proper to tip of rounded process, with seta near base of claw; terminal segment a curved claw with subterminal, small, tooth. Leg 1 (Figure 12) on anterior portion of neck; protopod with seta near to base of each ramus, diminutive and subcylindrical rami bearing 3 unequal setae. Leg 2 (Figure 13) on base of anteroventral processes of trunk; protopod with diminutive seta near to exopod; exopod with apical seta and 3 shorter subapical setae; endopod with apical seta shorter than ramus.

Male. Body (Figure 14) 873 μm (810–955 μm) long, 547 μm (499–622 μm) wide (n=8) (measured from tip of antenna to distal end of urosome, including caudal rami), with swollen cephalothorax comprising more than half of total body length. Genital somite (Figure 15) wider than long, with ventral ridges. Abdomen small and indistinctly fused to genital somite. Caudal rami bearing 3 setae on basal portion and numerous spinules on terminal portion. Antennule (Figure 16) long, cylindrical, setal formula 1-1-2-1-7. Antenna (Figure 17): first segment unarmed; second segment bearing setule and bisetose atrophied tip. Labrum and mandible similar to those of female. Maxillule a lobe (Figure 18) bearing 2 terminal spines and knob-like secondary lobe. Maxilla (Figure 19) similar to that of female except for terminal process that has only 2 marginal teeth. Maxilliped (Figure 20) 3-segmented; first large, unarmed; second segment with patch of spinules extending to base of claw. Leg 1 (Figure 21) with long terminal protopodal seta; exopod with 2 terminal setae; endopod represented by subconical process. Leg 2 (Figure 22) with long lateral



Figures 1-10. *Pseudolerentoma brasiliensis* n. g., n. sp. Female, holotype: 1. ventral view; 2. lateral view; 3. genitalia, ventral; 4. caudal ramus; 5. antennule; 6. antenna; 7. labrum; 8. mandible; 9. maxillule; 10. maxilla. Scale-bars: 1,2, 1mm; 3, 300 μ m; 4,10, 60 μ m; 5, 105 μ m; 6, 155 μ m; 7, 130 μ m; 8, 30 μ m; 9, 40 μ m.



Figures 11-22. *Pseudolerentoma brasiliensis* n. g., n. sp. 11-13. Female, holotype: 11. maxilliped; 12. leg 1; 13. leg 2. 14-22. Male, allotype: 14. lateral view; 15. genito-abdomen; 16. antennule; 17. antenna; 18. maxillule; 19. maxilla; 20. maxilliped; 21. leg 1; 22. leg 2. Scale-bars: 11,12, 70 μm ; 13, 145 μm ; 14, 200 μm ; 15, 105 μm ; 16,18, 30 μm ; 17, 55 μm ; 19, 80 μm ; 20, 50 μm ; 21,22, 45 μm .

protopodal seta; exopod with 1 terminal seta; endopod represented by conical process.

Discussion

Because of the presence of oral appendages in the head region near to the distal part of the neck, the new genus can be included in the Chondracanthinae. *Pseudolernentoma* n. g. can be compared with those genera of the Chondracanthinae whose females have two pairs of modified legs: *Ceratochondria* Yü, 1935; *Blias* Krøyer, 1863; *Berea* Yamaguti, 1963; *Heterochondria* Yü, 1935; *Protochondria* Ho, 1970; *Prochondracanthopsis* Shiino, 1960; and *Pseudoblias* Heegaard, 1962. *Pseudolernentoma* can be readily differentiated from the above genera by the presence of an inflated head with lateral expansions and a trunk with anteroventral bifurcate processes. Other differences are based on the shape of antenna (uncinate in the new genus, not uncinata in *Ceratochondria* and *Blias*); and the presence of legs in the male specimens (present only in some species in *Heterochondria*). Also, the antenna of female specimens of *Pseudolernentoma* has no atrophied tip, but the males do possess one (the atrophied tip is absent in both males and females of *Prochondracanthopsis* and *Pseudoblias*, but present in *Protochondria*).

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