

ON *CETIOSACCUS GILBERTI* N. SP. (TREMATODA : PRONOCEPHALIDAE)
FROM *CHELONE MYDAS* (LINN.), A MARINE TURTLE
FROM THE GULF OF MANNAR (INDIA)

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ABSTRACT

A new species, *Cetiosaccus gilberti* from the intestine of *Chelone mydas* from the gulf of Mannar has been described and its validity discussed. The new species is characterized by its elongated body, absence of head collar, feebly developed oral sucker, sinuous cirrus sac, uterine coils overlapping the caeca and non-filamentous eggs. Key to the species of the genus is given.

Representative of the genus *Cetiosaccus* Gilbert, 1938 is being reported for the first time in India.

MATERIAL AND METHODS

One mature and two immature parasites were recovered from the intestine of four edible green turtles, *Chelone mydas* (Linn.) procured and examined during the period January, 1969 to September, 1971. The flattened flukes, after fixation in Bouin, were stained with Borax carmine and mounted in Canada balsam.

Description :

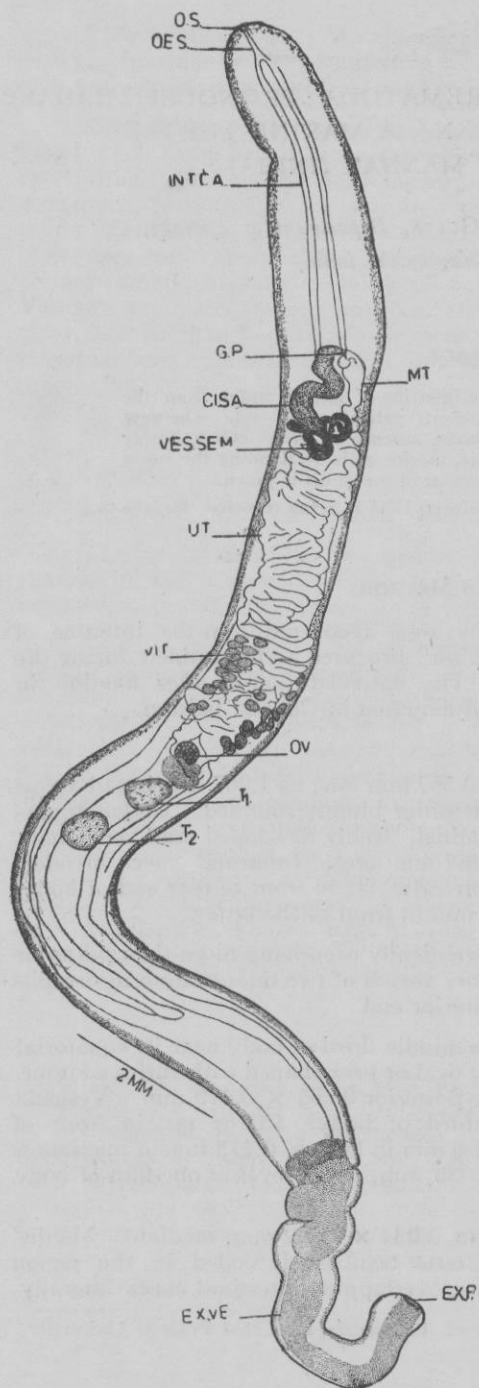
Body elongated, light orange in life, 20.562 mm long by 1.267 mm broad across the region just in front of genital pore, extremities bluntly rounded. Collar apparently inconspicuous. Oral sucker subterminal, feebly developed and very small, 0.078 × 0.117 mm. Oesophagus short, 0.468 mm long. Intestinal caeca slender, without outpocketings, terminating asymmetrically, far in front of rear end of body, right caecum 6.337 mm and the left, 5.265 mm in front of the latter.

Excretory vesicle voluminous, characteristically occupying more than posterior one-fourth of body, with thick walls, excretory vessels of two sides uniting in oesophageal region, excretory pore terminal at posterior end

Gonads of relatively small size, lying in middle third of body near its equatorial line. Testes tandem, intercaecal, somewhat oval or pear-shaped with entire contour, anterior testis 0.546 × 0.37 mm, and the posterior 0.565 × 0.419 mm. Vesicula seminalis coiled and median, in anterior third of body. Cirrus sac in front of vesicula seminalis, sinuous, approximately 1.8 mm in length, 0.273 mm in maximum width. Genital pore at a distance of 4.036 mm, *i.e.* at level of one-fifth of body length from anterior end.

Ovary pretesticular, somewhat reniform, 0.234 × 0.302 mm, median. Mehlis' gland between ovary and anterior testis. Uterus transversely coiled in the region between ovary and basal portion of cirrus sac, overlapping intestinal caeca laterally.

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ABBRÉVIATIONS

CI. SA., cirrus sac; EX. P., excretory pore
 EX. VE., excretory vesicle; G. P., genital
 pore; INT. CA., intestinal caeca; MT.,
 metraterm; O. S., oral sucker; OES., oesopha-
 gus; OV., ovary; T₁, anterior testis; T₂,
 posterior testis; UT., uterus; VES. SEM.,
 vesicula seminalis; VIT., vitellaria.

Fig. 1. *Cettiosaccus gilberti* n.sp., whole mount (ventral view).

