Mem. Inst. Oswaldo Cruz, Rio de Janeiro, Vol. *88* (4): 557-559, oct./dec. 1993

A NEW SPECIES OF *PHYLLODISTOMUM* BRAUN, 1899 (DIGENEA: GORGODERIDAE) FROM *RHAMDIA QUELEN* (QUOY & GAIMARD, 1824) (SILURIFORMES: PIMELODIDAE)

SUZANA B. AMATO & J. F. R. AMATO

Departamento de Biologia Animal, Universidade Federal Rural do Rio de Janeiro, km 47 Ant. Rod. Rio-São Paulo, Caixa Postal 74512, 23851-970 Seropédica, RJ, Brasil

Phyllodistomum rhamdiae *n. sp. is described based on specimens collected from the urinary bladder of freshwater catfishes,* Rhamdia quelen, *caught from the Guandu river, outskirts of Rio de Janeiro, State of Rio de Janeiro, Brazil. The new species is characterized by its sucker width ratio equal to 1:1, by the large size of the gonads and their spatial arrangement.*

Key words: *Phyllodistomum rhamdiae* n. sp. – Digenea – Gorgoderidae – *Rhamdia quelen* – freshwater fish parasite – Brazil

Seven species of *Phyllodistomum* Braun, 1899 have been described from African freshwater catfishes: *P. linguale* Odhner, 1902, *P. spatulaeforme* Odhner, 1902 and *P. spatula* Odhner, 1902 from Sudan; *P. ghanense* Thomas, 1958 and *P. symmetrorchis* Thomas, 1958 from Ghana; *P. vanderwaali* Prudhoe & Hussey, 1977 and *P. bavuri* Boomker, 1984 from South Africa. In South America, Brooks & Macdonald (1986) described *P. mayesi* collected from a Colombian catfish.

Examining catfishes from the Guandu river, in the outskirts of Rio de Janeiro, RJ, specimens of an undescribed species of *Phyllodistomum* were collected from the urinary bladder of *R. quelen.*

MATERIALS AND METHODS

The specimens described herein are part of the material collected along 16 necropsies of catfishes, *R. quelen,* from 1988 to 1991, caught from the Guandu river, BR-465 km 10, west side of Rio de Janeiro, RJ, Brazil. The fishes were captured with throwing nets, brought alive to the laboratory and necropsied after being killed following suggested procedures for animal care. The helminths were collected from the urinary bladder and processed according to Amato et al. (1991), and were stained with Delafield's hematoxilin. The illustration was prepared with the aid of a drawing tube on a Leitz Dialuz 20-EB microscope. Measurements are in micrometers unless otherwise indicated. The range of measurements is followed by the average within parentheses and the number of specimens measured (n) for each character. TBL is the abbreviation for Total Body Length. The holotype and one paratype were deposited in the Coleção Helmintológica da Fundação Oswaldo Cruz (FIOCRUZ), Rio de Janeiro, RJ, Brazil and two paratypes were deposited in the Helminthological Collection of the United States National Museum (USNM), Beltsville, Maryland, USA. The hosts were identified in the Seção de Peixes do Museu de Zoologia da Universidade de São Paulo (USP).

