

Two new species of Monogenea (Platyhelminthes: Cercomeridea) parasitic on *Chaetodipterus faber* (Teleostei: Ephippidae) from the Brazilian coastal zone

Cezar, A. D.^{1,3}, J. L. Luque¹ & J. F. R. Amato²

¹ Departamento de Parasitologia Animal - Curso de Pós-Graduação em Medicina Veterinária - Parasitologia Veterinária, Universidade Federal Rural do Rio de Janeiro, CP. 74508, Seropédica, RJ, Brasil, 23890-000. Fax: (021) 6821617.

² Departamento de Zoologia, Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brasil.

³ Corresponding author. E-mail: acezar@domain.com.br

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Abstract: Metazoan parasites were extracted for 110 *Chaetodipterus faber* (Broussonet, 1782) (Teleostei: Ephippidae) specimens from the coastal zone of the State of Rio de Janeiro, Brazil (nearly 21-23° S, 41-45° W). Two new species of monogeneans belonging to genera *Sprostoniella* and *Parancylo-discoides* are described and illustrated. The new species of *Sprostoniella*, differ from *S. multitestis*, the only known species of the genus, by: 1. the arrangement of septa (with 17 septa, two of them bifid and two incomplet in the new species; 17 septa, two of them trifid in *S. multitestis*). 2. the new species showed two central loculi, while *S. multitestis* only one, and 3. the first pair of anchors of the new species is small and poorly developed, while in *S. multitestis* is well developed and strong. The new species of *Parancylo-discoides* differs from *P. chaetodipteri*, the only known species of the genus, by: 1. the testis shape (bilobated in the new species, not bilobated in *P. chaetodipteri*), and 2. by the presence of accessory prostatic reservoir at the copulatory organ base (absent in *P. chaetodipteri*).

Key words: Monogenea, *Sprostoniella*, *Parancylo-discoides*, new species, *Chaetodipterus faber*, Brazil.

Chaetodipterus faber (Broussonet, 1782) is a benthic fish distributed from New England to southern Brazil, and common in the southern Brazilian coastal zone (Menezes & Figueiredo 1985). Papers on parasites of *C. faber* from Brazil are restricted to some records of digenean species: Kohn (1966), Fernandes *et al.* (1985), and Wallet & Kohn (1987) recorded digenean parasites of *C. faber* from the State of Rio de Janeiro; and Amato (1982, 1983a, b) from Florianópolis, State of Santa Catarina.

During a parasitological survey of marine fishes from the coastal zone of the State of Rio de Janeiro, were necropsied 110 specimens of *C. faber* and collected numerous metazoan parasites. In the present paper two new species of

polyonchoinean monogeneans are described and illustrated.

MATERIALS AND METHODS

The monogeneans studied are part of the material collected from 110 specimens of *C. faber* from the coastal zone of the State of Rio de Janeiro, Brazil (21-23°S, 41-45°W) during 1995-1996. Specimens of *C. faber* were identified according to Menezes & Figueiredo (1985). The fishes measured 14.0 - 46.0 cm (27.7 ± 7.1 cm) of total length, and weighted 150 - 2430 g (817.5 ± 462.8 g). All the monogeneans were fixed in A.F.A., preserved in

ethanol 70°GL, stained with Gomori's trichrome, and mounted in Canada balsam. Measurements were made in micrometers (*m), unless otherwise stated, the range is followed by the mean within parentheses. The terms prevalence, mean intensity and mean abundance were used according to Bush *et al.* (1997). Holotypes and paratypes were deposited in the Coleção Helminológica do Instituto Oswaldo Cruz (CHIOC), Rio de Janeiro, Brazil. Also, some paratypes were deposited in the Colección Nacional de Helmintos, Instituto de Biología, Universidad Nacional Autónoma de México (CNHE).

RESULTS

Monogenea van Beneden, 1858
 Capsalidae Baird, 1853
***Sprostoniella micrancyra* sp. nov.**
 (Figs 1-7)

