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DINOSOMA CLUPEOLA SP. N. (HEMIURIDAE) AND *PSEUDOACANTHOSTOMUM FLORIDENSIS* NAHHAS & SHORT, 1965 (ACANTHOSTOMIDAE), DIGENETIC TREMATODES IN BRAZILIAN MARINE FISHES

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Dinosoma clupeola *sp. n. is described from* Harengula clupeola, *and resembles* D. hawaiiense *Yamaguti, 1970, from which it differs in the entire, elongate-saccular seminal vesicle, tegument weakly plicated, smaller size of body and internal organs, and slightly larger and narrower eggs.* Pseudoacanthostomum floridensis *Nahhas & Short, 1965 is referred to* Netuma barba, *which represents a new host record.*

Key words: *Dinosoma clupeola* sp. n. – *Pseudoacanthostomum floridensis* – trematodes – marine fishes – Brazil

This paper concerns to a new species of the genus *Dinosoma* Manter, 1934 and a new host record to *Pseudoacanthostomum floridensis* Nahhas & Short, 1965, collected from marine fishes from Rio de Janeiro State, representing the first report of these genera in South America.

MATERIALS AND METHODS

The trematodes 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

Dinosoma clupeola sp. n.
(Figs 1-3)

Type-host: *Harengula clupeola* (Cuvier, 1829), common name "sardinha cascuda", Clupeidae.

Prevalence and intensity of infection: 71% of seven fish examined were infected by 1-2 trematodes.

Site: Stomach and intestine.

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

Type-specimens deposited: Helminthological Collection of the "Instituto Oswaldo Cruz" holotype no. 32,479 and paratypes no. 32,480 a-b, 32,481 a-b, 32,482, 32,483.

Description and measurements based on seven specimens. Body elongate 0.82-1.23 mm long by 0.20-0.30 mm wide. Ecsoma short, completely retracted in six specimens, only extended in holotype, 120 long. Tegument weakly plicated. Oral sucker subterminal, 70-103 long by 79-108 wide. Preoral lobe present, prepharynx absent. Pharynx 30-44 long by 37-54 wide. Esophagus short, 26 long. Caeca long, extending to posterior extremity. Ventral sucker in anterior third of body, slightly prominent, 129-166 long by 131-176 wide. Sucker width ratio 1:1.6-1.9. Testes tandem to oblique, postacetabular, in the middle third of body, 30-63 long by 49-86 wide. Seminal vesicle elongate-saccular, entire, immediately postacetabular, 98-127 long by 32-78 wide, reaching pars prostatica through a narrow duct. Pars prostatica vesicular, 84-126 long by 54-61 wide, surrounded by prostatic cells. Sinus

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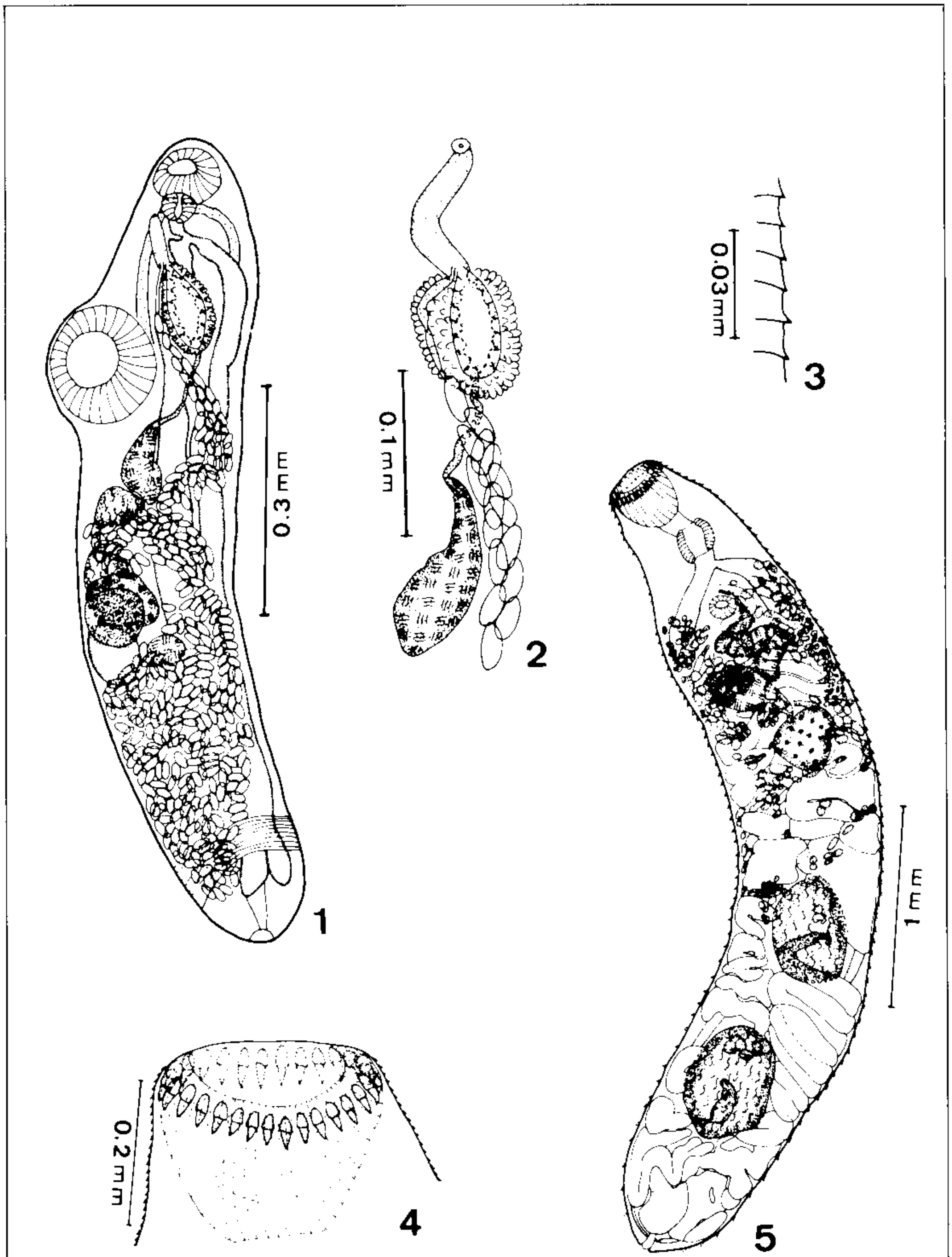

