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SOME MONOGENOIDEA PARASITIC ON PERUVIAN MARINE FISHES, WITH DESCRIPTION OF *ANOPLOCOTYLOIDES CHORRILLENSIS* NEW SPECIES AND NEW RECORDS

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The presence of four Monogenoidea parasitic on marine fishes from the central Peruvian coast is recorded. One of them, Anoplocotyloides chorrillensis *(Monocotylidae) described from the gills of* Rhinobatos planiceps *(Rhinobatidae) is considered a new species. The three other species are:* Caballerocotyla australis *Oliva, 1986 (Capsalidae);* Callorhynchocotyle marplatensis *Suriano & Incorvaia, 1982 (Hexabothriidae) and* Anoplocotyloides papillatus *(Doran, 1953) (Monocotylidae) parasitic on* Sarda chiliensis chiliensis *(Scombridae),* Callorhinchus callorhynchus *(Callorhinchidae) and* Rhinobatos planiceps *(Rhinobatidae) respectively.*

Key words: Monogenoidea – fish parasites – southeastern Pacific – Perú

During the last years, the studies concerning the monogenoideans parasitic on marine fishes from Perú have been increasing. To date, 32 species are known (see Iannacone & Luque, 1990).

During a parasitological survey of marine fishes from the Peruvian waters, specimens corresponding to new species of the genus *Anoplocotyloides* Young (Monocotylidae) were found on the gills of the elasmobranch *Rhinobatos planiceps* Garman, this species is described and illustrated. New host and geographical records for three previously described monogenoideans are included.

MATERIALS AND METHODS

The fishes examined were obtained fresh from the fish-market in Chorrillos, Perú (12°30'S, 76°50'W). Fish nomenclature is based mainly on Chirichigno (1974). The monogenoideans were removed, washed in 0.85% saline solution, pressed between slides and fixed with 70% ethanol. Worms were stained with Semichon's carmine and mounted in Canada balsam. Drawings were made with the aid of a camera lucida. All measurements are given in micrometers unless otherwise stated, the mean is followed by the range within parentheses. Type material were deposited in the United States National Museum, Helminthological Collection (USNMHC); and Colección Helmintológica, Universidad Ricardo Palma, Perú (CHURP).

RESULTS

Capsalidae Baird, 1853
Caballerocotyla australis Oliva, 1986

Host: Sarda chiliensis chiliensis (Cuvier) (Scombridae).

Site of infection: gills and inner surface of the opercula.

Locality: Chorrillos, Lima – Perú.

Voucher specimens: CHURP no. 531 (five stained whole mounts).

Measurements: body (haptor excluded) 4.71 (4.03-5.12) mm. long, maximum width 2.43 (2.13-2.79) mm., haptor 510 (290-600) in diameter, testis 180 (150-220) in diameter, ovary 460 (300-510) in diameter.

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Remarks: the characteristics of the worms now studied are in agreement with those given by Oliva (1986) in the original description of this parasite. Analysis of the growth pattern *C. australis* was made by Oliva & Grandon (1987). The presence of *C. australis* in the Peruvian coast is a consequence of its host's distribution, which includes the coast of Perú and Chile (Chirichigno, 1974).

Monocotylidae Taschemberg, 1879
Anoplocotyloides papillatus (Doran, 1953)

Host: Rhinobatos planiceps Garman (Rhinobatidae).

Site of infection: gills.

Locality: Chorrillos, Lima – Perú.

Voucher specimens: CHURP no. 532 (ten stained whole mounts).

Measurements: body 2.22 (1.93-2.82) mm long, maximum width 560 (460-820), testis 280 (240-350) in diameter, anchors 250 (180-280) long, hooks 14 (13-15) long, ratio body total lenght-haptor 1:3.