Description (based on 18 whole-mount, all measured): Body 3.2 – 8.3 mm (6.3 mm) in total length, elliptical (Fig. 1); greatest width 1.1 – 2.7 mm (2.2 mm) in germarian level. Four eyes with trapezoidal arrangement. Haptor 1.3 mm – 2.2 (1.6 mm) in diameter, with peripheral papilliform ornamentation, pedunculated, concave; with 17 septa, two of them bifid, and other two incomplete; two central loculi of unequal size. Three pairs of diminute anchors, first pair 31 (n=3) long, second pair 27.5 (n=3) long, third pair 25.6 – 36.6 (31.6, n=4) long (Figs. 2-4). Fourteen peripheral hooks (Fig. 5) 6.2 (n=6) long. Buccal organs 274 - 640 (426) long, 366 - 421 (522) wide; pharynx (Fig. 6) 219 - 540 (500) long, 275 - 603 (461) wide, with internal papillae; intestinal ceca not confluent posteriorly, with ramifications. Testes, 146.4 - 348 (256, n=13) in diameter, in two groups, left group with 8-10 testes, right group with 9-10 testes. Four conspicuous Goto's glands 109 - 146 (127, n=6) long, 43.8 - 51 (47, n=13) wide. Penis pouch (Fig. 7) 175 - 292 (235, n=10) long,

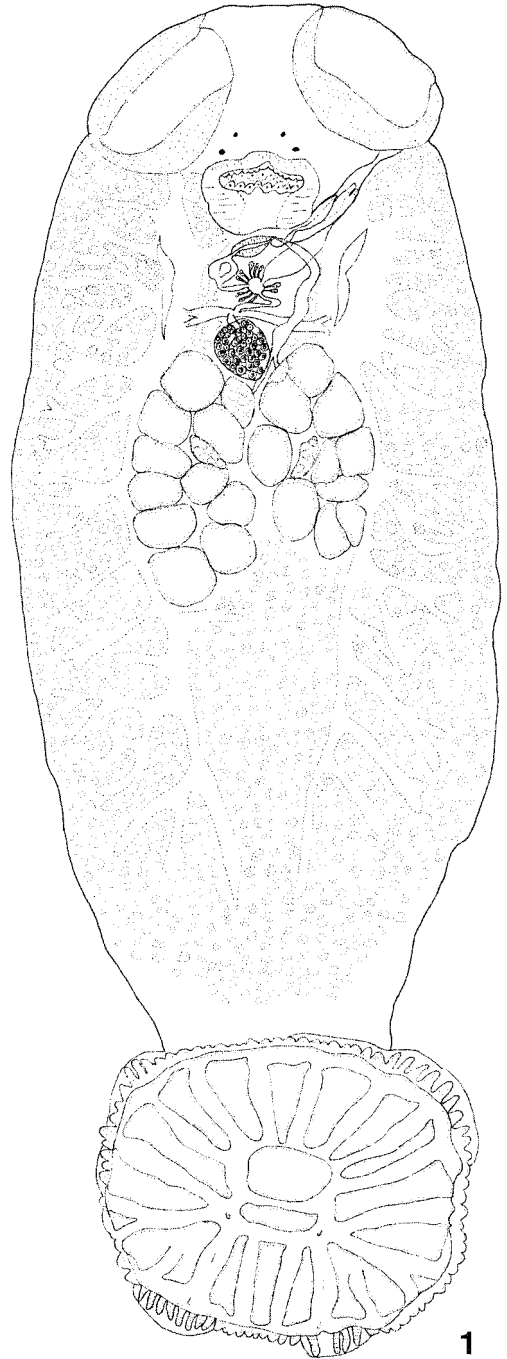


Fig. 1. *Sprostoniella micrancyra* sp. nov. Ventral view.

