

SCHIKHOBALOTREMA SOLITARIA SP. N. AND S. ACANTHURI YAMAGUTI, 1970 (HAPLOSPLANCHNIDAE: DIGENEA) IN BRAZILIAN MARINE FISHES

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Schikhobalotrema solitaria sp. n. is described from *Stephanolepis hispidus* (Linnaeus, 1758), and is characterized by the relation between oral sucker and pharynx 1:1.1. This relation in the other species ranges between 1:0.3-0.6. It is more similar to *S. manteri* Siddiqi & Cable, 1960 in the distribution of vitellaria, differing from it in the size of vitelline follicles, extension of uterus and in the size of the eggs. *S. acanthuri* Yamaguti, 1970 is referred for the first time in South America in *Mugil liza Valenciennes, 1836* representing a new host record.

Key words: *Schikhobalotrema solitaria* sp. n. – *Schikhobalotrema acanthuri* – trematodes – marine fishes – Brazil

A survey on the trematodes parasites of marine fishes from "Praia de Copacabana", Rio de Janeiro State, Brazil, have been conducted. In this paper a new species of the genus *Schikhobalotrema* Skrjabin & Guschanskaja, 1955 is described, and *S. acanthuri* Yamaguti, 1970 is referred for the first time in South America and in a new host. These species are the single representants of the family Haploplanchnidae Poche, 1925, recovered among the 233 fishes from 61 different species examined. The trematodes belonging to other families will be further presented.

MATERIAL AND METHODS

The trematodes recovered were fixed in Railliet and Henry's fluid, under a cover glass, with application of slight pressure. They were stained in alcoholic chlorhydric carmine of Langeron, dehydrated in ethyl alcohol, cleared in beechwood creosote and mounted in Canada Balsam. The illustrations were made with the aid of a Leitz drawing tube, and the measurements are in micrometres unless otherwise specified.

RESULTS

Schikhobalotrema solitaria sp. n.
(Fig. 1)

Type-host: *Stephanolepis hispidus* (Linnaeus, 1758), common name "peixe-porco", Balistidae.

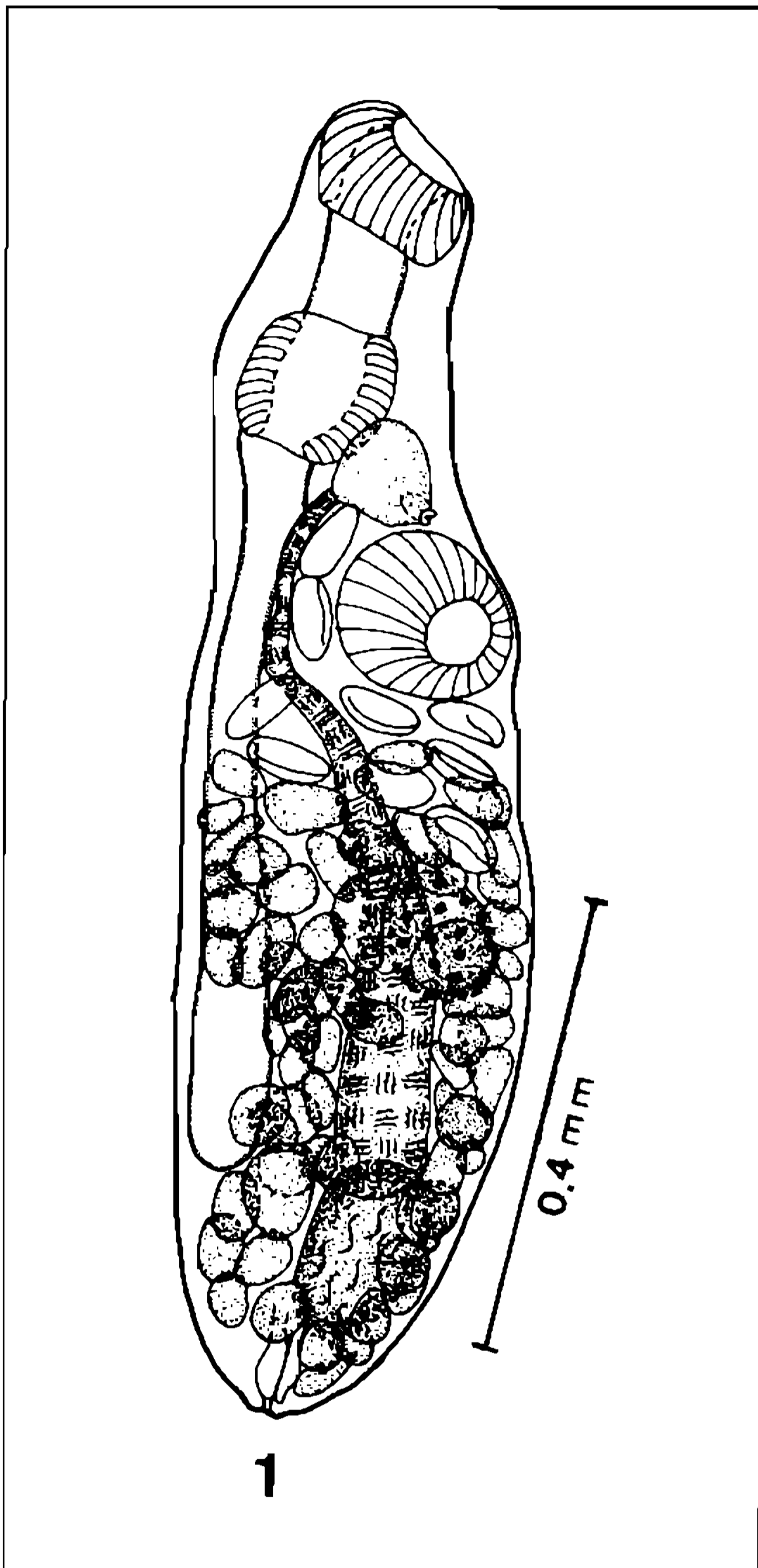
Research fellows "Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brasil".

