

A New Species of *Anoplodiscus* (Monogenea: Anoplodiscidae) Parasitic on *Pagrus pagrus* (Osteichthyes: Sparidae) from the Coastal Zone of the State of Rio de Janeiro, Brazil

Aline R Paraguassú⁺⁺, José L Luque⁺, Dimitri R Alves⁺⁺⁺

Curso de Pós-Graduação em Ciências Veterinárias, Departamento de Parasitologia Animal, Universidade Federal Rural do Rio de Janeiro, Caixa Postal 74508, 23851-970 Seropédica, RJ, Brasil

A new species of Anoplodiscus (Monogenea, Anoplodiscidae), parasitic on gills of the red porgy, Pagrus pagrus, from the coastal zone of the State of Rio de Janeiro, Brazil, is described and illustrated. The new species can be differentiated from the other species of this genus by the shape of the accessory piece of the copulatory complex, and the length of the vagina. This is the first record of a species of Anoplodiscus in the Neotropical region.

Key words: Monogenea - Anoplodiscidae - *Anoplodiscus longivaginitus* sp. nov. - *Pagrus pagrus* - Rio de Janeiro - Brazil

Anoplodiscidae Tagliani, 1912 is a monotypic family of monogeneans parasitic on sparid fishes from Mediterranean, Australian and Japanese waters (Ogawa & Egusa 1981, Ogawa 1994). The only genus of this family was proposed by Sonsino (1890) to accommodate *Anoplodiscus richiardii* collected from *Pagrus orphus* in the Mediterranean Sea. This species was later redescribed by Monticelli (1905). Presently other four *Anoplodiscus* species are known: *A. australis* (Johnston, 1930), *A. spari* (Yamaguti, 1958), *A. cirruspiralis* Roubal, Armitage and Rohde, 1983, and *A. tai* Ogawa, 1994 (Ogawa & Egusa 1981, Roubal 1981, Roubal et al. 1983, Ogawa 1994). Ogawa and Egusa (1981) studied the systematic position of *Anoplodiscus* and provided an emended diagnosis of the genus and redescrptions of *A. australis* and *A. spari*.

During a parasitological survey of marine fishes from the coastal zone of the State of Rio de Janeiro, Brazil, 90 specimens of the sparid fish *P. pagrus* (Linnaeus, 1758) were necropsied and numerous monogeneans specimens were collected. In the present paper a new species of *Anoplodiscus* is described and illustrated.

MATERIALS AND METHODS

The monogeneans studied are part of the material collected from 90 specimens of *P. pagrus*, from the coastal zone of the State of Rio de Janeiro, Brazil (21-23°S, 41-45°W), during 1998 and 2000. Specimens of *P. pagrus* were identified according to Menezes and Figueiredo (1980). The fishes measured 16-50 cm (mean = 29.5 ± 7.2 cm) in total length. The monogeneans were removed from the mouth and gills of hosts with a 1:4000 formalin solution, fixed in 5% formalin and stored in 70% ethanol. The parasites were stained with Gomori's trichrome and

mounted in Canada balsam. Measurements were made in micrometers (µm), the mean is followed by the range and number of specimens measured (n) in parentheses. The illustrations were made with the aid of a drawing tube mounted on a Hund Wetzlar H-600 phase contrast microscope. The terms prevalence and mean intensity of infestation were used according to Bush et al. (1997). The holotype and paratypes were deposited in the Helminthological Collection of the Instituto Oswaldo Cruz (CHIOC), Rio de Janeiro, Brazil, in the United States National Parasite Collection (USNPC), Maryland, USA, and in the Meguro Parasitological Collection (MPM), Tokyo, Japan.

