

## RESEARCH NOTE

**Metacercariae of  
*Diplostomum*  
(*Austrodiplostomum*)  
*compactum* (Trematoda,  
Diplostomidae) in the Eyes  
of *Plagioscion*  
*squamosissimus* (Teleostei,  
Sciaenidae) from the  
Reservoir of the  
Hydroelectric Power  
Station of Itaipu, Brazil**

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Strigeoidea - *Plagioscion* - Brazil

From 32 different species of fish examined from the reservoir of the Hydroelectric Power Station of Itaipu, Paraná River, southern Brazil, during 15 days expeditions in the years of 1991, 1992 and 1993, only *Plagioscion squamosissimus* (Heckel) presented the eyes infected by metacercariae of a species of the genus *Diplostomum*. All the 17 specimens of *P. squamosissimus* examined were parasitised by about 2 to 100 worms/eye free (unencysted) in the vitreous humour. The methodology used was described in A Kohn et al. (1994 *Syst Parasit* 27: 127-132).

A Lutz (1928 *Estudios de Zoología y Parasitología Venezolanas*, 133 pp.) described a parasite of *Carbo brasiliensis* from Venezuela as *Alaria compacta*. L Szidat and A Nani (1951 *Rev Inst Nac Cienc Nat Bernardino Rivadavia* 1: 323-384) described *Diplostomulum mordax* from

the brains of *Basilichthys microlepidotus* and the adult *Austrodiplostomum mordax* from *Phalacrocorax olivaceus*, from Argentina. G Dubois (1970 *Mem Inst Oswaldo Cruz* 68: 169-196) named *Alaria compacta* as *Diplostomum (Austrodiplostomum) compactum* and considered *A. mordax* as its junior synonym.

M Ostrowski de Núñez, in 1964 (*Neotropica* 10: 114-119) and 1968 (*Neotropica* 14: 85-88) studied the biology and life history of *A. mordax* and later, in 1977 (*Rev Mus Arg Cienc Nat Bernardino Rivadavia* 2: 1-63) published an extensive paper on this species, considering it also a junior synonym of *D.(A.) compactum*.

In 1982 (*Zool Anz* 208: 393-404), this author elucidated the life history of *D.(A.) compactum* in Lake Valencia, Venezuela, and recognized it and *D.(A.) mordax*, from Argentina, as different species.

Our specimens fit the description of the metacercariae of *D.(A.) compactum* described by M Ostrowski de Núñez (1982 *loc. cit.*) from *Geophagus* sp. from Venezuela.

Description was based on 24 specimens studied under light microscopy and two under SEM. Measurements of 14 compressed worms are given in mm followed by the mean in parenthesis. The metacercariae of *D.(A.) compactum* present a foliaceous body ventrally concave, with small conical posterior segment (Figs 1-3). Body 1.47-2.74 (2.17) long, 0.60-1.18 (0.97) wide. Anterior region with small subterminal oral sucker, is 0.041-0.097 (0.077) long by 0.056-0.116 (0.079) wide, and has two lateral, well developed pseudo-suckers (Figs 2-4). The surface of the worm is finely ridged, with cobblestone-like tegument (Figs 5-6). Small and thin spines are present on the surface of the tegument, only visible by SEM at higher magnification, more evident at the anterior region of body (Fig. 4) and around the holdfast (Fig. 5). Dome-shaped non-ciliated papillae, irregularly distributed on body surface (Fig. 6, arrows). Pharynx oval, 0.064-0.094 (0.083) long by 0.045-0.079 (0.060) wide. Oesophagus short. Intestinal caeca ending blindly near posterior extremity. Ventral sucker absent. Holdfast (tribocytic organ) oval, well developed, located in posterior third of body (Figs 1-3); measures 0.326-0.650 (0.507) long by 0.251-0.500 (0.370) wide. Gland cells filling most part of body anterior to tribocytic organ. Gonads small, situated in posterior region of body (Fig. 1).

