

TWO NEW GENERA OF PARAMPHISTOMIDAE (TREMATODA, DIGENEA) FROM FRESHWATER FISH OF RONDÔNIA STATE, BRAZIL

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Two new genera and species of Paramphistomidae (Trematoda, Digenea) are described from freshwater fish of Rondônia State, Brazil. Pronamphistoma cichlasomae gen. et sp. nov. from Cichlasoma severum (Heckel) is characterized as having a small, robust body with an anterior collar-like expansion, diverticula within the wall of the oral sucker and vitellaria in lateral fan-shaped configurations. Micramphistoma ministoma gen. et sp. nov. from Hypopomus sp. lacks oral diverticula, has anteriorly situated parallel testes and a very small postero-ventral acetabulum. Neither of the new forms closely resembles any known genus.

Key words: amphistome – Paramphistomidae – trematode – Amazon – fish parasite

Paramphistomidae Fiscoeder, 1901, is a family of primitive trematodes that is well represented in reptiles and mammals. Fewer are known from piscine hosts, but Travassos (1934), in his classic monograph, and Travassos et al. (1969) listed 8 genera of these parasites from South American fishes. Yamaguti (1971) recognized 22 genera and 32 species of amphistomes from fish world-wide. Thatcher (1979) redescribed *Dadaytrema oxycephala* (Diesing, 1836) on the basis of Amazonian specimens and added two new genera from Colombian fish. The present study describes two additional new genera from fishes of the Brazilian Amazon.

MATERIAL AND METHODS

Fish hosts were netted, identified and eviscerated, after which, the intestinal tracts were opened and placed in a 1:4000 formalin solution to relax and kill the trematodes. After 30 min, enough formaldehyde was added to the solution to bring the concentration up to about 10%. The preserved digestive tracts were examined by washing and hand sedimentation. The worms were stained in 95% alcohol containing equal parts of eosin and orange-g stains. They were then placed in pure phenol for dehydration. From this solution, they were

removed, placed on microscope slides, compressed slightly under cover glasses and cleared with methyl salicylate. They were then mounted in Canada balsam. Drawings were done with the aid of a Zeiss drawing tube. Measurements were made with a measuring ocular and are in micrometers (μm). The means are followed by the extremes enclosed in parentheses.

SYSTEMATIC SECTION

Paramphistomidae Fiscoeder, 1901

Pronamphistoma gen. nov.

Generic diagnosis: Paramphistomidae. Microrchiinae. Body small, stout, with anterior collar-like expansion. Oral sucker large, terminal, nearly spherical, with internal diverticula; esophagus short, bulb ovoid; ceca thick, long, reaching acetabulum. Acetabulum large, circular, subterminal. Testes subspherical, entire, tandem, in middle third of body; cirrus sac ovoid, containing saccular seminal vesicle; genital pore postbifurcal. Ovary spherical, submedian, near acetabulum; vitellaria consisting of follicles in linear rows that form fan-like configurations on each side of ovary; uterus short, with few large eggs. Circulatory system present. Excretory vesicle saccular, pore dorsal. Intestinal parasites of freshwater fish.

Type species: *Pronamphistoma cichlasomae* sp. nov.