Remarks: this species was originally described by Doran (1953) as *Heterocotyle papillata*, parasite of *Rhinobatos productus* (Ayres) in the North American Pacific coast. Posteriorly, Young (1967) reviewed the type material and from this species proposed the new genus *Anoplocotyloides* based mainly in the morphological characteristics of the haptor. The morphometric characters of our specimens agree with the information given by Young (1967). This finding increases the known geographical distribution of this species to the South American Pacific coast. *Rhinobatos planiceps* is a new host for *A. papillatus*.

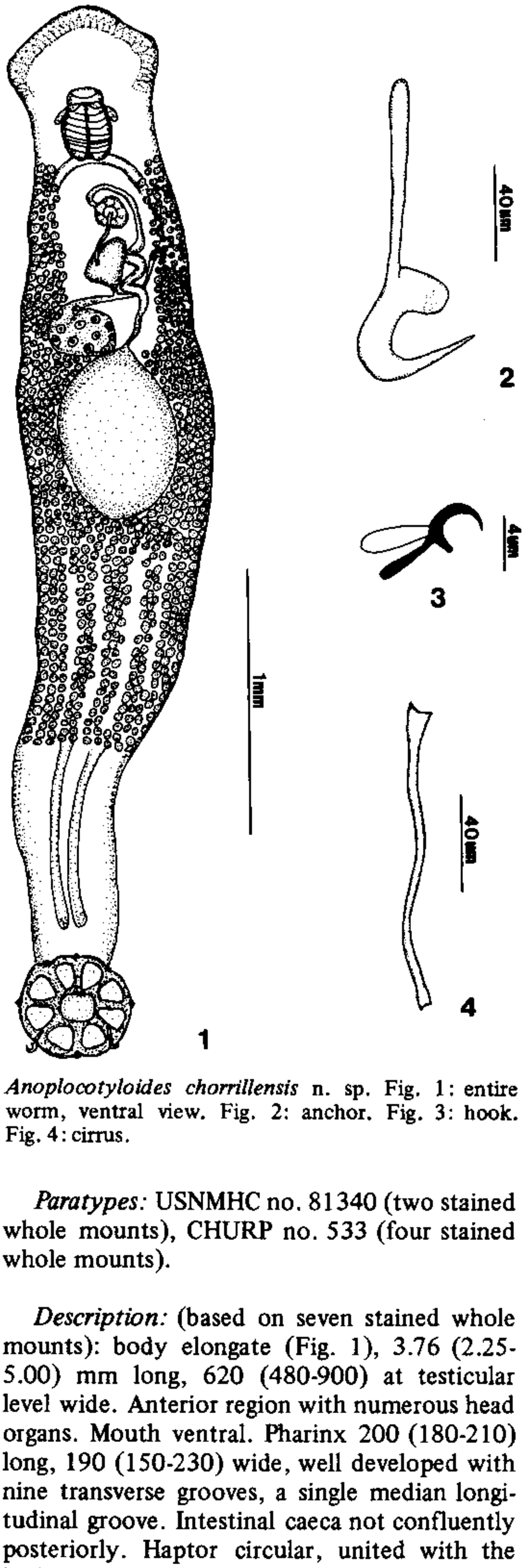
Anoplocotyloides chorrillensis n. sp.
(Figs 1-4)

Type host: Rhinobatos planiceps Garman (Rhinobatidae)

Site of infection: gills

Type locality: Chorrillos, Lima – Perú.

Holotype: USNMHC no. 81339 (one stained whole mount).



Anoplocotyloides chorrillensis n. sp. Fig. 1: entire worm, ventral view. Fig. 2: anchor. Fig. 3: hook. Fig. 4: cirrus.

Paratypes: USNMHC no. 81340 (two stained whole mounts), CHURP no. 533 (four stained whole mounts).