Dinosoma clupeola sp. n. – Fig. 1: adult, ventral view. Fig. 2: terminal genitalia. Fig. 3: tegumentary plications. *Pseudoacanthostomum floridensis* Nahhas & Short, 1965 – Fig. 4: anterior extremity, ventral view. Fig. 5: adult, ventral view.

sac absent. Hermaphroditic duct well developed, 51-86 long by 18-25 wide, without proximal vesicle. Genital pore at pharyngeal level. Ovary, testes and vitellaria very close to each other. Ovary entire or irregular in shape, postesticular, slightly overlapping posterior testis, 82-117 long by 79-117 wide. Seminal receptacle post-ovarian, 35 long by 49 wide. Vitellaria formed by two compact, entire masses, postovarian, partly overlapping ovary, measuring 47-105 long by 42-115 wide. Uterus long, extending or not into ecsoma, metraterm joining proximal portion of prostatic vesicle to form the hermaphroditic duct. Eggs operculated, uncollapsed, 23-28 long by 9-11 wide. Excretory vesicle not observed. Excretory arms uniting dorsal to pharynx. Excretory pore terminal.

Pseudoacanthostomum floridensis Nahhas & Short, 1965
(Figs 4-5)

Host: *Netuma barba* (Lacépède, 1803), common name "bagre", Ariidae (new host record).

Site: Stomach.

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

Voucher specimens deposited: Helmintholo-gical Collection of the "Instituto Oswaldo Cruz" no. 32,484 a-i, 32,485 a-b.

Considering that this species is well described, we present herein only the main measurements.

Measurements based on 11 specimens collected from two examined fish: Body 2.97-4.92 mm long by 0.67-0.86 mm wide. Oral sucker 236-326 long by 262-373 wide, surrounded by 28 spines, which measure 41-56 long by 14-20 wide. Ventral sucker 105-146 long by 112-153 wide. Sucker width ratio 1:0.4-0.5. Prepharynx 45-326 long. Pharynx 139-236 long by 158-279 wide. Esophagus 18-93 long. Seminal vesicle 373-718 long by 93-140 wide. Testes 391-718 long by 335-466 wide. Ovary 205-270 long by 251-354 wide. Seminal receptacle 166-373 long by 93-195 wide. Uncollapsed eggs 21-23 long by 9-11 wide.

DISCUSSION

Manter (1947) erected the genus *Adinosoma* distinguishing it from *Dinosoma* by the presence of "cuticular scales". Yamaguti (1971) regarded *Adinosoma* as a synonym of *Dinosoma*, while Gibson & Bray (1979) considered species with body surface smooth and testes oblique as *Adinosoma*, and species with body surface with crenulate plications, and testes symmetrical to tandem as *Dinosoma.* In the same paper the authors transfer *Dinosoma hawaiiense* Yamaguti, 1970 to the genus *Adinosoma.* We agree with Yamaguti (1971) that the genus *Adinosoma* should be regarded as a synonym of *Dinosoma*, since the characters used to separate the two genera are specific and not generic.