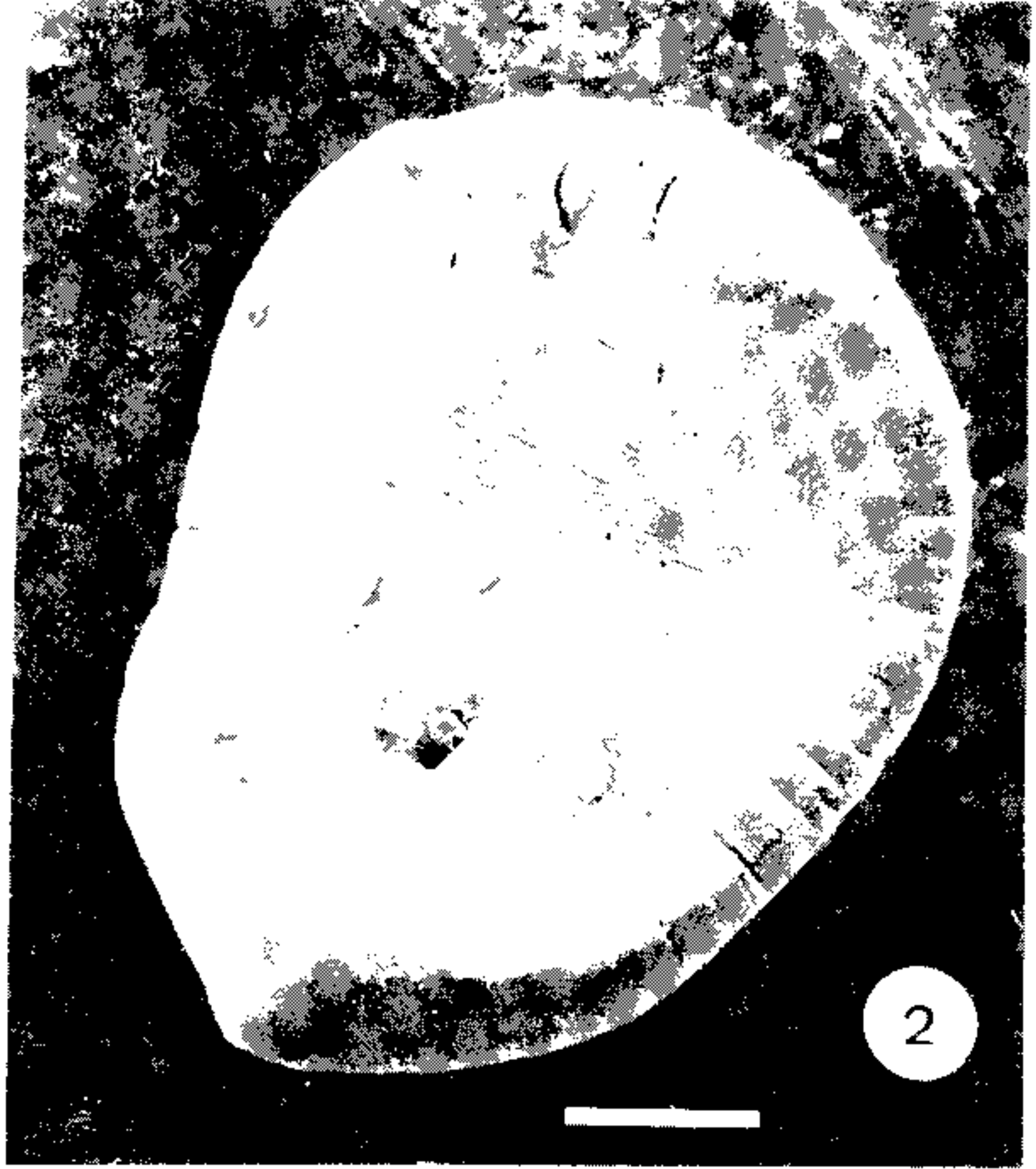
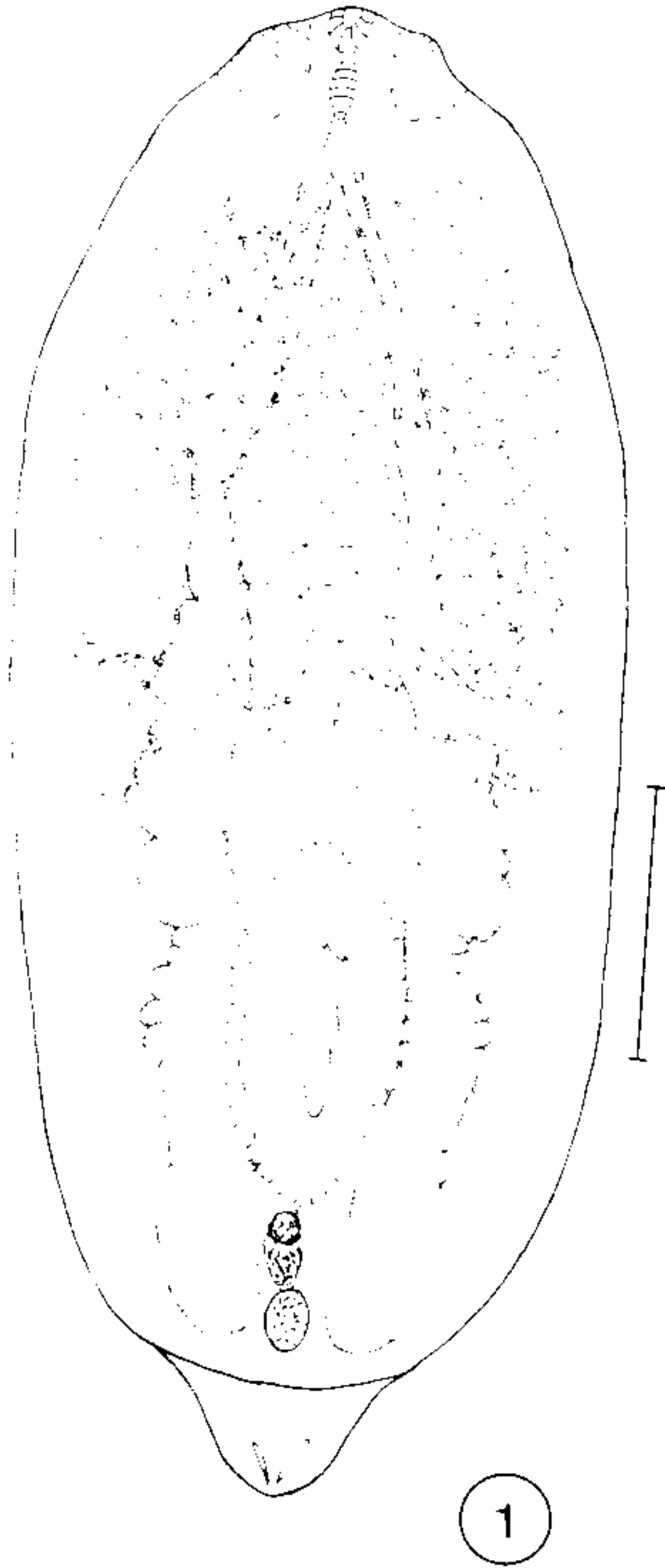
Measurements of eight non compressed worms: total body length 1.03-1.35 (1.19) by 0.47-0.85 (0.63) wide, oral sucker 0.049-0.082 long by 0.049-0.067 wide, pharynx 0.049-0.079 long by 0.019-0.056 wide, tribocytic organ 0.260-0.390 long by 0.112-0.300 wide.