Site: Intestine

Locality: "Praia de Copacabana", Rio de Janeiro State, Brazil.

Type-specimen deposited: Helminthological Collection of the "Instituto Oswaldo Cruz" holotype no. 32,583.

Description and measurements based on one specimen collected from one out of 12 examined fish: Body elongate 1.14 mm long by 0.31 mm wide. Tegument smooth. Oral sucker terminal, 105 long by 146 wide. Prepharynx 82 long. Pharynx well developed, 116 long by 135 wide. Oral sucker/pharynx ratio based on length 1:1.1, and based on width 1:0.9. Esophagus not differentiated. Caecum long, reaching anterior region of testis. Ventral sucker pre-equatorial, 154 long by 150 wide. Sucker width ratio 1:1.03. Testis entire, oval, in posterior extremity, 146 long by 105 wide. Post-testicular space 78 long. Seminal vesicle elongate, slightly overlapping testis. Pars prostatica and prostatic cells not observed. Muscular genital atrium 91 long by 84 wide. Genital pore immediately preacetabular. Ovary entire, rounded, pre-testicular, situated in the middle of the distance between ventral sucker and testis, 105 long by 97 wide. Vitellaria formed by large follicles, occupying almost all the available space from a short distance of posterior margin of ventral sucker to posterior end of body. Uterus short, pre-ovarian, with few eggs. Uncollapsed eggs 76-79 long by 39 wide. Excretory vesicle not observed in detail. Excretory pore terminal.



Schikhobalotrema solitaria sp. n. — Fig. 1: holotype, ventral view.

Schikhobalotrema acanthuri Yamaguti, 1970
(Figs 2-3)

Host: *Mugil liza* Valenciennes, 1836, common name "parati", Mugilidae (new host record).

Prevalence and intensity of infection: 25% of 12 fish examined were infected by 2-11 trematodes.

Site: Intestine and stomach.

Locality: "Praia de Copacabana", Rio de Janeiro State, Brazil.

Voucher specimens deposited: Helminthological Collection of the "Instituto Oswaldo Cruz" no. 32,584a-c, 32,585a-b, 32,586a-j, 32,646.

