Mem. Inst. Oswaldo Cruz, Rio de Janeiro, Vol. *87*, Suppl. I, 69-72, 1992

COTYLOPHORON TRAVASSOSI SP. N. (TREMATODA – PARAMPHISTOMIDAE) FROM CATTLE

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A new species of the genus Cotylophoron *(Trematoda – Paramphistomidae)* – Cotylophoron travassosi *sp. n. – is described. The measurements of the worm and its structures are compared with the valid known species.*

Key words: *Cotylophoron travassosi* – Trematoda – Paramphistomidae

The procedures for the systematic knowledge of the complex Paramphistomidae group were studied among others by Stiles & Goldberger (1910), Fukui (1929), Maplestone (1923), Nasmark (1937) and Van Strydonk (1970). More recently Eduardo (1982a, b and c; 1983; 1984; 1985) published a revision of those methods and taxonomy of the group.

Several species were described in the genus *Cotylophoron* Stiles & Goldberger, 1910. Sey (1982) after a discussion of the morphological aspects considers valid only the species *C. macrosphinctris* Sey & Graber, 1979, *C. cotylophorum* (Fischoeder, 1901), *C. fulleborni* Nasmark, 1937 and *C. congolense* Baer, 1936. Eduardo (1985) considers valid the species *C. cotylophorum* (Fischoeder, 1901), *C. fulleborni* Nasmark, 1937, *C. bareilliense* Mukherjee & Chauhan, 1965, *C. macrosphinctris* Sey & Graber, 1979, *C. xiangjiangense* Wang, 1979, *C. panamensis* Price & McIntosh, 1953 and *C. jacksoni* Nasmark, 1937.

MATERIALS AND METHODS

The worms were washed in physiological solution (0.8%) and preserved in Railliet and Henrt solution.

Lateral and dorso-ventral sections were used for studying the worms. Worms laying on ventral and on lateral sides were used for making these cuttings. Chlorid carmin was used for staining the worms sections.

The measurements are given in millimeters.

Some specimens were fixed with 10% buffered (pH 7.0) formalin and dehydratated through a series of ethanol and dried in a critical point drying apparatus using liquid carbon dioxide. Dried specimens were mounted on metal stubs, sputtercoated with gold and then viewed and photographed with a scanning electron microscope (SEM).

RESULTS

Cotylophoron travassosi sp. n. (Figs 1-8)

Body smooth of conical shape slightly curved over its ventral side, 5.4 (4.6-6.0) long by 3.0 (2.8-3.4) wide at the acetabulum level (Fig. 1). *Paramphistomum* type (sensu Nasmark) pharynx (Fig. 3) without median muscular layer and without labial and posterior sphincter, measuring 0.8 (0.7-0.9) in length and 0.7 (0.5-0.8) in width. Esophagus with bulb (Fig. 3), 0.5 long, 0.2 wide anteriorly and 0.3 posteriorly. Twisted cecus reaching the lateral edge of the acetabulum. Acetabulum *Cotylophoron* type (Fig. 1) 1.4 (1.0-1.5) long and 1.9 (1.8-2.0) wide, with 23 to 25 units in the median circular external layer (MEC), 19 to 20 units in the dorsal circular external layer (DEC), 44 to 48 units in the dorsal circular internal layer (DIC), 14 to 16 units in the ventral circular external layer (VEC) and 54 to 56 cells in the ventral circular internal layer (VIC) (Fig. 4). The relation between the length of the acetabulum and the body is 1:2.9 (1:2.5 to 1:3.2). *Cotylophoron* type genital sucker situ-

