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SACCOCOELIOIDES GODOYI N.SP. (HAPLOPORIDAE) AND OTHER TREMATODES PARASITES OF FISHES FROM THE GUAIBA ESTUARY, RS, BRAZIL

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One hundred and fourteen specimens of eleven different species of freshwater fishes from the Guaiba estuary, were examined for digenetic flukes. Saccocoelioides godoyi *n.sp. proposed herein, is closest to* S. magniovatus *and to* S. szidati; S. magniovatus *is much smaller with comparably larger eggs and* S. szidati *has larger hermaphroditic sac and considerably larger testis.* Creptotrema creptotrema *is referred to a new host;* Acanthostomum gnerii, Crepidostomum platense, Eocreadium intermedium *(immature form),* Parspina argentinensis *and* Zonocotyle bicaecata *are reported. This paper confirms the similarity between the parasites of freshwater fishes from Argentina and Brazil. Measurements and original figures of all species are given.*

Key words: *Saccocoelioides godoyi* n.sp. – Haploporidae – trematodes – parasites of fishes

Travassos et al. (1969) included among the Brazilian Digenea, the species described by Szidat for fresh-water fishes from Argentina considering that their hosts which inhabit also Brazilian rivers probably could harbor the same parasites. This paper reports the digenea recovered from one hundred and fourteen specimens of eleven different species of fishes from the Guaiba estuary, examined from March, 1980 to June, 1983 and confirms the similarity between the parasites of fishes from Argentina and Brazil.

MATERIAL AND METHODS

The trematodes were fixed in Railliet and Henry's fluid through compression, stained with Langeron's carmine, dehydrated in EtOH, cleared in Faia's creosote and mounted in Canada balsam. The illustrations were made with the aid of a drawing tube; measurements are in mm, with means in parentheses. The material studied is deposited in the Helminthological Collection of the Oswaldo Cruz Institute.

RESULTS

Saccocoelioides godoyi n.sp. (Haploporidae)
(Figs. 1-4)

Description based on ten mature mounted specimens, measurements based on nine specimens.

Body elliptical to pyriform, 1.21 to 1.74 (1.48) long by 0.44 to 0.75 (0.58) wide. Pigment granules scattered in anterior part of forebody. Tegument spinose. Oral sucker sub-terminal 0.12 to 0.15 (0.13) long by 0.13 to 0.16 (0.14) wide. Acetabulum pre-equatorial 0.13 to 0.15 (0.14) long by 0.13 to 0.17 (0.14) wide. Sucker width ratio 1:1. Pharynx 0.08 to 0.11 (0.10) long by 0.10 to 0.13 (0.11) wide. Esophagus long, may extend to near midlevel of acetabulum. Caeca tubular, short, terminating blindly at equatorial or pre-equatorial zone. Genital pore median, a short distance anterior to acetabulum. Hermaphroditic sac 0.10 to 0.14 (0.13) in diameter, located anteriorly to acetabulum, contains oval or saccular internal seminal vesicle, prostatic cells and female duct. External seminal vesicle sacular, dorsal to acetabulum.

Single testis median, post-equatorial, 0.15 to 0.24 (0.19) long by 0.12 to 0.15 (0.14) wide. Ovary, pyriform, median or submedian, postacetabular, pre-testicular, 0.084 to 0.13 (0.10) long by 0.060 to 0.080 (0.070) wide. Mehlis' complex, seminal receptacle and Laurer's canal not evidentiated. Vitellaria with large follicles, variable in number, form and size, extending laterally