Description: (based on seven stained whole mounts): body elongate (Fig. 1), 3.76 (2.25-5.00) mm long, 620 (480-900) at testicular level wide. Anterior region with numerous head organs. Mouth ventral. Pharinx 200 (180-210) long, 190 (150-230) wide, well developed with nine transverse grooves, a single median longitudinal groove. Intestinal caeca not confluently posteriorly. Haptor circular, united with the body proper by a long peduncle, 550 (480-680) in diameter, bearing a thin marginal membrane

with 16 equally spaced indentations, some of them with marginal papillae. Mean ratio body total length-haptor diameter is 1:7. Haptor with one central, eigth peripherical loculi separated by muscular septum. Anchors (Fig. 2) with longer deep root, short superficial root, shaft, point, 130 (100-150) long. Hooks (Fig. 3) 14, with curved point, erect thumb, FH loop slightly longer than shank, 9 (8-12) long. Testis single, oval, 580 (400-800) long, 370 (300-560) wide, located in medial third of body. Vas deferens sinuous, arising from the left anterior margin of testis. Ejeculatory bulb median, suboval. Cirrus (Fig. 4) sclerotized, slender, slightly sinuous. Ovary pretesticular, apparently lobulated posteriorly in some specimens, looping around the right intestinal caecum. Seminal receptacle with short duct leading into oviduct. Terminal portion of vaginal duct sclerotized. Vitelline glands filling all available body space lateral and posterior to intestinal caeca, extending into intercaecal area in the posterior region of testis, not penetrating into peduncle. Eggs not observed.

Etymology: the specific name refers to geographical area where the new species was collected.

Remarks: to date, the genus *Anoplocotyloides* includes only the type species *A. papillatus* (Doran, 1953). The species described above can be easily differentiated from it by: 1) the mean ratio body total length-haptor diameter (1:3 in *A. papillatus*, 1:7 in the new species), 2) the relative length of the peduncle (poorly developed in *A. papillatus*, well developed in the new species), 3) the shape of the cirrus (coiled in *A. papillatus*, slightly sinuous in the new species), and 4) the shape of the testis (subquadrangular in *A. papillatus*, subspherical in the new species).

Hexabothriidae Price, 1962
Callorhynchocotyle marplatensis Suriano & Incorvaia, 1982

Host: Callorhinchus callorhynchus (Linnaeus) (Callorhinchidae).

Site of infection: gills.

Locality: Chorrillos, Lima – Perú.

Voucher specimens: CHURP no. 536 (four stained whole mounts).

Measurements: body 10.8 (9.60-12.5) mm long, 1.10 (0.90-1.30) mm wide; haptor 3.10 (2.80-3.65) mm long, 1.75 (1.20-2.20) mm wide; appendix 1.85 (1.60-2.10) mm long, 250 (148-400) wide; appendix sucker 195 (170-205) long, 175 (160-190) wide; pair 1 of haptoral suckers 345 (300-376) in diameter; pair 2, 370 (310-385), pair 3 355 (300-380).

Remarks: Callorhynchocotyle Suriano & Incorvaia, 1982 is a hexabothriid genus recently established, *C. marplatensis* Suriano & Incorvaia, 1982 is the type species, other species are: *C. callorhynchi* (Manter, 1955), *C. amatoi* Boeger, Kritsky & Pereira, 1989 parasites of fishes of the genus *Callorhinchus*, and *C. hydrolagi* Beverley-Burton & Chishlolm, 1990 from *Hydrolagus ogilbyi* (see Boeger et al., 1989; Beverley-Burton & Chishlolm, 1990).

Boeger et al. (1989) proposed a emended diagnosis of *Callorhynchocotyle* and redescribed adequately *C. marplatensis.* The characteristics of the worms studied are in agreement with the description given by Suriano & Incorvaia (1982) and Boeger et al. (1989). The record of this species in the coast of the South American Pacific is not a surprise because the geographical distribution of the fish host includes the Pacific and Atlantic coast of South America (Chirichigno, 1974).

The presence of *C. marplatensis* in Perú, increases the number of monogenoideans species recorded from fishes of the same genus from the American Atlantic and Pacific coasts. This situation is very notorious in the Atlantic and Pacific Mexican coast (Bravo-Hollis, 1984, 1986; Bravo-Hollis & Salgado-Maldonado, 1983).

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