

***Rhinergasilus piranhus* gen. et sp. n.**
(Copepoda, Poecilostomatoida, Ergasilidae) from the Nasal Cavities of
Piranha Cajú, *Serrasalmus nattereri*, in the Central Amazon

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ABSTRACT: The female of *Rhinergasilus piranhus* gen. et sp. n. (Copepoda, Poecilostomatoida, Ergasilidae) is described from the nasal cavity of *Serrasalmus nattereri* (Kner) from the central Amazon. The new species resembles members of *Ergasilus* from which it differs by having both thoracic segment V and leg 4 reduced, and the terminal segment of the 1st endopod lacking spines and bearing 2 plumose setae. *R. piranhus* is the 1st species of Ergasilidae reported from the nasal cavity of a Neotropical fish.

KEY WORDS: Copepoda, Poecilostomatoida, *Rhinergasilus piranhus* gen. et sp. n., Ergasilidae, *Serrasalmus nattereri*, piranha, piranha cajú, nasal cavity, Amazon, Brazil.

Recent efforts to determine the fauna of parasitic copepods of Amazon fishes have resulted in discovery of several species inhabiting the nasal cavities of their hosts (Thatcher and Boeger, 1984a, b, c; Thatcher and Paredes, 1985). With the exception of *Perulernaea gamitanae* Thatcher and Paredes, 1985, a lerneaeid, all other species described from the nares of Neotropical fishes are members of the Vaigamidae Thatcher and Robertson, 1984.

During an investigation on the ectoparasites of the piranha cajú, *Serrasalmus nattereri* (Kner), specimens of 2 undescribed species of a new genus of Ergasilidae Nordmann, 1832, were recovered from the nasal cavities of fish captured near Manaus in the central Amazon. The present paper includes the description of 1 of these species, the 1st ergasilid reported from the nasal cavities of Neotropical fishes.

Materials and Methods

Specimens of *Serrasalmus nattereri* were captured during November 1984, with gill nets from 2 localities near Manaus, Amazonas, Brazil: Ilha de Marchantaria in the Solimões-Amazonas River and Furo do Catalão at the mouth of the Rio Negro. Nasal cavities of fish were washed with a solution of 1:4,000 formalin. The wash containing the parasites was vigorously shaken to free the copepods from the host mucous after which the formalin concentration was then increased to 5%. Some specimens were dissected using glass microprobes in Grey and Wess' mounting medium. Others were stained with acid Fuchsin or Fast Green, cleared in phenol and creosote, and mounted in Permunt. Drawings were made with the use of a camera lucida. Measurements were obtained with an ocular micrometer and are given in micrometers; the average is followed by the range in parentheses.

Ergasilidae Nordmann, 1832

Ergasilinae Thatcher and Boeger, 1983

***Rhinergasilus* gen. n.**

DIAGNOSIS: Female: Antennule 6-segmented. Antenna 4-segmented. Thoracic segments V and VI greatly reduced. Five pairs of legs; legs 4, 5 reduced to single seta. Parasites in nasal cavity of fish. Male unknown.

***Rhinergasilus piranhus* sp. n.**

(Figs. 1-10)

TYPE LOCALITY: Ilha da Marchantaria, Solimões-Amazonas River near Manaus, Amazonas, Brazil.