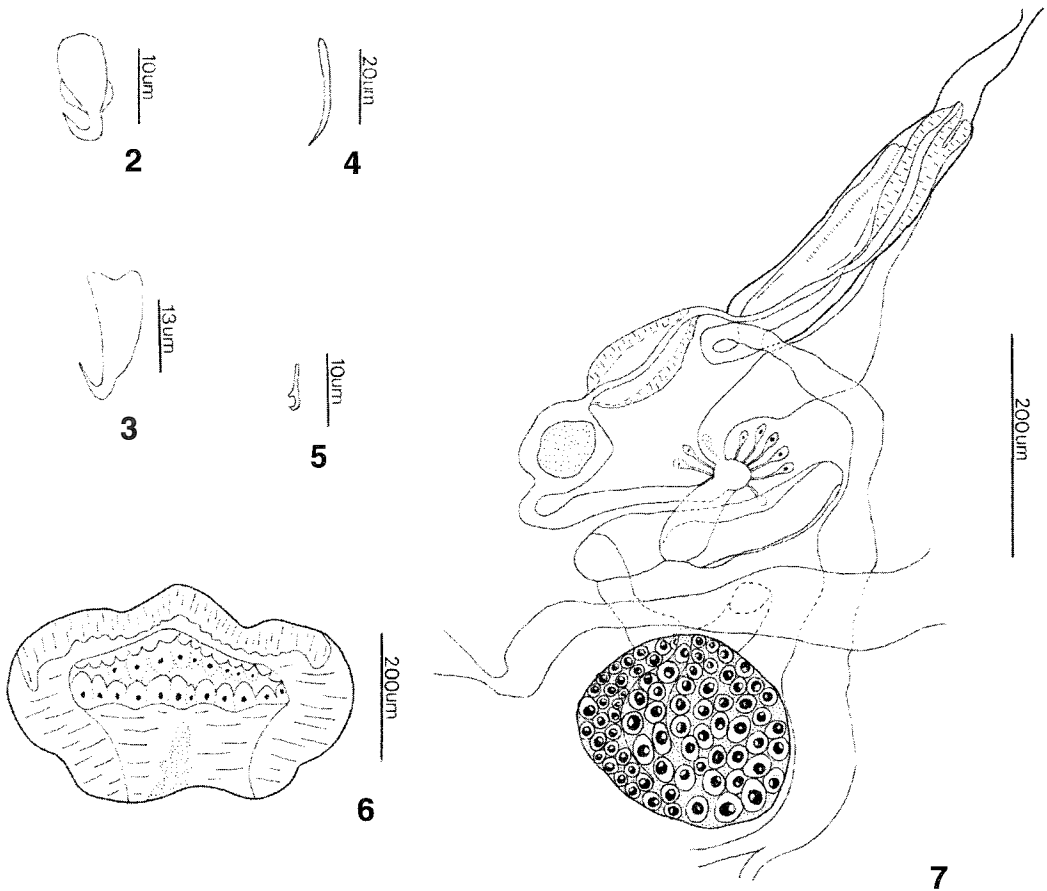


Fig. 2-7. *Sprostoniella micrancyra* sp. nov. 2. First anchor, 3. Second anchor, 4. Third anchor, 5. Hook, 6. Pharynx, 7. Reproductive system.

51 - 131 (84, n=10) wide, posterior to pharynx; oblique, genital atrium opened to left of pharynx. Germarium oval, 164 - 495 (365) in diameter, pretesticular; short uterus; vagina long, with distal papilliform structure (Fig. 7); two seminal receptacles; vitellaria limited in trunk.

Etymology: The specific name is from Greek (*mikrós* = small + *agkyra* = anchor) and refers to diminutive size of the first pair of anchors.

Type host: *Chaetodipterus faber* (Broussonet, 1782).

Type locality: coastal zone of the State of Rio de Janeiro, Brazil.

Site of infestation: gills.

Type material: Holotype CHIOC N°34000a, paratypes (three whole-mount) CHIOC N°34000b, c, d (three whole-mount) CNHE N°3431.

Prevalence: 8.2 %.

Mean intensity: 1.2.

Mean abundance: 0.1.

Remarks: Bychowsky & Nagibina (1967) established *Sprostoniella* with the type species *S. multitestis* parasitic on *Platax pinnatus* (L.). Diagnostic characters of this genus are the two neighbouring groups of testes, and the structure of loculi of the haptor. These characters were confirmed by Ergorova

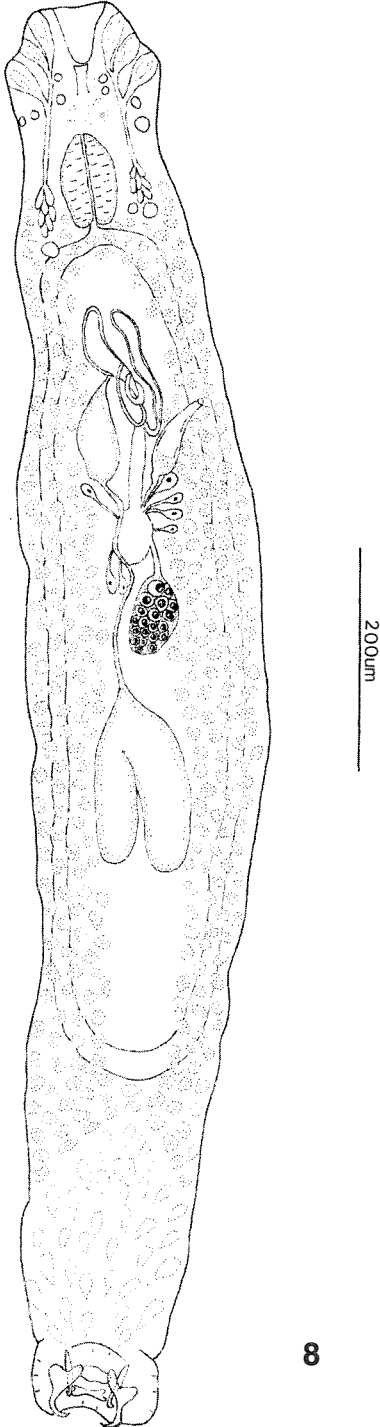


Fig. 8. *Parancylodiscoides caballerobravorum* sp. nov. 9. Ventral view.