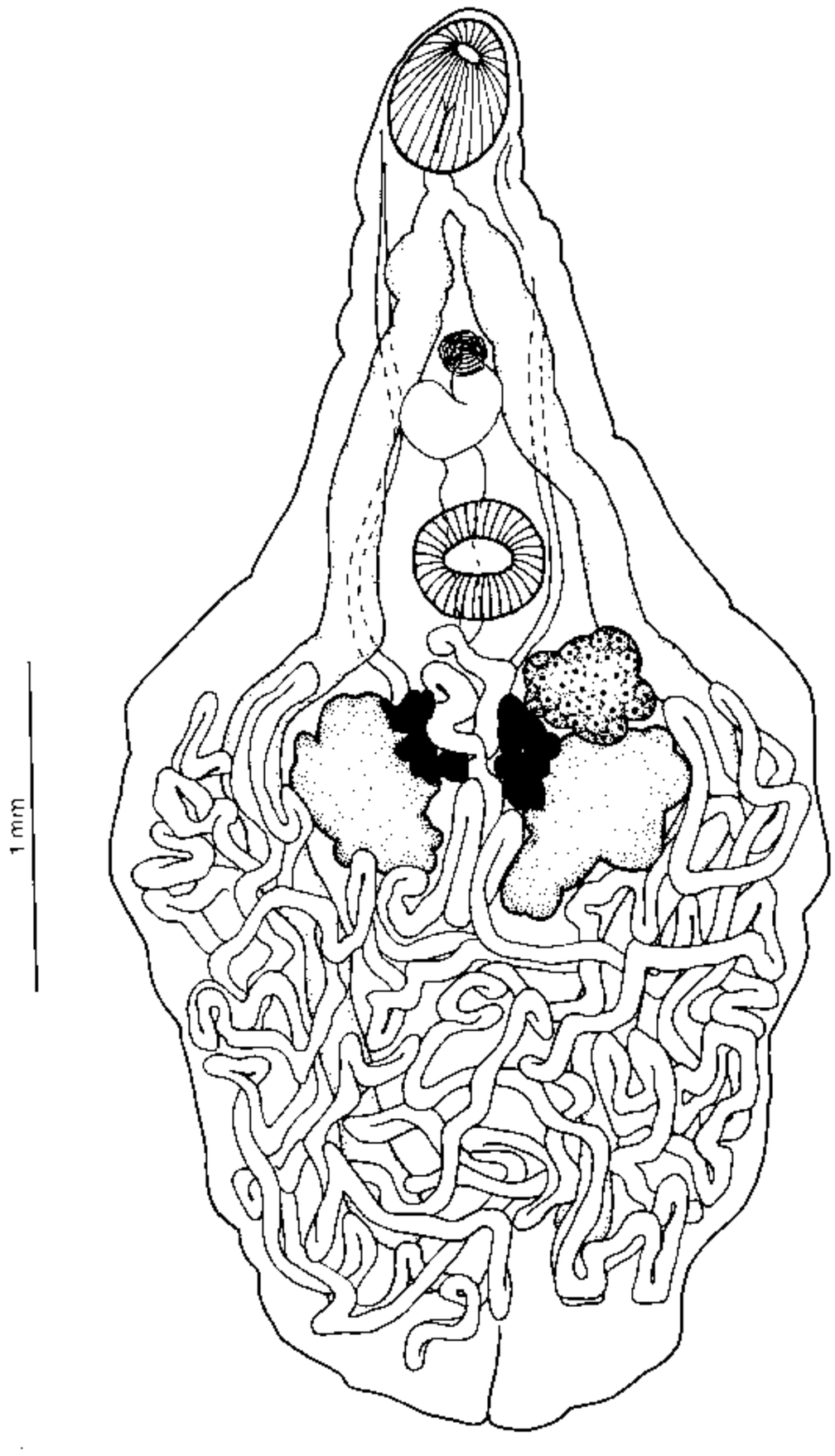
DESCRIPTION

Phyllodistomum rhamdiae n. sp.

DESCRIPTION (based on 7 specimens, mounted *in toto,* 7 measured):Gorgoderidae. Forebody narrow, hindbody broad, foliate, with margin crenulated, 3.91 to 5.01 mm (4.56 mm; n = 6) long, 2.26 - 2.79 mm (2.62 mm; n = 6) wide; forebody 38 - 53.5% (42.9%) of TBL; hindbody, 55.9 - 61.9% (59.6%) of TBL. Oral sucker subventral, elongate, 374 - 792 (443) long, 352 - 506 (418) wide. Acetabulum, 286 - 440 (352) long, 308 - 462 (367) wide. Suckers width ratio, 1:0.9 - 1:1.1. Esophagus, 88 - 264 (172) long; cecal bifurcation preacetabular,

Supported by CNPq.
CNPq Research Fellows.
Received 28 January 1993.
Accepted 14 June 1993.

11.8 - 16% of TBL, from anterior end; ceca long, extending to posterior portion of hindbody. Testes lobed, slightly oblique, in equatorial zone, beginning at 47.7 - 58.5% (52.8%; n = 6) of TBL; right testis, 550 - 814 (644) long, 396 - 550 (477) wide; left testis, 572 - 726 (656) long, 440 - 572 (490) wide. Seminal vesicle saccate, preacetabular, 177 - 265.5 (243.3; n = 6) long, 150.4 - 177 (154.8; n = 6) wide. Genital pore 1/3 - 1/2 from cecal bifurcation to acetabulum. Ovary pretesticular, lobed, amphitipic, dextral in three, sinistral in four specimens, 274.3 - 418 (337.7) long, 374 - 572 (440) wide. Mehlis' gland present, inconspicuous, dorsal to vitelline glands, between gonads; Laurer's canal not observed. Vitelline glands paired, lobed, starting at anterior margin of testes and extending to half of testes' length, covering about 1/4 of testes' surface. Uterus extensive, filling most of hindbody, 47.4 - 52.2% (50.2%) of TBL. Eggs 25.8 - 37.6 (32.2) long, 16.4 - 23.5 (17.2) wide. Excretory pore subterminal.