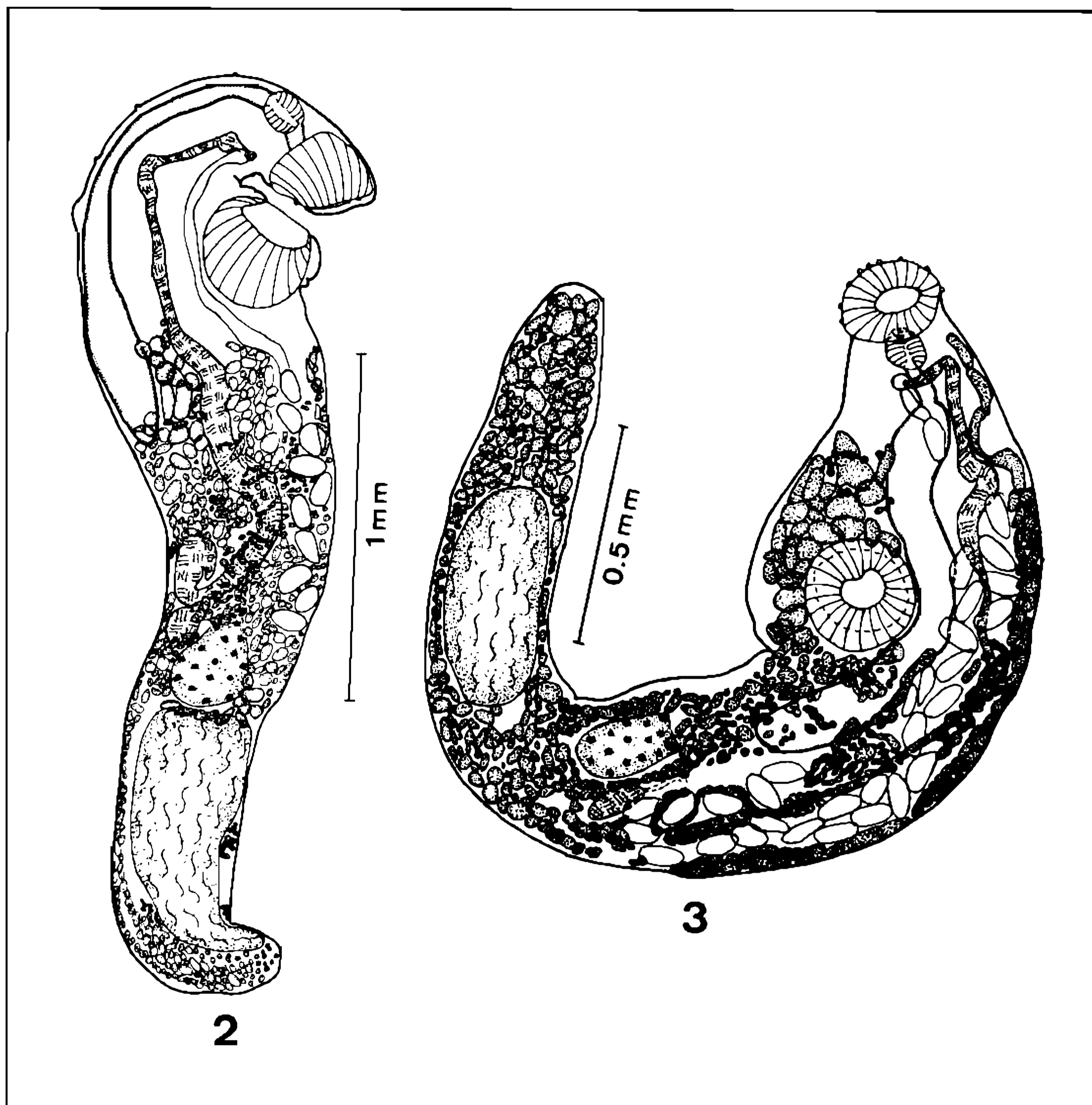
Measurements based on 13 specimens: Body 0.94-2.91 mm long by 0.40-0.83 mm wide. Oral sucker 127-217 long by 150-270 wide. Ventral sucker 165-307 long by 195-326 wide. Sucker width ratio 1:1.1-1.4. Prepharynx 11-34 long. Pharynx 67-112 long by 63-97 wide. Testis 247-681 long by 135-345 wide. Ovary 82-273 long by 78-176 wide. Seminal receptacle 75-240 long by 56-150 wide. Uncollapsed eggs 84-98 long by 44-65 wide.

DISCUSSION

The genus *Schikhobalotrema* Skrjabin & Guschanskaja, 1955 is represented by 19 species. In all of them the relation between oral sucker and pharynx ranges between 1:0.3-0.6. This relation in *S. solitaria* sp. n. is 1:1.1. The relation between oral sucker and pharynx is the most distinctive feature of the new species, differing it from all the other species of the genus.