(1994) in her revision of Trochopodinae. *Sprostoniella micrancyra* sp. nov., differ from *S. multitestis* by the arrangement of septa (with 17 septa, two of them bifid and two incomplet in the new species; 17 septa, two of them trifid in *S. multitestis*). Moreover, the new species showed two central loculi, while *S. multitestis* only one. In the new species the first pair of anchors is small and poorly developed, while in *S. multitestis* is well developed and strong.

Dactylogyridae Bychowsky, 1933

Parancylodiscoides caballerobravorum sp.

nov.

(Figs 8- 16)

Description (based on 15 whole-mount, 10 measured): Body elongate (Fig. 8), peduncle with conspicuous glandular area. Total length 1.35 – 1.42 mm (1.40 mm), greatest width 221 - 239 (230) to germarium level. Cephalic region 82 - 94 (88) long, 143 - 148 (146) wide; with three cephalic lobes. Eye spots dispersed. Haptor 89 - 94 (92) long, 157 - 176 (165) wide; anchors subequal, ventral anchors (Fig. 9) 40 - 41 (40) long, 12 - 14 (13) wide; dorsal anchors (Fig. 10) 30 - 33 (32) long, 11 - 12 (12) wide, with curved shaft and point; ventral bar (Fig. 11) 7 - 16 (12) long, 42 - 52 (48) wide, with lateral bifid, round, extremities; dorsal bar (Fig. 12) 12 - 16 (15) long, 52 - 61 (57) wide, with lateral folded extremities. Ten equal hooks (Fig. 13) 6-8 (7) long, with long shank, curved shaft, and delicate point; FH loop not observed. Mouth subterminal; pharynx pyriform 70 - 94 (85) long, 56 - 59 (58) wide; intestinal caeca confluent posteriorly. Testis bilobate, 117 - 188 (141) long, 94 - 118 (106) wide; deferent duct long, not overlooped intestinal caeca; seminal vesicle 117 - 141 (133) long, 61 - 70 (67) wide, prostatic and accessory reservoirs well developed; sclerotized copulatory organ (Fig. 14), 16 - 28 (22) long, 12 wide, with ejaculatory bulb. Germarium 56 - 59 (57) in diameter, ovoid, pretesticular; Mehlis's gland with elongate radial cells; vaginal aperture ventrolateral (Fig. 15); vitellaria limited in