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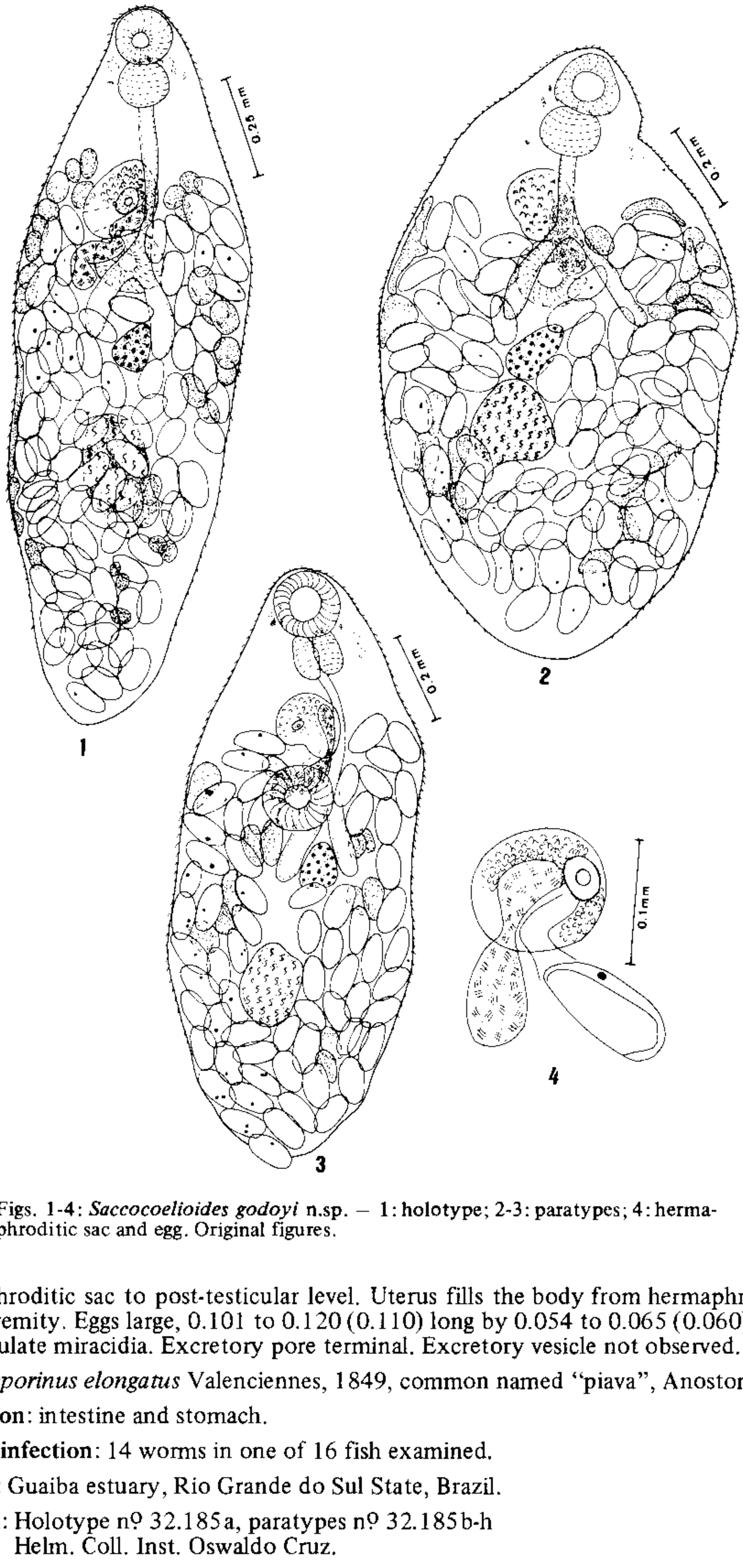

Figs. 1-4: *Saccocoelioides godoyi* n.sp. – 1: holotype; 2-3: paratypes; 4: hermaphroditic sac and egg. Original figures.

from hermaphroditic sac to post-testicular level. Uterus fills the body from hermaphroditic sac to posterior extremity. Eggs large, 0.101 to 0.120 (0.110) long by 0.054 to 0.065 (0.060) wide, some containing oculate miracidia. Excretory pore terminal. Excretory vesicle not observed.

Type host: *Leporinus elongatus* Valenciennes, 1849, common named "piava", Anostomidae.

Site of infection: intestine and stomach.

Prevalence of infection: 14 worms in one of 16 fish examined.

Type locality: Guaiba estuary, Rio Grande do Sul State, Brazil.

Type material: Holotype nº 32.185a, paratypes nº 32.185b-h
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Etymology: The species is named in honor of Prof. Manuel Pereira de Godoy, who dedicates his life to the study of the Brazilian fresh-water fishes.