Dinosoma clupeola sp. n. resembles *D. hawaiiense* Yamaguti, 1970, differing mainly by the shape of the seminal vesicle, which is entire, elongate-saccular, and not sigmoid and twisted into two or three portions, by the tegument weakly plicated, and not smooth, by the smaller size of body and internal organs, and by the slightly larger and narrower eggs. In the length of body and size of eggs, *D. clupeola* sp. n. is close to *D. thoria* Nikolaeva (1966), *D. oregonensis* MacCauley & Pequegnat, 1968, *D. pectoralis* MacCauley & Pequegnat, 1968 and *D. zeusi* Parukhin, 1978. We believe that *D. thoria* is morphologically different from our specimens because, although we could not obtain the Nikolaeva's (1966) paper, we based on Toman (1973) who stated that this species does not belong to *Dinosoma* nor to any other existing genus of Hemiuridae.

From the other mentioned species, *D. clupeola* sp. n. differs mainly in the shape of body, position of testes and unlobed vitellaria.

Pseudoacanthostomum floridensis was reported only from *Galeichthys felis* (Linnaeus) in North America. Corkum (1959) reported a single specimen with 28 perioral spines as *P. panamense* Caballero, Bravo-Hollis & Grocott, 1953 in *G. felis* from Mississippi. When Nahhas & Short (1965) described *P. floridensis*, they examined the specimen of *P. panamense* studied by Corkum (1959), considering it as a synonym of *P. floridensis.* We collected 11 specimens of *P. floridensis* from *Netuma barba* which are similar to those described by Nahhas & Short (1965), being a little larger with uncollapsed narrower eggs. This is the first report of this species in South America.

RESUMO

Dinosoma clupeola **sp. n. (Hemiuridae) and** *Pseudoacanthostomum floridensis* **Nahhas & Short, 1965 (Acanthostomidae), digenetic trematodes in Brazilian marine fishes** – *Dinosoma clupeola* sp. n. é descrito de *Harengula clupeola,* e assemelha-se à *D. hawaiiense* Yamaguti, 1970, da qual difere pela vesícula seminal que é inteira, sacular alongada, e não sigmóide e torcida em duas ou três porções, pelo tegumento que é fracamente plicado, e não liso, pelo menor tamanho do corpo e dos órgãos internos e pelos ovos que são ligeiramente maiores e mais estreitos. *Pseudoacanthostomum floridensis* Nahhas & Short, 1965 é referido em um novo hospedeiro: *Netuma barba.*

Palavras-chave: *Dinosoma clupeola* sp. n. – *Pseudoacanthostomum floridensis* – trematódeos – peixes marinhos – Brasil

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REFERENCES

CORKUM, K. C., 1959. Some trematodes parasite of fishes from the Mississippi Gulf Coast. *Proc. Louisiana Acad. Sci., 22:* 17-29.

GIBSON, D. I. & BRAY, R. A., 1979. Hemiuroidea: terminology, systematics and evolution. *Bull. Br. Mus. nat. Hist. (Zool.), 36:* 35-146.

MANTER, H. W., 1947. The digenetic trematodes of marine fishes of Tortugas, Florida. *Amer. Midl. Nat., 38:* 257-416.

NAHHAS, F. M. & SHORT, R. B., 1965. Digenetic trematodes of marine fishes from Apalachee Bay, Gulf of Mexico. *Tulane Stud. Zool., 12:* 39-50.

NIKOLAEVA, V. M., 1966. Trematodes of the suborder Hemiurata in infection fish in the Mediterranean Basin, *in* Delyamure: *Helminth fauna of animals in Southern seas Kiev. Naukova Dumka:* 52-66.

TOMAN, G., 1973. Two new digenetic trematodes, *Paramonorcheides protulidorum* n. sp. (Monorchiidae) and *Dinosoma lophiomi* n. sp. (Hemiuridae) from deep sea fishes from Japan. *Research Bull. Meguro Parasit. Mus., 7:* 4-7.

YAMAGUTI, S., 1970. *Digenetic trematodes of Hawaiian fishes.* Tokyo, Keigaku Publ. Co.: 436 p.

YAMAGUTI, S., 1971. *Synopsis of digenetic trematodes of vertebrates.* Tokyo, Keigaku Publ. Co. vol. 1, 1074 p. vol. 2, 349 plates.