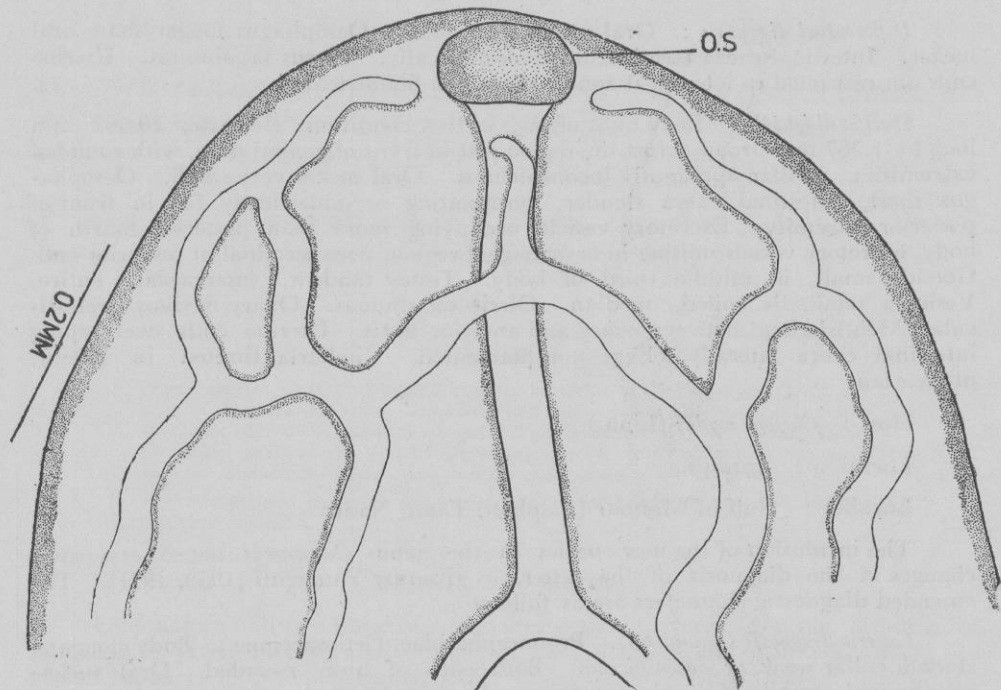


Fig. 2. Anterior portion of the same enlarged showing anastomosis of the excretory vessels.

Metraterm small. Eggs non-filamented, closely packed, $0.0343 - 0.0392 \times 0.0171 - 0.0196$ mm. Vitellaria preovarian, ventral to intestinal caeca, consisting of a few follicles, sixteen on right side and fifteen on left, covering 1.267 mm and 1.384 mm length-wise respectively.

DISCUSSION

The characteristics namely the voluminous excretory vesicle occupying more than the posterior one-sixth of the body length with vessels of the two sides anastomosing in the oesophageal region, short oesophagus, slender intestinal caeca without diverticula, tandem and intercaecal testes in the middle third of the body, pretesticular ovary, and vitellaria preovarian and limited in extent, place the present form in the genus *Cetiosaccus* Gilbert, 1938.

The genus *Cetiosaccus* includes only one species, *C. galapagensis* Gilbert, 1938 from a marine iguana, *Amblyrhynchus cristatus*, from the Galapagos islands (Ecuador). The comparison of the present form with *C. galapagensis* shows that the former cannot be taken as identical with the latter. The known species differs from the present form in having a comparatively larger oral sucker, oesophagus shorter than the length of the latter, symmetrically terminating intestinal caeca, spherical cirrus sac, uterus restricted to the intercaecal zone and filamented eggs. Further, the hosts and localities of the two forms are quite different.

In view of the preceding differences, the present form has been considered new for which the name, *Cetiosaccus gilberti* n. sp., is proposed, after the author who erected the genus *Cetiosaccus*.

Differential diagnosis : Oral sucker very small. Oesophagus longer than oral sucker. Intestinal caeca terminating asymmetrically. Cirrus sac sinuous. Uterine coils not restricted to intercaecal zone. Eggs non-filamented

Specific diagnosis : Body light orange in live condition, elongate, 20.562 mm long by 1.267 mm broad across the region just in front of genital pore, with rounded extremities. Collar apparently inconspicuous. Oral sucker very small. Oesophagus short, Intestinal caeca slender, terminating asymmetrically far in front of posterior extremity. Excretory vesicle occupying more than posterior fourth of body, excretory vessels uniting in oesophageal region, pore terminal at posterior end. Gonads small, in middle third of body. Testes tandem, intercaecal, entire. Vesicula seminalis coiled, median. Cirrus sac sinuous. Ovary median, pretesticular, Mehlis' gland between ovary and anterior testis. Uterine coils overlapping intestinal caeca laterally. Eggs non-filamented. Vitellaria limited in extent, preovarian.

Host : *Chelone mydas* (Linn.)

Location : Intestine

Locality : Gulf of Mannar (Pamban, Tamil Nadu)

The inclusion of the new species in the genus *Cetiosaccus* necessitates some changes in the diagnosis of the latter, as given by Yamaguti (1958, 1971). The emended diagnostic characters are as follows :

Generic diagnosis (emended). Pronocephalidae, Cetiosaccinae : Body elongate, smooth collar weak or *inconspicuous*. Both ends of body rounded. Oral sucker subterminal, small. Oesophagus short. Intestinal caeca narrow, unbranched, *terminating far in front of posterior end of body*. Excretory vesicle voluminous, with walls thick and folded occupying at least posterior fifth of body or more, divided behind caecal ends into long simple limbs uniting anteriorly. Testes smooth, intercaecal, median, tandem, in posterior half or *middle third* of body. Vesicula seminalis coiled, voluminous or *not*. Cirrus sac spherical or sinuous. Genital pore median, one-fourth or *one-fifth* of body length from anterior extremity. Ovary spherical or reniform, median pretesticular. Mehlis' gland and Laurer's canal present. Receptaculum seminis absent. Uterus intercaecal or *overlapping intestinal caeca laterally*, preovarian. Eggs filamented or *not*. Vitellaria ventral to intestinal caeca, extending for a short distance anterior to ovary. Parasitic in intestine of marine iguana or turtles.

REFERENCES

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