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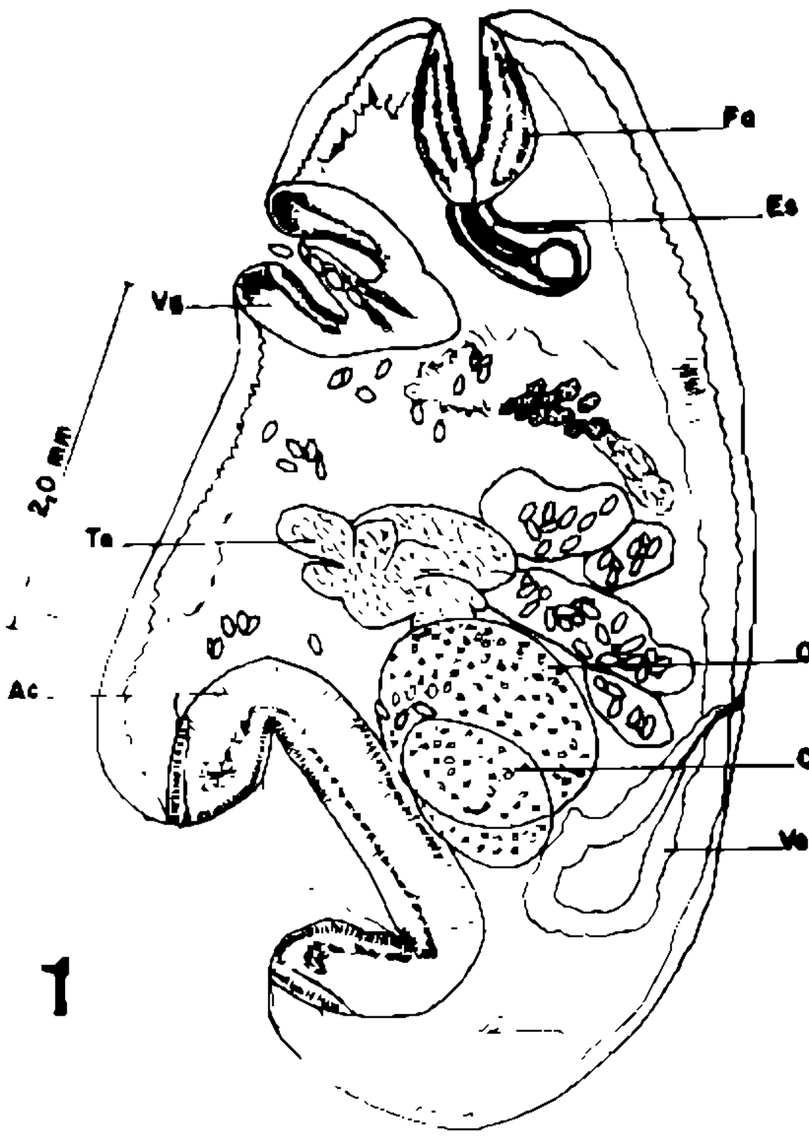