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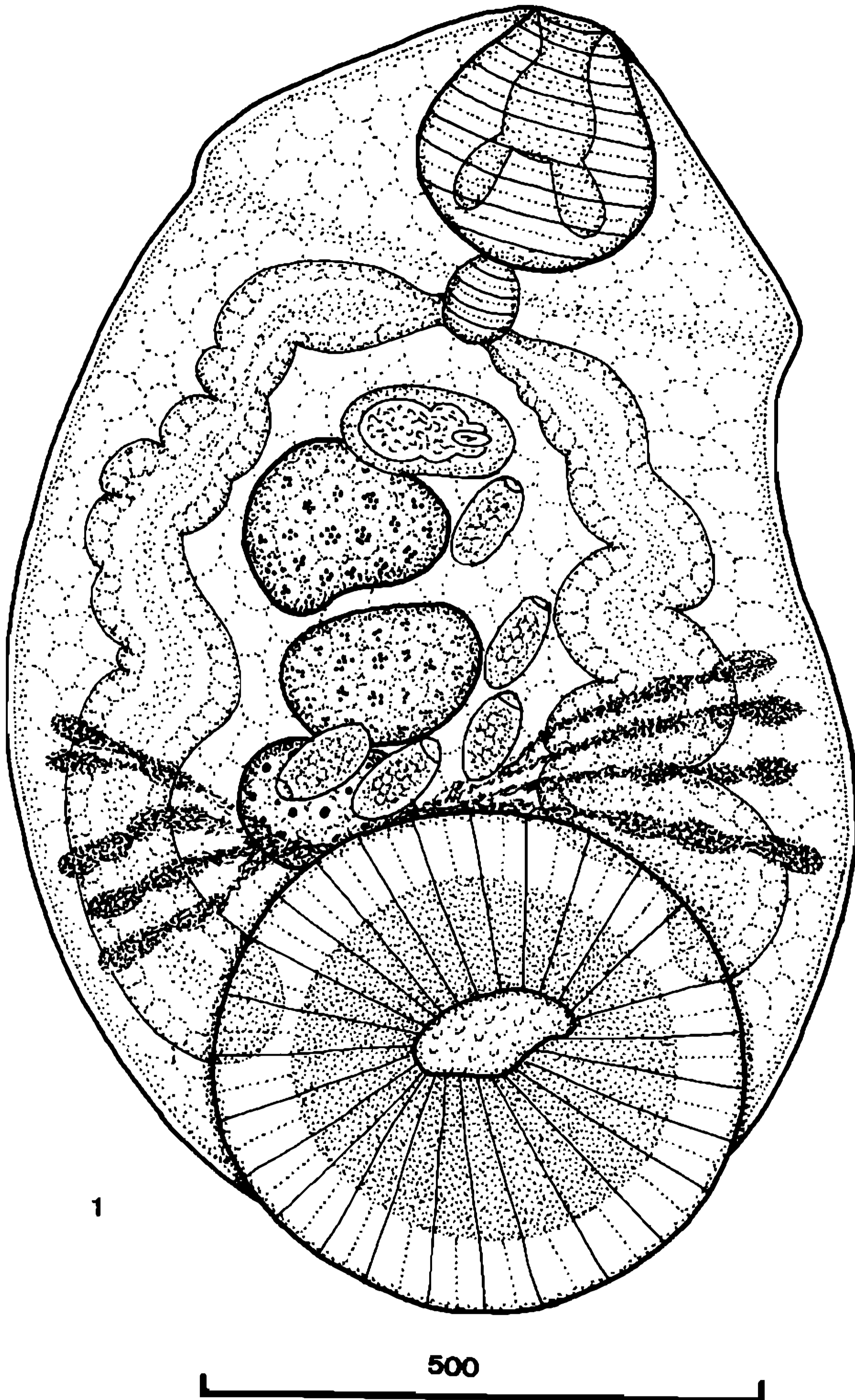


Fig. 1: *Pronamphistoma cichlasomae* gen. et sp. nov. (ventral view).

Pronamphistoma cichlasomae sp. nov.
(Fig. 1)

Host: *Cichlasoma severum* (Heckel).

Site: Intestinal tract.

Locality: Guaporé River, Rondônia State, Brazil.

Holotype and 3 paratypes: Invertebrate Collection, Instituto Nacional de Pesquisas da