DISCUSSION

Saccocoelioides godoyi n.sp. is closet to *S. magniovatus* Szidat, 1954 and *S. szidati* (Travassos, Freitas & Kohn, 1969) which syntypes we had the opportunity to re-examine and study (Kohn, 1985). *S. magniovatus* is much smaller with comparably larger eggs. *S. szidati* has larger hermaphroditic sac and considerably larger testis.

Crepidostomum platense Szidat, 1954 (Allocreadiidae)
(Figs. 10-11)

Measurements based on eight specimens: Body 0.34 to 0.57 (0.48) long by 0.14 to 0.25 (0.19) wide; oral sucker 0.10 to 0.12 (0.11) long by 0.10 to 0.13 (0.11) wide; ventral sucker 0.08 to 0.11 (0.10) long by 0.08 to 0.12 (0.10) wide; sucker width ratio 1:0.8-0.9; pharynx 0.03 to 0.05 (0.04) in diameter; ovary 0.04 to 0.06 (0.05) long by 0.03 to 0.09 (0.05) wide; testes 0.05 to 0.07 (0.06) long by 0.02 to 0.06 (0.04) wide; eggs 0.066 to 0.075 (0.070) long by 0.045 to 0.050 (0.048) wide.

Host: *Pimelodus maculatus* Lacépède, 1803, common named "pintado", Pimelodidae.

Site of infection: stomach.

Prevalence of infection: 12 worms in one of 42 fish examined.

Specimens deposited: 32.188a-f.

C. platense was described in Argentina from *Pimelodus maculatus (= Pimelodus clarias), Iheringichthys labrosus* and *Rhinodoras dorbignyi*. Szidat (1954) figured several specimens showing the variation of body shape but presented only few measurements of one well extended worm. This report confirms the presence of this species in Brazil, as suggested by Travassos et al. (1969).

Creptotrema creptotrema Travassos, Artigas & Pereira, 1928
(Lepocreadiidae)
(Figs. 5-6)

Measurements based on six specimens: Body 0.46 to 0.70 (0.56) long by 0.21 to 0.29 (0.25) wide; oral sucker 0.10 to 0.12 (0.10) long by 0.09 to 0.12 (0.10) wide; ventral sucker 0.10 to 0.13 (0.12) long by 0.10 to 0.14 (0.12) wide; sucker width ratio 1:1.1-1.6; pharynx 0.03 to 0.05 (0.04) long by 0.03 to 0.04 (0.04) wide; ovary 0.04 to 0.05 (0.05) in diameter; testes 0.06 to 0.11 (0.08) long by 0.03 to 0.10 (0.05) wide; eggs 0.045 to 0.060 (0.055) long by 0.032 to 0.038 (0.035) wide.

Host: *Pimelodus maculatus* Lacépède, 1803, common named "pintado", Pimelodidae (new host record).

Site of infection: intestine.