Metacercariae of *Diplostomum* spp. parasitize eyes, brain, or muscles of fishes. The adults are

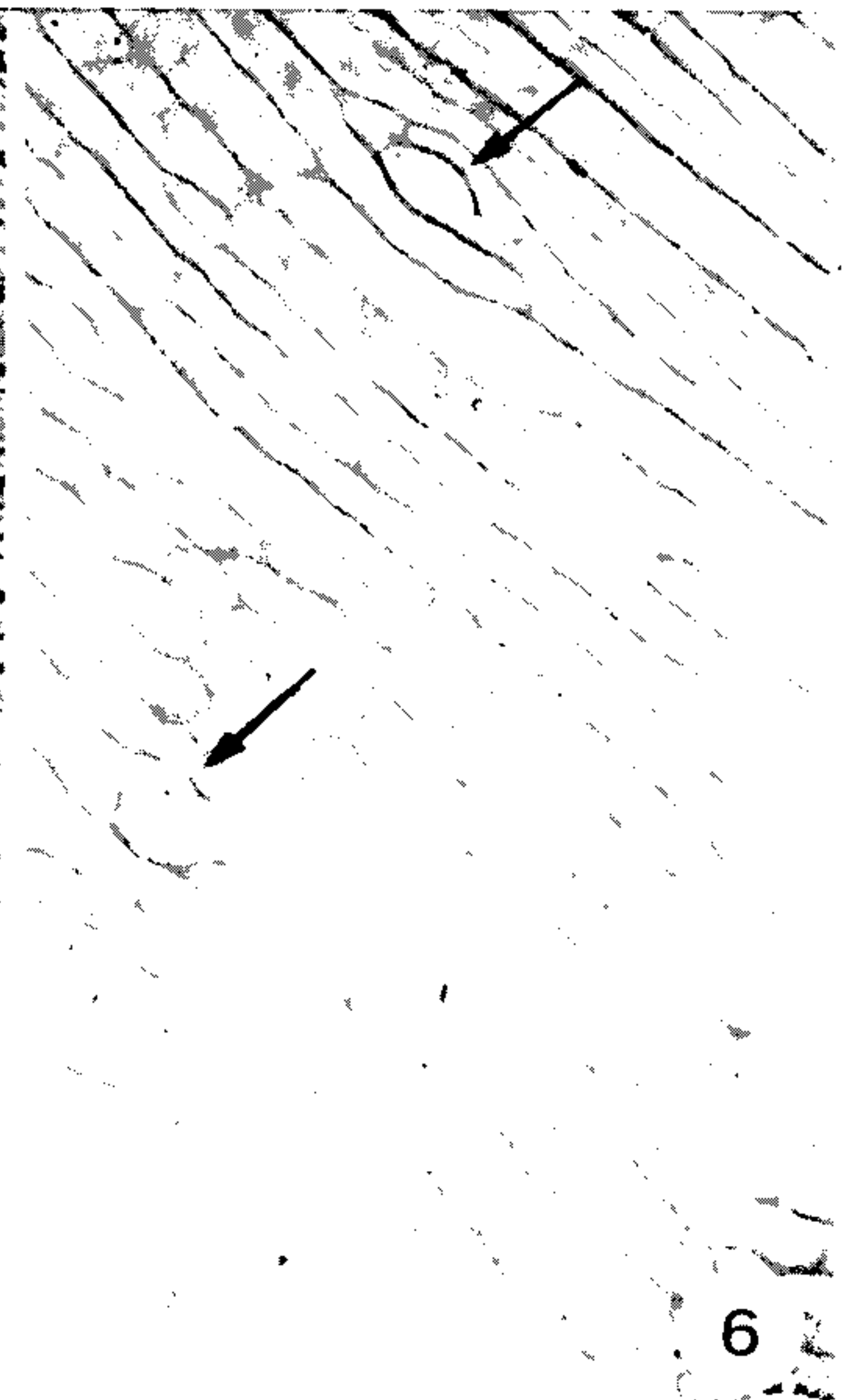
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Metacercaria of *Diplostomum* (*Austrodiplostomum*) *compactum* (Lutz 1928) - Fig. 1. whole mount, ventral view. Scale = 0.5mm. Figs 2- 3: scanning electron micrographs, ventral views, showing different aspects of body shape. Bar = 0.2 mm.



Scanning electron micrographs of the tegument of metacercaria of *D. (A.) compactum*. Fig. 4: anterior end of body with anterior sucker and lateral pseudo-suckers, showing small and thin spines of the tegument. Bar = 0.05mm. Fig. 5: ventral surface of posterior region of body, showing holdfast (tribocytic organ) and finely ridged tegument with spines. Bar = 0.03 mm. Fig. 6: higher magnification of body surface showing cobblestone-like tegument and dome shaped non-ciliated papillae (arrows). Bar = 0.01mm.

found in the intestine of fish-eating birds. In the eyes of the fish, these larvae cause parasitic cataract. Species of *Diplostomum* were reported from different hosts in numerous countries. In this note, the metacercaria of *D.(A.) compactum* is referred for the first time in Brazil with the study of the tegument by SEM.

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