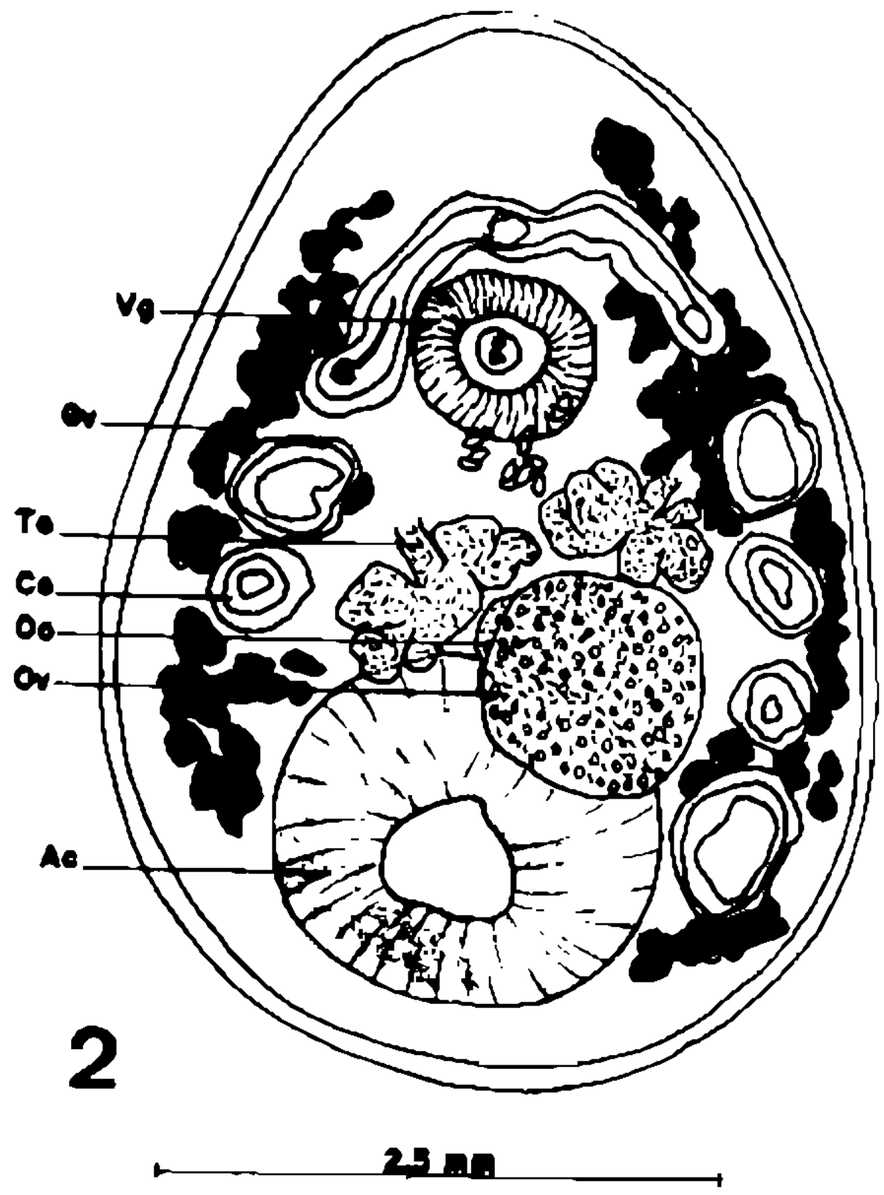
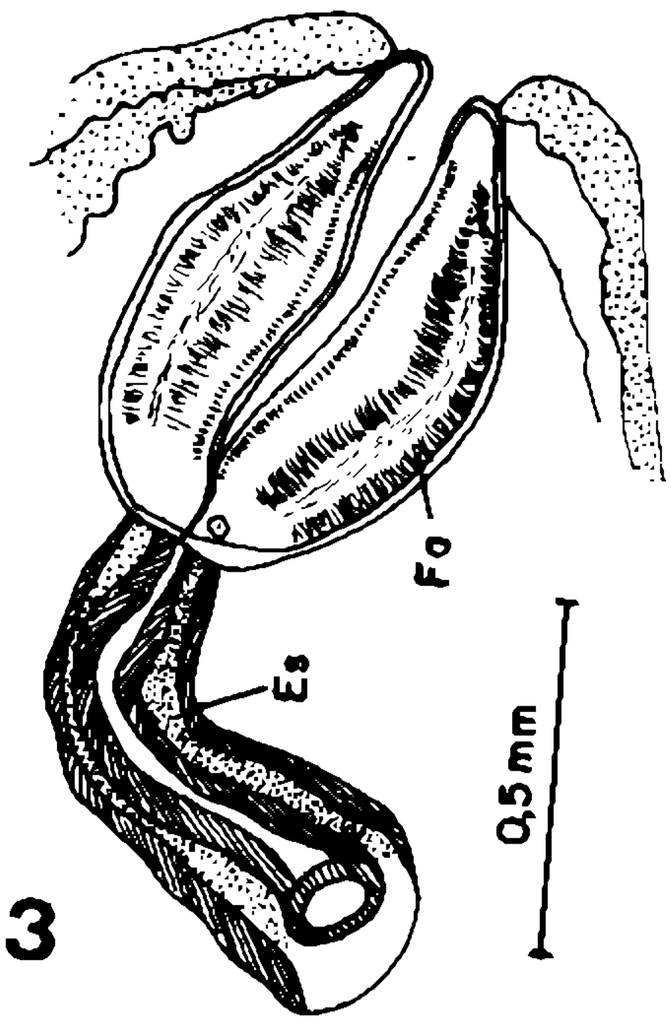
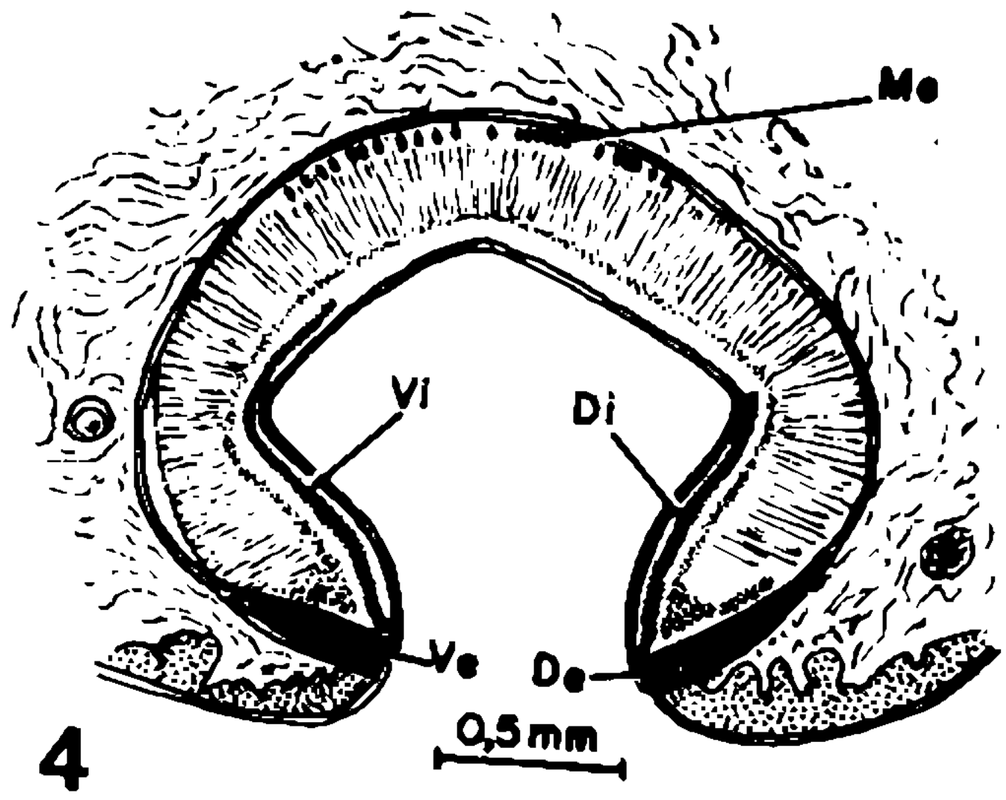