RESULTS

Monogenea van Beneden, 1858
Polyonchoinea Bychowsky, 1937
Anoplodiscidae Tagliani, 1912
Anoplodiscus Sonsino, 1890
Anoplodiscus longivaginitus sp. nov.
(Figs 1-3)

Description: body elongate, 2.18 (1.81-2.58, n = 13) mm long, with round ends (Fig. 1). Maximum width at level of testis 777 (655-921, n = 13). Tegument smooth. Two anteroventral depressions 60 (38-77, n = 13) long, 102 (55-137, n = 13) wide. Two pairs of eyes, posterior pair closer together than anterior pair. Pharynx 157 (121-190, n = 11) long, 147 (115-187, n = 11) wide. Single intestinal caecum extends near to posterior end of body, passing to left of copulatory complex, germarium, and testis. Disc-like haptor 237 (200-344, n = 12) long, 301 (155-466, n = 12) wide, non-septate, lacking anchors, bars or hooks. Testis 145 (110-192, n = 11) long, 103 (71-137, n = 11) wide, postgerminal. Vas deferens at sinistral anterior margin of testis, sinuous. Seminal vesicle a dilation of vas deferens. Two prostatic reservoirs at level of seminal vesicle. Genital pore ventral, at level of copulatory complex. Male copulatory organ (Fig. 2) is a coil of about 2½ rings. Accessory piece 72 (66-82, n = 12) long, 135 (110-165, n = 12) wide; proximally blunt, distally pointed, with smaller round outgrowth and partially furrowed surface; even slender pro-

⁺Corresponding author and CNPq researcher. Fax: +55-21-2682.1617. E-mail: jlluque@ufrj.br.

⁺⁺Capes fellowship

⁺⁺⁺CNPq fellowship

Received 24 April 2002

Accepted 15 August 2002

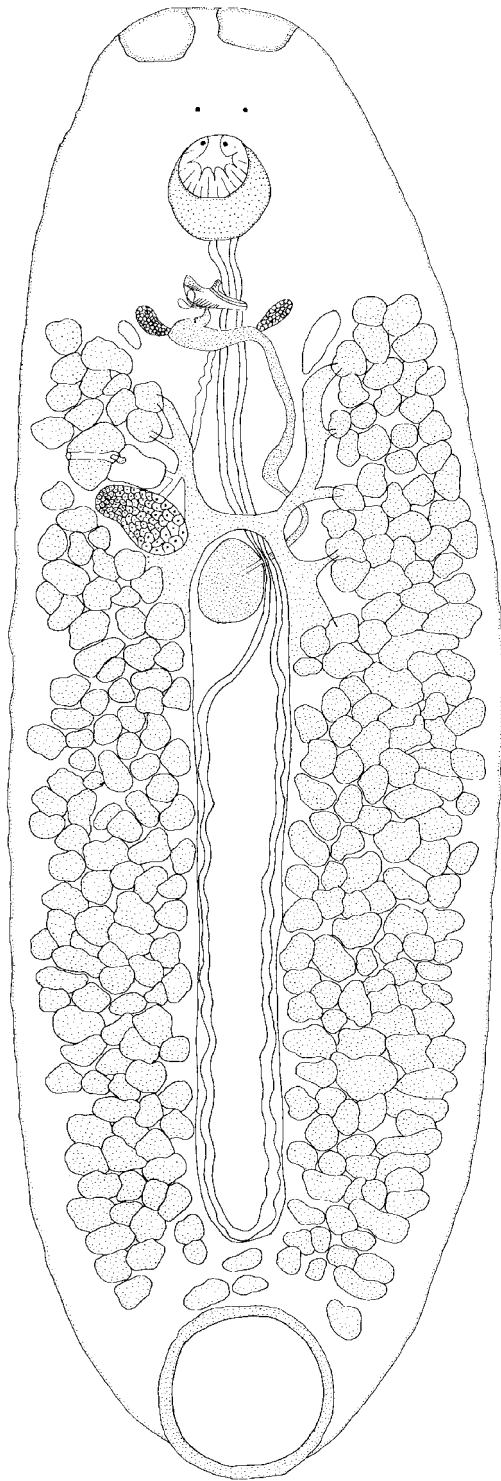


Fig. 1: *Anoplodiscus longivaginus* sp. nov. holotype, ventral view.

trusion at middle. Vaginal aperture dextro-ventral. Vaginal duct 64 (55-82, $n = 7$) long, with sclerotized piece at the seminal receptacle (Fig. 3). Seminal receptacle anterior to germarium. Germarium 118 (82-159, $n = 12$) long, 142 (77-176, $n = 12$) wide, antero-dextral to testis. Vitellaria bilaterally distributed from genital pore, not extending into haptor. Two unequal excretory vesicle at level of copula-

tory complex.