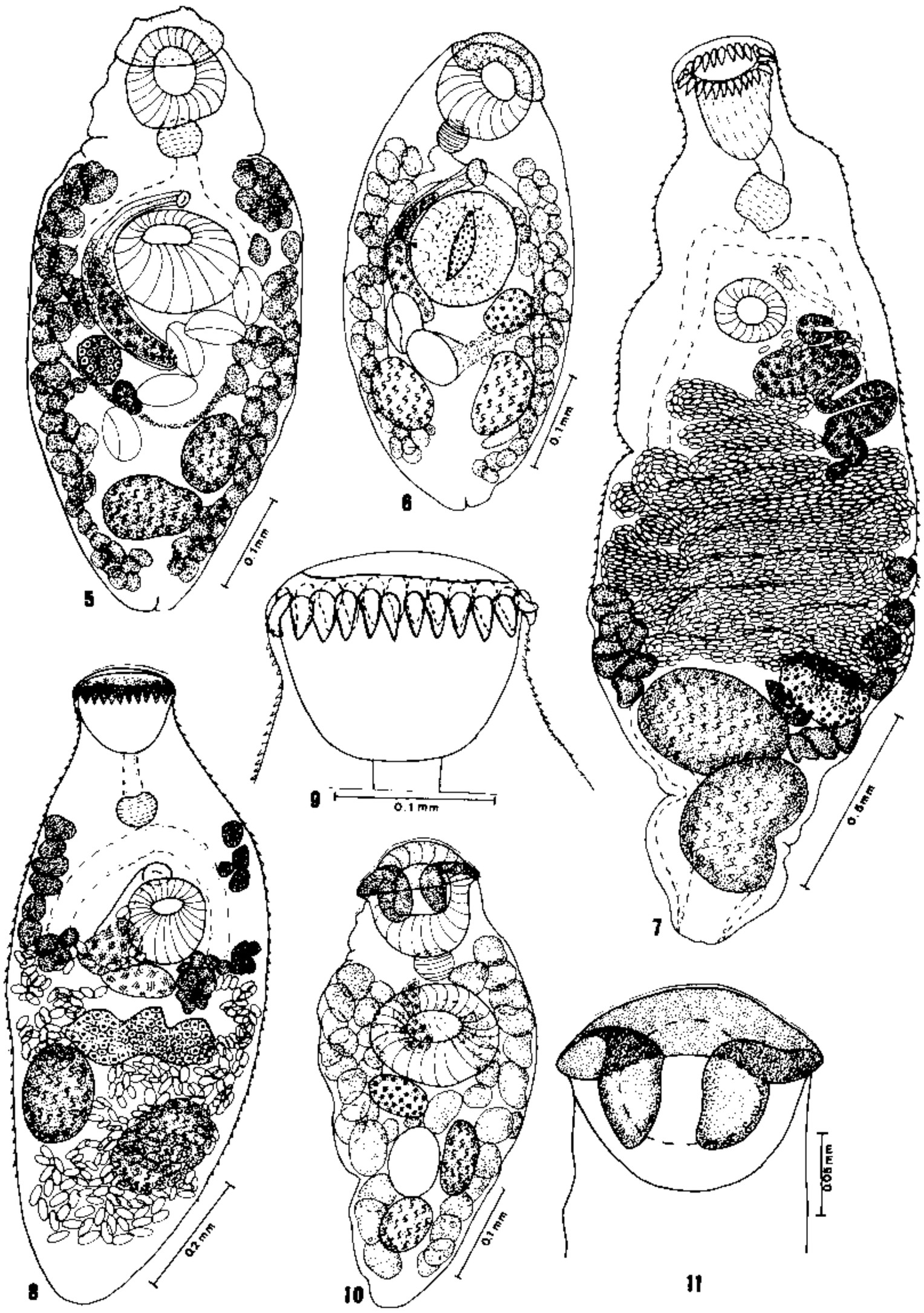
Prevalence of infection: 15 worms in one of 42 fish examined.

Specimens deposited: 32.187a-e.

The type-material of this species had been recently redescribed by Kohn (1984). We recovered it from *P. maculatus* which represents a new host record. Our specimens are similar with the type-material and we could also identify the papillous inner tegument of the suckers as described by Kohn; it differs only in having smaller eggs: 0.045-0.060 by 0.032-0.038 compared with 0.060-0.072 by 0.038-0.050.

Eocreadium intermedium Szidat, 1954 (Lepocreadiidae)

One immature specimen of *E. intermedium* was recovered from the swim bladder of *Hypostomus commersoni* Valenciennes, 1840, common named "cascudo" (Loricariidae), associated to *Thometrema magnifica* (Szidat, 1954). It measures 5.00 long by 1.7 wide; oral sucker 0.43 in diameter; ventral sucker 0.33 in diameter; pharynx 0.19 in diameter; esophagus 0.15 long.



Figs. 5-6: *Creptotrema creptotrema* Travassos, Artigas & Pereira, 1928. Fig. 7: *Acanthostomum gnerii* Szidat, 1954. Figs. 8-9: *Parspina argentinensis* (Szidat, 1954) 8: entire worm; 9: anterior extremity. Figs. 10-11: *Crepidostomum platense* - 10: entire worm; 11: anterior extremity. Original figures.