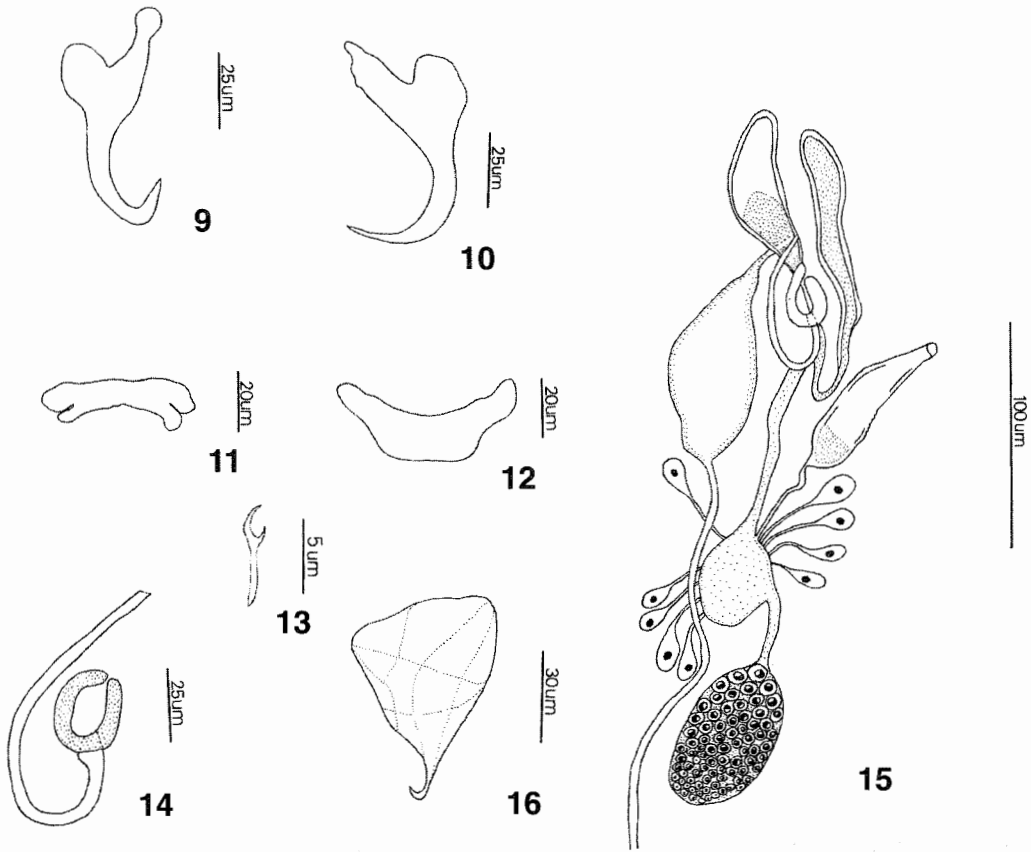


Fig. 9-16. *Parancylodiscoides caballerobravorum* sp. nov. 9. Ventral anchor, 10. Dorsal anchor, 11. Ventral bar, 12. Dorsal bar, 13. Hook, 14. Copulatory organ, 15. Reproductive system, 16. Egg.

trunk; eggs (Fig. 16) 59 (n=1) long, 12 (n=1) wide, tetragonal, short posterior filament.

Etymology: The specific name is in honor to Dr. Eduardo Caballero y Caballero and Dr. Margarita Bravo Hollis (Universidad Nacional Autónoma de México) who established *Parancylodiscoides*.
Type host: *Chaetodipterus faber* (Broussonet, 1782).

Type locality: coastal zone of the State of Rio de Janeiro, Brazil.

Site of infestation: gill filaments.

Type material: Holotype CHIOC N°, paratypes (three whole-mount) CHIOC N°, (three whole-mount) CNHE N° 3432.

Material examined: Three paratypes of *Parancylodiscoides chaetodipteri* Caballero & Bravo-Hollis, 1960; CNHE N° N-217-20.

Prevalence: 21.8 %.

Mean intensity: 6.9.

Mean abundance: 1.5.

Remarks: Caballero & Bravo-Hollis (1960) established *Parancylodiscoides*, with the type species *P. chaetodipteri*, parasitic on gills of *Chaetodipterus zonatus* (Girard) from the coastal zone of the Mexican Pacific Ocean. Yamaguti (1963) proposed *Parancylodiscoides* as junior synonym of *Pseudohaliotrematoides* (Yamaguti, 1953), emending the subgenus status to genus level. Young (1967) in his revision of some species of *Tetrancistrum*, validity *Parancylodiscoides*, based in the structure of the intestine and by the variability of other characters in *Pseudohaliotrematoides*.

Paracylodoscoides caballerobravorum sp. nov. differ from *P. chaetodipteri* Caballero & Bravo-Hollis, 1960 by the testis shape (bilobated in the new species, not bilobated in *P. chaetodipteri*), and by the presence of accessory prostatic reservoir reaching at the copulatory organ base (absent in *P. chaetodipteri*).

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RESUMEN

Se extrajeron metazoos parásitos de 110 *Chaetodipterus faber* (Broussonet, 1782) (Teleostei: Ephippidae) del litoral del Estado de Rio de Janeiro, Brasil (aprox. 21-23° S, 41-45° W). Se describe e ilustra dos nuevas especies de monogéneos de los géneros *Sprostoniella* y *Paracylodoscoides*. La nueva especie de *Sprostoniella* difiere de *S. multitestis*, la otra especie del género, por 1. la disposición de los septos (con 17 septos, dos de ellos bifidos y dos incompletos en la nueva especie; 17 septos, dos de ellos trifidos en *S. multitestis*), 2. la nueva especie muestra dos lóculos centrales, mientras *S. multitestis* sólo uno, y 3. el primer par de ganchos en la nueva especie es pequeño y poco desarrollado, mientras que en *S. multitestis* es robusto y bien desarrollado. La nueva especie de *Paracylodoscoides* difiere de *P. chaetodipteri*, la otra especie del género, por 1. la forma del testículo (bilobulado en la nueva especie, no bilobulado en *P. chaetodipteri*), y 2. por la presencia de un reservorio prostático accesorio que alcanza la base del órgano copulador (ausente en *P. chaetodipteri*).

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