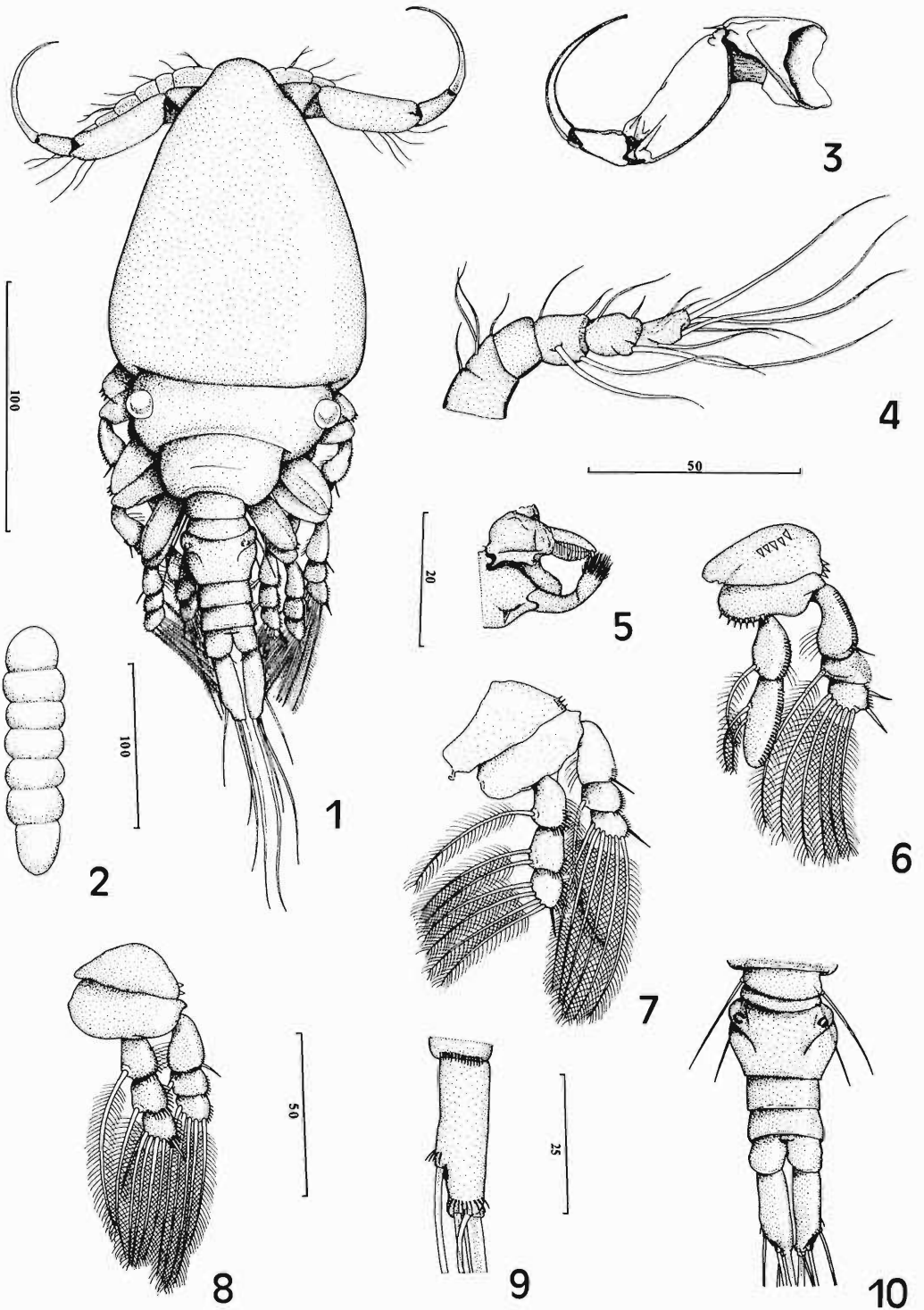
OTHER LOCALITIES: Furo do Catalão near Manaus, Amazonas, Brazil.

TYPE SPECIMENS: Holotype, INPA PA 309-1; paratypes, INPA PA 309-2 to 309-5, USNM 79850, 79851, HWML 20767, 20768.

MALE: Unknown.

ETYMOLOGY: The generic name is derived from Greek (*rhinos* = a nose) and refers to the infestation site in the host. The specific name is adapted from the common name of the host.

DESCRIPTION (based on 15 females; measurements in Table 1): Cephalothorax bullet-shaped; head fused with 1st 2 thoracic segments. Eyes not visible. Blue pigment distributed in 2 longitudinal bands anteriorly fused, extending from cephalothorax to segments IV and V; pigmentation often radiating into legs. Thorax with 5 free segments; segments III and IV with row of ventral spinules on posterior margin; segments V and VI reduced. Genital segment subrectan-



Figures 1–10. *Rhinergasilus piranhus* gen. et sp. n. 1. Composite drawing, whole mount (dorsal). 2. Egg sac. 3. Antenna. 4. Antennule. 5. Mouthparts. 6. Leg 1. 7. Leg 2. 8. Leg 3. 9. Uropod (ventral view). 10. Posterior end of a specimen showing legs 4 and 5, genital segment, abdominal segments, and uropod (dorsal).