Type host: *Pagrus pagrus* (Linnaeus, 1758) (Sparidae)

Site of infestation: mouth and gills

Type locality: coastal zone of the State of Rio de Janeiro, Brazil (21-23° S, 41-45° W)

Prevalence of infestation: 16.6%

Mean intensity of infestation: 2.3 ± 1.1

Type specimens: Holotype CHIOC no. 34905. Paratypes: CHIOC nos. 34906a-d, 34907 (five specimens), USNPC no. 92350 (two specimens), and MPM no. 18806 (two specimens)

Specimens examined: one paratype of *A. cirruspiralis* (USNPC no. 77299), and six paratypes of *A. tai* (MPM no. 19593, slides no. A1285-1286)

Etymology: the specific name is from Latin (*longus* = long, + *vagina* = vagina) and refers to vaginal duct that is longer than in the other *Anoplodiscus* species.

Remarks: the new species can be compared with *A. richiardi*, *A. cirruspiralis* and *A. tai* by the shape of the body and the copulatory complex. *A. longivaginus* sp. nov. differs from the above species by the structure of the accessory piece of the male copulatory organ which is very irregular in contrast with the round shape of the accessory piece of *A. cirruspiralis*, *A. richiardi*, and *A. tai*. *A. richiardi* is a species less known of the genus. The information provided in the original description and subsequent redescription by Monticelli (1905) is inaccurate in details of the copulatory complex, showing the shape of the accessory piece only. Thus, a redescription of *A. richiardi* is needed to elucidate some aspects of its morphology.

Another characteristic to differentiate *A. longivaginus* sp. nov. is the vaginal duct which is much longer than that reported for the other species. This is the first record of a species of *Anoplodiscus* in the Neotropi-

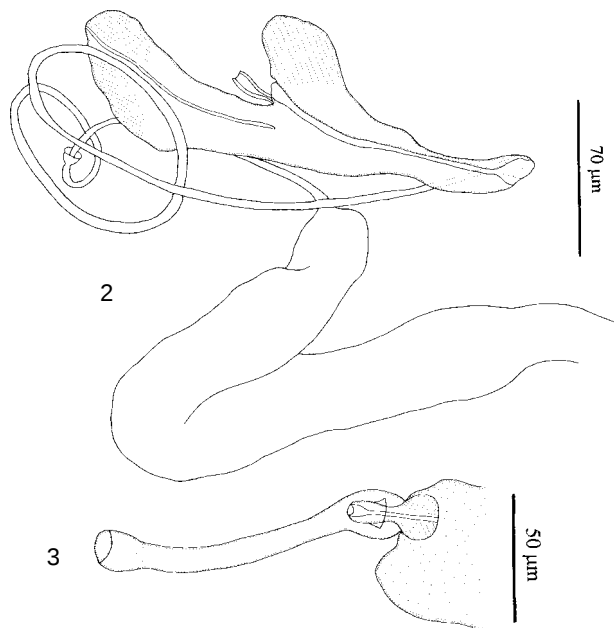


Fig. 2: *Anoplodiscus longivaginus* sp. nov. male copulatory complex. Fig. 3: vagina and part of seminal receptacle.

cal region.

ACKNOWLEDGEMENTS

To Patricia Pillit (United States National Parasite Collection) and Jun Araki (Meguro Parasitological Museum) for loaning paratypes of *Anoplodiscus cirruspiralis* and *A. tai*, respectively.

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