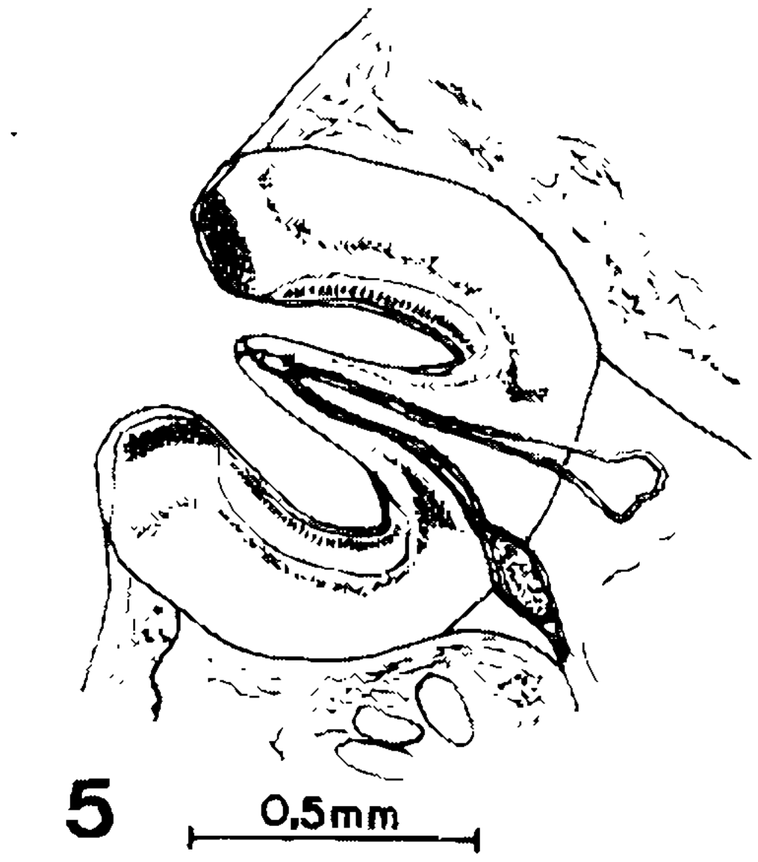


Figs 1 and 2: lateral section and dorso-ventral section respectively; Ac = acetabulum, Ce = cecum, Es = esophagus, Fa = Pharynx, Gv = vitelogenic glands, Oo = ootipe, Ov = ovarium, Te = testiculum and Vg = genital sucker. Fig. 3: longitudinal section of: Es = oesophagus, Fa = pharynx. Fig. 4: dorso ventral section of the acetabulum: De = dorsal circular external, Di = dorsal circular internal, Me = median circular external, Ve = ventral circular external and Vi = ventral circular internal layers of cells.

ated near the bifurcation of cecum (Fig. 2) with 0.7 to 0.9 in diameter with long genital papillae and no sphincter and with the male and female organs joining and finishing in a single genital pore (Fig. 5). Ovary just above the acetabulum, (Figs 1 and 2) measuring 0.8 to 1.0 by 0.6 to 1.0. Ootype measuring 0.4 to 0.8 by 0.4 by 0.6. Uterus with ascendent loops. Laurer's canal crossing the excretory vesicle. Vitellaria in lateral fields, extending from level of pharynx to lateral border of acetabulum, not confluent posteriorly. Operculated eggs measuring 0.132 to 0.134 long by 0.078 to 0.081 wide. Lobated testicles slightly diagonal (Fig. 2) with same shape and size, 0.4 to 0.8 long by 0.7 to 1.6 wide. Efferent canals driving anteriorly with no cirrus pouch.