gular. Abdomen 3-segmented (Fig. 10); each segment with row of ventral spinules along posterior margin; segment III invaginated posteriorly. Uropod (Fig. 9) with 3 terminal, 1 subterminal lateral setae, and 2 ventral rows of spinules (1 row at base of subterminal seta, other at bases of terminal setae). Antennule (Fig. 4) comprising 6 segments, each bearing simple setae; segments 1 and 2 incompletely fused; setal formula: 1-3-1-4-4-5 (total = 18). Second antenna 4-segmented (Fig. 3); basal segment with distal spine-like sensillum; segments 2, 3, and 4 lacking conspicuous sensilla; ratio of segmental length 1:1.3:0.5:1.2. Mouthparts (Fig. 5): mandible with bristled tip, palp apparently 2-segmented; maxillule vestigial; maxilla with terminal bristle, 1 subterminal spine. Leg 1 (Fig. 6): endopod 2-segmented, exopod 3-segmented; 1st endopodal segment laterally plumose with lateral row of long spinules, 1 medial plumose seta; terminal segment with lateral row of spinules, 2 short plumose setae medially; 1st exopodal segment medially plumose with row of lateral spinules, 1 posterolateral spine; 2nd exopodal segment laterally covered with very small spinules, 1 plumose seta medially; terminal exopodal segment with lateral row of spinules, 1 lateral, 1 posterolateral spine, 4 terminal plumose setae; basipod with medioposterior row of spines; coxopod with 3 lateral spines, anterior row of 5 spines. Leg 2 (Fig. 7): both rami 3-segmented; 1st endopodal segment laterally plumose with posterolateral row of long spinules, 1 medial plumose seta; 2nd endopodal segment laterally plumose with posterolateral row of long spinules, 2 medial plumose setae; terminal endopodal segment laterally plumose with lateral row of long spinules, 1 long terminal spine, 4 plumose setae; 1st exopodal segment medially plumose with small row of posterolateral spinules, 1 long posterolateral spine; 2nd exopodal segment with lateral row of spinules, 1 medial plumose seta; terminal exopodal segment with lateral row of spinules, 1 long posterolateral spine, 6 terminal plumose setae; coxopod with 3 lateral spines. Leg 3 (Fig. 8): both rami 3-segmented; 1st endopodal segment laterally plumose with posterolateral row of long spinules, 1 medial plumose seta; 2nd endopodal segment with posterolateral row of long spinules, 1 medial plumose seta; terminal endopodal segment with lateral row of long spinules, 1 long terminal spine, 4 terminal plumose setae; 1st exopodal segment medially plumose with posterolateral row of spinules, 1 posterolateral long spine; 2nd exopodal

Table 1. Measurements (μm) of adult females of *Rhinergasilus piranhus* gen. et sp. n.

	Length	Width
Body (less caudal setae)	263 (237-282)	98 (95-102)
Cephalothorax	124 (110-141)	98 (95-102)
Free thoracic segments		
III	26 (18-33)	84 (75-96)
IV	25 (23-27)	50 (44-55)
V	8 (7-10)	27 (25-30)
VI	4 (3-6)	29 (26-30)
VII (genital)	26 (23-29)	33 (30-37)
Abdominal segments		
I	9 (7-11)	24 (21-28)
II	9 (7-11)	23 (22-25)
III	10 (8-11)	22 (21-23)
Uropod	27 (25-28)	10 (9-11)
Egg sac	117 (96-138)	32 (31-34)
Antennule	58 (55-60)	12 (11-14)
Antenna segments		
1	38 (34-42)	26 (24-30)
2	48 (45-51)	18 (15-22)
3	21 (19-23)	11 (9-13)
4	46 (37-52)	6 (5-7)

segment with posterolateral row of spinules, 1 medial plumose seta; terminal exopodal segment with lateral row of spinules, 5 terminal plumose setae; coxopod with 2 lateral spines. Legs 4 and 5 (Fig. 10) each reduced to single seta. Egg sac with row of up to 7 eggs (Fig. 2).

Discussion

Thatcher and Boeger (1983) created *Abergasilinae* (Ergasilidae) to contain (*Abergasilus* Hewitt, 1978, and *Brasergasilus* Thatcher and Boeger, 1983, both characterized by species bearing 3 pairs of legs and 3-segmented antennae. *Rhinergasilus* gen. n. is superficially similar to these genera in that its members also have 3 pairs of nonreduced legs. However, the presence of legs 4 and 5 (both reduced to a single seta) and a 4-segmented antenna requires the assignment of the new genus to the Ergasilinae Thatcher and Boeger, 1983.

Rhinergasilus piranhus resembles species of *Ergasilus*, from which it differs by having thoracic segment V and leg pair 4 reduced, and the terminal segment of the 1st endopodite lacking spines and bearing 2 plumose setae.

Two other ergasiloid species were concomitantly found with *R. piranhus*: *Gamidactylus jaraguensis* Thatcher and Boeger, 1984 (USNM 79849 and HWML 20769), and an undescribed species of *Rhinergasilus* (USNM 79848 and HWML 20771). The latter was not described

herein due to the lack of an adequate number of specimens.

Previous to the present study, 3 species of parasitic crustaceans have been reported from *Serrasalmus nattereri*, all argulids: *Argulus multicolor* Stekhoven, 1937 (Malta, 1983), *Dolops bidentata* Bouvier, 1899 (Malta, 1982), and *D. carvalhoi* Castro, 1949 (Malta and Varella, 1983).

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