Acanthostomum gnerii Szidat, 1954 (Acanthostomidae)
(Fig. 7)

Measurements based on six specimens: Body 1.9 to 3.48 (2.8) long by 0.49 to 0.80 (0.65) wide; oral sucker 0.24 to 0.32 (0.28) long by 0.21 to 0.30 (0.24) wide; 20 to 24 oral spines 0.041 to 0.060 long by 0.012 to 0.020 wide; ventral sucker 0.15 to 0.21 (0.18) in diameter; sucker width ratio 1:07-1; pharynx 0.11 to 0.15 (0.14) in diameter; ovary 0.14 to 0.21 (0.18) long by 0.15 to 0.24 (0.19) wide; testes 0.21 to 0.35 (0.28) long by 0.21 to 0.38 (0.30) wide; eggs 0.027 to 0.032 (0.030) long by 0.012 to 0.015 (0.014) wide.

Host: *Rhamdia* sp., common named "jundiá", Pimelodidae.

Site of infection: intestine.

Prevalence of infection: two, seven and thirteen worms in three of ten fish examined.

Specimens deposited: 32.186 a-f.

Several species of *Rhamdia* in Argentina, Brasil, Costa Rica, Nicaragua and Panama harbor this parasite. It was considered synonym of *A. (Acanthostomum) scyphocephalum* (Braun, 1899) by Nasir (1974) and revalidated by Brooks (1980). It was already reported from the Guaiba estuary from *Rhamdia sapo* by Brandão (1977).

Parspina argentinensis (Szidat, 1954) Sogandares-Bernal, 1959 (Cryptogonimidae) (Figs. 8-9)

Measurements based on six specimens: Body 1.00 to 1.68 (1.30) long by 0.40 to 0.70 (0.53) wide; oral sucker 0.13 to 0.20 (0.16) long by 0.16 to 0.21 (0.18) wide; 24 to 25 oral spines 0.028 to 0.038 long; ventral sucker 0.14 to 0.23 (0.18) long by 0.13 to 0.21 (0.17) wide; sucker width ratio 1:08-1; pharynx 0.06 to 0.08 (0.07) long by 0.06 to 1.00 (0.08) wide; ovary 0.09 to 0.15 (0.12) long by 0.22 to 0.31 (0.28) wide; testes 0.16 to 0.29 (0.22) long by 0.11 to 0.21 (0.17) wide; eggs 0.023 to 0.027 (0.025) long by 0.013 to 0.015 (0.014) wide.

Host: *Pimelodus maculatus* Lacépède, 1803, common named "pintado", Pimelodidae.

Site of infection: stomach and intestine.

Prevalence of infection: one to seven worms in six of forty-two fish examined.

Specimens deposited: 32.189, 32.190a-c, 32.191a-b and 32.192a-c.

This is the first report of this species in Brazil; Szidat (1954) described it well but presented few measurements. Our specimens has 24 to 25 spines in the oral sucker and are somewhat larger with slightly shorter eggs.

Zonocotyle bicaecata Travassos, 1948 (Zonocotylidae)

Measurements based on one specimen: Body 7.05 long by 2.14 wide; oral sucker 0.52 long by 0.65 wide; adhesive organ 2.64 long by 2.46 wide; ovary 0.36 in diameter; testis 0.18 long by 0.15 wide; eggs 0.08 to 0.18 long by 0.045 to 0.060 wide.

Host: *Pseudocurimata gilberti* (Quoy & Gaimard, 1824), common named "biru", Curimatidae.

Site of infection: stomach.

Prevalence of infection: one worm in one of eleven fish examined.

Specimen deposited: 32.193.

The morphology and life-cycle of this species was studied by Padilha in 1978, confirming its position among the Digenea. Kohn et al., 1985 reported it from Mogi-Guassu river, São Paulo state.

RESUMO

Foram examinados 114 exemplares de peixes do estuário de Guaiba, pertencentes a onze diferentes espécies, para o estudo dos trematódeos digenéticos.

É descrita uma espécie nova para o gênero *Saccocoelioides*, e são referidas as seguintes espécies: *Creptotrema creptotrema* (em novo hospedeiro); *Acanthostcmum gnerii, Crepidostomum platense, Eocreadium intermedium* (espécimen imaturo), *Parspina argentinensis* e *Zonocotyle bicaecata*. Este trabalho confirma a similaridade entre os parasitos de peixes de água doce da Argentina e do Brasil. São apresentadas medidas e figuras originais.

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