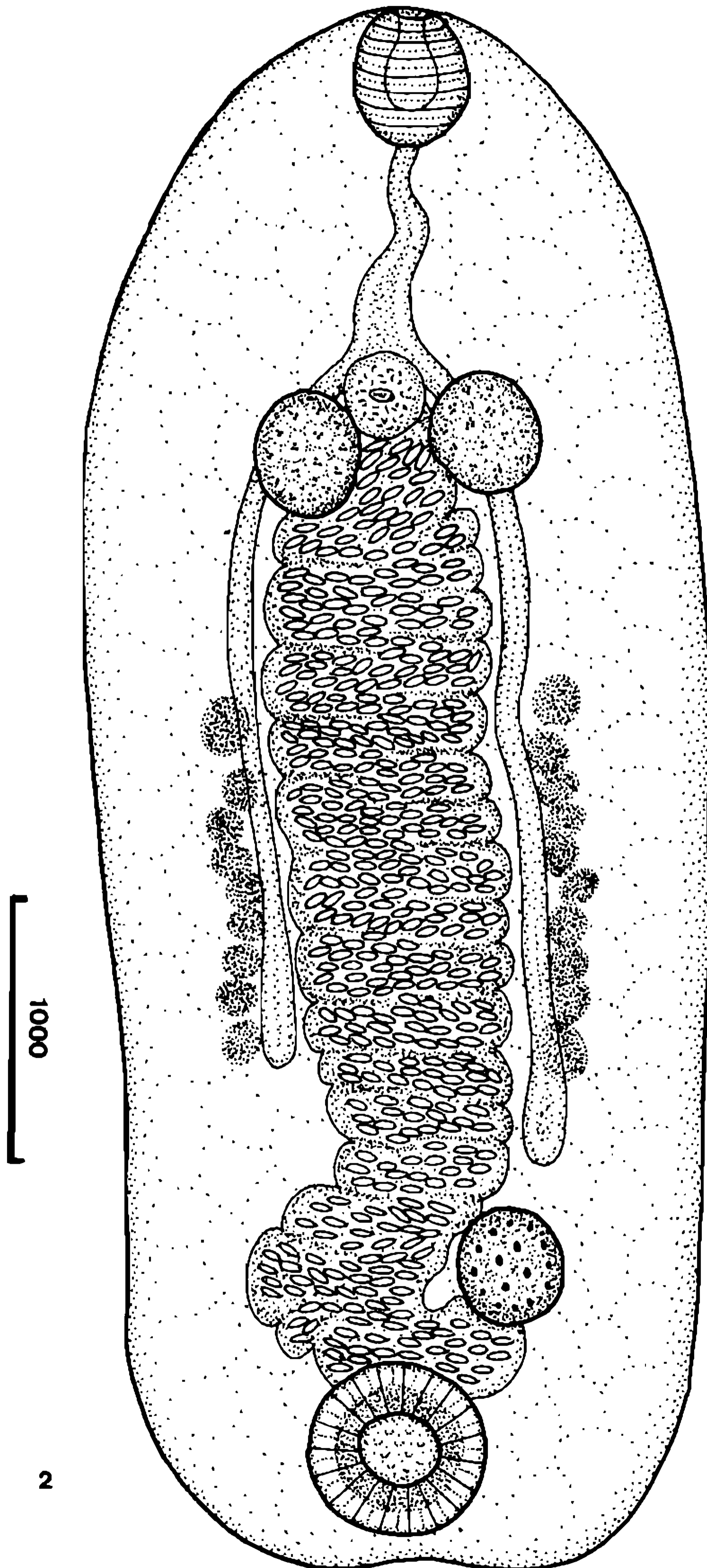


Fig. 2: *Micramphistoma ministoma* gen. et sp. nov. (ventral view).

Amazônia (INPA), Manaus, AM, Brazil. Two additional paratypes: Helminth Collection, Fundação Oswaldo Cruz (FIOCRUZ), Rio de Janeiro, RJ, Brazil.

Etymology: "Pron" from Greek meaning a promontory (in reference to the collar-like expansion). "Amphistoma" is a classic name for trematodes having a sucker at each extremity. The specific name is derived from the host generic name.

Species diagnosis (10 specimens measured): Body 904 (686-1,162) long by 574 (420-756) wide. Oral sucker 173 (148-192) long by 202 (165-231) wide. Pharynx 65 (55-82) in diameter. Ceca 84 (55-112) in maximum diameter. Acetabulum 347 (258-448) long by 383 (280-490) wide. Cirrus sac 80 (55-99) in diameter. Anterior testis 116 (93-137) long by 158 (93-220) wide. Posterior testis 122 (82-165) long by 166 (93-209) wide. Ovary 74 (55-94) in diameter. Eggs few, large, measure 93 x 55 (82-110 x 45-66).

Discussion

Pronamphistoma cichlasomae gen. et sp. nov. can be placed in the Subfamily Microrchiinae Yamaguti, 1958, because it has a large acetabulum, diverticula within the wall of the oral sucker, an esophageal bulb, a cirrus sac and tandem testes.

The new genus and species differs from all other genera of the family in having an anterior collar-like expansion and in being of small size. The new form also has a distinctive fan-like distribution of vitelline follicles on either side of the ovary.

Micramphistoma gen. nov.

Generic diagnosis: Paramphistomidae. Body medium sized, elongate, somewhat flattened, with parallel sides, dorsally concave. Oral sucker small, subspherical, without diverticula; esophagus long, without muscular bulb; ceca slender, medium long. Acetabulum small, subspherical, subterminal. Testes spherical to ovoid, nearly parallel, near intestinal bifurcation; male genital sac subovoid, between testes; genital pore immediately postbifurcal. Ovary spherical, near acetabulum, lateral to midline; vitellaria consisting of few large follicles, dorso-lateral to ceca, in middle third of body; uterus largely interceal; eggs small, numerous. Circulatory system present. Excre-

tory vesicle saccular, pore dorsal. Intestinal parasites of freshwater fish.

Type species: *Micramphistoma ministoma* sp. nov.

Micramphistoma ministoma sp. nov. (Fig. 2)

Host: *Hypopomus* sp.: (Gymnotiformes; Hypopomidae)

Site: Intestinal tract.

Locality: Guaporé River, Rondônia State, Brazil.

Holotype and 2 paratypes: INPA. One additional paratype: FIOCRUZ.

Etymology: "Micr" from Greek meaning small plus "amphistoma" from Greek meaning "both mouths." "Mini" from Greek meaning small plus stoma meaning mouth (in reference to the small size of the acetabulum).

Species diagnosis (based on 4 specimens): Body 4,939 (4,454-5,644) long by 2,193 (2,040-2,380) wide. Oral sucker 483 (434-560) long by 452 (420-490) wide. Ceca 140 (112-168) in maximum diameter. Acetabulum 553 (504-588) long by 564 (518-602) wide. Male genital sac 287 (210-378) long by 308 (266-378) wide. Right testis 305 (266-322) long by 298 (238-336) wide. Left testis 312 (294-336) long by 308 (280-350) wide. Ovary 350 (322-378) long by 336 (322-364) wide. Vitellaria 158 (140-168) in maximum diameter. Eggs 100 x 55 (88-110 x 50-60).

DISCUSSION

Micramphistoma ministoma gen. et sp. nov. is not closely similar to any other known genus. It can not be placed in any of the recognized subfamilies as defined by Yamaguti (1971) because it lacks oral diverticula and an esophageal bulb. Other characteristics of this species are: anterior parallel testes, a cirrus sac and a postero-ventral acetabulum of a very small size.

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