In Brazil this genus is represented also by *S. acuta* (Linton, 1910), referred by Kohn & Fernandes (1982) from *Strongylura marina* (Walbaum, 1792), and by *S. magnum* Skinner, 1975 referred by Conroy & Conroy (1984) parasitizing *Mugil curema* Valenciennes, 1836. *S. solitaria* sp. n. differs from these species by the following characteristics: *S. acuta* has ventral sucker with longitudinal aperture and a pair of lateral lobes, sucker width ratio 1:1.5-1.7, genital bulb with tubular structures and larger eggs. *S. magnum* presents oral sucker with several small papillae, sucker width ratio 1:1.35-1.4, caecum short, seminal vesicle with distinct transversely striated constriction, large prostatic cells, presence of prostatic vesicle, vitellaria dense and wider eggs.

In the size of body and eggs, the new species is close to *S. acanthuri* Yamaguti, 1970, *S. adacutum* (Manter, 1937), *S. bivesiculum* Nahhas & Cable, 1964, *S. crassum* Pritchard & Manter, 1961, *S. elongatum* Nahhas & Cable, 1964, *S. glomerosum* Pritchard & Manter, 1961, *S. hawaiiense* Pritchard & Manter, 1961 and *S. pomacentri* (Manter, 1937). *S. solitaria* sp. n. differs from these species by the following characteristics: *S. acanthuri* presents the body with numerous cuticular papillae, caecum



Schikhobalotrema acanthuri Yamaguti, 1970 – Figs 2-3: adults, ventral view.

ending anterior to ovary, genital atrium funnel-shaped and vitelline follicles relatively small. *S. adacutum* has ventral sucker with longitudinal aperture and a pair of lateral processes, post-testicular space greater than the testis-ventral sucker distance. In *S. bivesiculum* the seminal vesicle is bipartite, the genital pore is at pharyngeal level and the ventral sucker has longitudinal aperture. *S. crassum* presents sucker width ratio 1:2, testis overlapping ventral sucker, short genital atrium and terminal portion of seminal vesicle surrounded by well developed prostatic cells. *S. elongatum* has prominent cuticular rings in hindbody, seminal vesicle ending between ventral sucker and ovary and prostatic cells granular, forming a bulbous

mass, posterior to genital atrium. *S. glomerosum* has body subspherical, caecum short, ovary anterior to ventral sucker and vitellaria diffuse. *S. hawaiiense* presents body plump, ventral sucker at midbody or slightly anterior and sucker width ratio 1:1.2-1.4, and in *S. pomacentri* the ventral sucker is more or less anterior to midbody, the oral sucker presents three pairs of papillae, the sucker ratio is 2:3 and has well developed prostatic vesicle.

Schikhobalotrema solitaria sp. n. resembles *S. manteri* Siddiqi & Cable, 1960 in the distribution of vitellaria, which extend from posterior margin of ventral sucker to or slightly posterior to testis, differing from it, besides the

relation between oral sucker and pharynx, in the size of vitelline follicles, which are large in *S. solitaria* sp. n. and small in *S. manteri*, extension of uterus which is pre-ovarian and not extends well posterior to ovary, and in the size of the eggs, which are larger and narrower than in *S. manteri*.

Although these species compared with *S. solitaria* sp. n. present the distribution of vitellaria reaching pharyngeal level or anterior margin of ventral sucker, we prefer not to consider the extension of vitellaria, since only one specimen was studied and also because in specimens of *S. acanthuri* Yamaguti, 1970 from the same necropsy, a great variation in the vitellaria was observed (Figs 2-3).

Schikhobalotrema acanthuri Yamaguti, 1970 was described from three different hosts only from Hawaii: *Acanthurus sandvicensis* (type-host), *A. nigrofuscus* and *Zebrasoma flavescens*. This is the first report of this species, since the original description, and the first report in South America and in a new host: *Mugil liza* Val., 1836. Our specimens are similar to those described by Yamaguti, 1970, with eggs slightly

larger. Among the 13 specimens studied, we found variations in the distribution of vitellaria and in post-testicular space, in specimens from same necropsy (Figs 2-3).

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