These characteristics and measurements were taken from dorso ventral cuttings with the worm laying on a lateral side and from longitudinal cuttings with the worm laying on its ventral side.

The scanning eletron microscopy showed irregularly round papillae (Figs 7 and 8) dis-



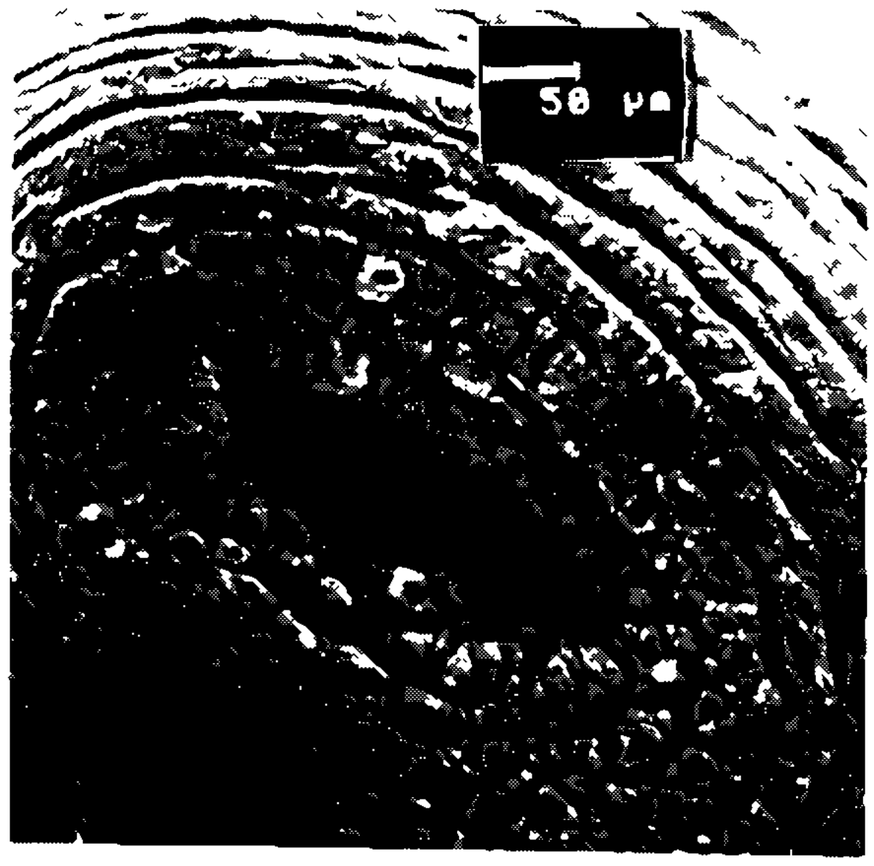


Fig. 5: lateral section of the genital sucker with genital masculine and feminine ducts fused in the final portion of the papilla. Fig. 6: distribution of the circumoral papillae (SEM). Figs 7 and 8: details of the circumoral papillae (SEM).

played in circular leyers around the oral opening (Fig. 6). There were no papillae in the acetabulum and genital sucker.

Type host: *Bos indicus*

Site of infection: rumen and reticulum

Locality: state of Maranhão – Brazil

Specimens deposited: Department of Parasitology ICB UFMG Helm. Coll. no. 229.

The name *C. travassosi* sp. n. was given as a tribute to the Brazilian parasitologist Lauro Travassos.

DISCUSSION

Cotylophron travassosi is different from the species described by Eduardo (1985): *C. xiangjiangense* has a pharynx *Liorchis* type and testes in tandem; *C. macrosphinctris* has sphincters in the genital sucker and testes in tandem; *C. cotylophorum* has papillae in the genital opening and acetabulum, testes bigger than ovary and in tandem; *C. bareilliense* has testes in tandem, smaller than ovary; *C. fulleborni* and *C. jacksoni* have lobbed testes bigger than ovary. It is also different from *C. panamensis* described by Price & McIntosh (1953) because its testes are not juxtaposed and its vitellaria not confluent; genital sucker, acetabulum and pharynx are bigger; in *C. panamensis* testes are larger and ovary is twice smaller than in *C. travassosi*.

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