Phyllodistomum rhamdiae n. sp. - holotype, ventral view.

Taxonomic summary

Type host: *Rhamdia quelen* (Quoy & Gaimard, 1824) (Siluriformes, Pimelodidae).

Site of infection: urinary bladder.

Type locality: Guandu river, km 47 Antiga Rodovia Rio-São Paulo, State of Rio de Janeiro, Brazil.

Prevalence: 12.5%.

Intensity of infection: 3 and 4.

Specimens deposited: CHIOC holotype No 33067; paratype No 33068. USNM paratype Nos 82934 and 82935.

Etymology: the specific name *rhamdiae* refers to the generic name of the fish host where the new species was found.

Remarks

Boomker (1984), working on the redescription of the African species of *Phyllodistomum,* indicated that the most adequate character to differentiate these species, is the relative position of the ovary to the vitelline glands. Brooks & Macdonald (1986) also used this character when describing *P. mayesi.* According to this character the species of *Phyllodistomum* from freshwater catfishes can be grouped by: (1) having ovary anterior to vitelline glands (as in *P. symmetrorchis*); (2) having the ovary opposite and slightly anterior to vitelline glands (as in *P. spatulaeforme* and *P. mayesi*); (3) having the ovary opposite and slightly posterior to vitelline glands (as in *P. spatula,* and *P. ghanense*); and (4) having the ovary behind the vitelline glands (as in *P. vanderwaali, P. linguale* and *P. bavuri*). *Phyllodistomum rhamdiae* n. sp. is included in the group of *P. spatulaeforme* and *P. mayesi* sharing with these two species the characteristic of having the ovary opposite and slightly anterior to vitelline glands.

Phyllodistomum rhamdiae n. sp. differs from *P. spatulaeforme* and *P. mayesi* by the relative size of the gonads and by the spatial arrangement of the testes, ovary and vitelline glands. In *P. rhamdiae* n. sp. the ovary represents 1/2 of the length of the testes, and the vitelline glands represent 1/4 of the length of the testes and 1/2 of the length of the ovary. In this species the ovary, vitelline glands and testes are larger than in all other species of *Phyllodistomum* from freshwater catfishes so

far described, and being large they press each other covering the Mehlis' gland at the level of the vitelline glands. *Phyllodistomum rhamdiae* n. sp. also differs from *P. mayesi* by the sucker width ratio, which is close to 1:1 in the new species and 1:0.59 in the later species. The sucker width ratio of *P. spatulaeforme* is close to 1:1, as in *P. rhamdiae* n. sp., but the new species can also be differentiated from *P. spatulaeforme* by the extension of its uterus which fills most of the hindbody having also extra cecal loops.

ACKNOWLEDGEMENTS

To Drs José Lima de Figueiredo and Heraldo Britsky, Seção de Peixes, Museu de Zoologia, Universidade de São Paulo, São Paulo, SP, for the kindness of identifying the fish host and to Luciano Antunes Barros for inking the drawing.

REFERENCES

AMATO, J. F. R.; BOEGER, W. A. & AMATO, S. B., 1991. *Protocolos para laboratório - coleta e processamento de parasitos do pescado.* Imprensa Universitária. Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil. 81 p.

BOOMKER, J., 1984. Parasites of South African freshwater fish. II. Redescription of the African species of the Genus *Phyllodistomum* Braun, 1899 (Trematoda: Gorgoderidae) and the description of a new species. *Onderst. J. Vet. Res., 51:* 129-139.

BROOKS, D. R. & MACDONALD, C. A., 1986. A new species of *Phyllodistomum* Braun, 1899 (Digenea: Gorgoderidae) in a Neotropical catfish, with discussion of the generic relationships of the Gorgoderidae. *Can. J. Zool., 64:* 1326-1330.