ON A NEW SPECIES OF ACANTHOCEPHALAN PARASITE FROM FISHES OF BOMBAY

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During the survey of parasitic infection of fishes of Bombay in October 1939, Dr. B. S. Chauhan collected a few specimens of Acanthocephalan parasites from marine fishes, *Psettodes erumei* (Bloch. & Schn.) and *Lutjanus johnii* (Block.), and passed them on to me for study. The specimens were all encysted and were collected from the mesentries on the intestinal wall. They were mostly adult but immature and a few specimens clearly indicated traces of developing genitals. The structure of the body and the disposition of the hooks on the proboscis, collar and body tallied with that of the genus *Serrasentis of* the family Rhadinorhynchidae, but the specific diagnosis differed from that of the existing species *S. socialis* (Liedy 1951) and *S. lamelliger* (Diesing 1854) and so a new species *S. chauhani* is created to accommodate the specimens under description. No species of *Serrasentis* has so far been recorded from the East.

Genus **Serrasentis** Van Cleave, 1923.

1851. Echinorhynchus Leidy, *Proc. Acad. Nat. Sci.*, Philadelphia, Vol. 5.
1905. Echinogaster Monticelli, *Ann. Mus. Zool.*, Napoli, Vol. I.
1907. Echinosoma Porta, *Biologica*, Torino, Vol. I, pp. 377-423.
1908. Lapidosoma Porta, *Biologica*, Torino, Vol. I.

The genus was recently created (Van Cleave 1923) as a new name for the generic concept which included Linton's species, *Echinogaster sagittifer* (Linton, 1889) Luhe 1912. The status of the genus was recognised long ago by Monticelli (1905) but Van Cleave stated that the concept was particularly unfortunate as these successive names applied to it are untenable because they are homonyms. In the key to the genera of Acanthocephala (Van Cleave, 1923) the genus *Lepidosoma* Porta, 1907 was given as a questionable synonym of *Serrasentis*. Since that time the examination of the description and figures of *E. lamelliger* Diesing, 1854, revealed that the species is identical with *E. sagittifer* Linton, 1889. As Porta's generic name *Lepidosoma* is preoccupied it cannot be applied to the generic concept and so *Serrasentis* becomes a valid name of the genus including *E. sagittifar* and *E. limilliger*. On the basis of this *E. sagittifer* has been designated as the genotype must give place to the prior specific name *E. socialis* Leidy 1851. Members of this genus occur in the intestine of marine fishes, while the post-larval stages frequently occur as cysts in the viscera of various marine fishes.

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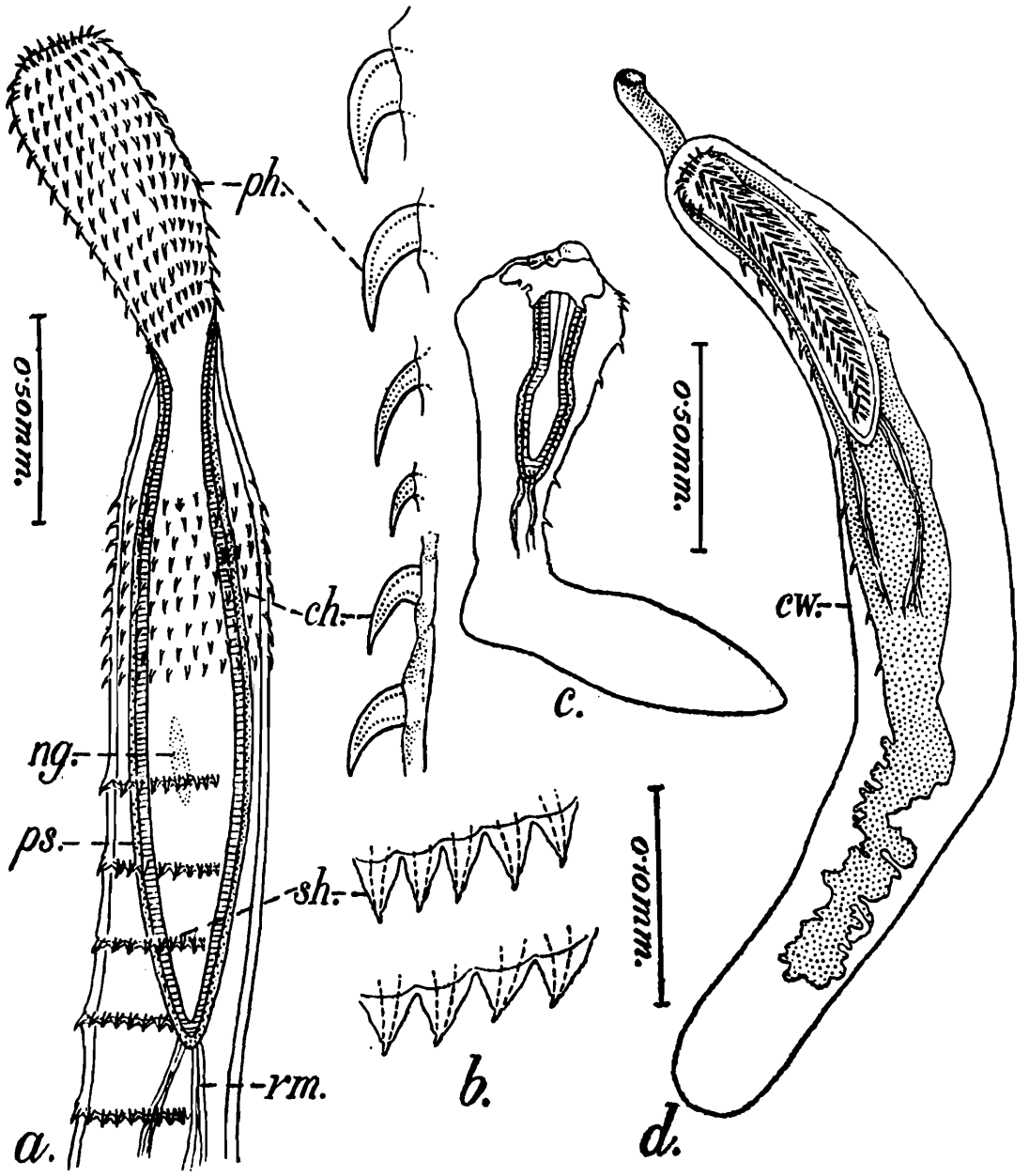
Serrasentis chauhani, sp. nov.

The body is elongated and externally furrowed to give an appearance of annulation on the posterior side. On an average the male measured 8·625 mm. × 0·522 mm. and the female 6·036 mm. × 0·460 mm. The proboscis is clavate, bluntly rounded in front narrowing to the base, near its anterior portion it measure 0·736 mm. × 0·253 mm. It is armed with 16-20 rows of 14-16 hooks each, followed by a spineless region, termed as neck. The neck is followed by the body proper which starts from the base of the proboscis. At the anterior end of the body there are 6-10 circles of 16-20 hooks each, termed as collar spines, followed by a spineless region after which there are about 22 ventrally placed semi-circles of 12-24 strong hooks each. Thus the cuticular hooks are in two groups. These hooks are triangular arrow shaped and strong covered



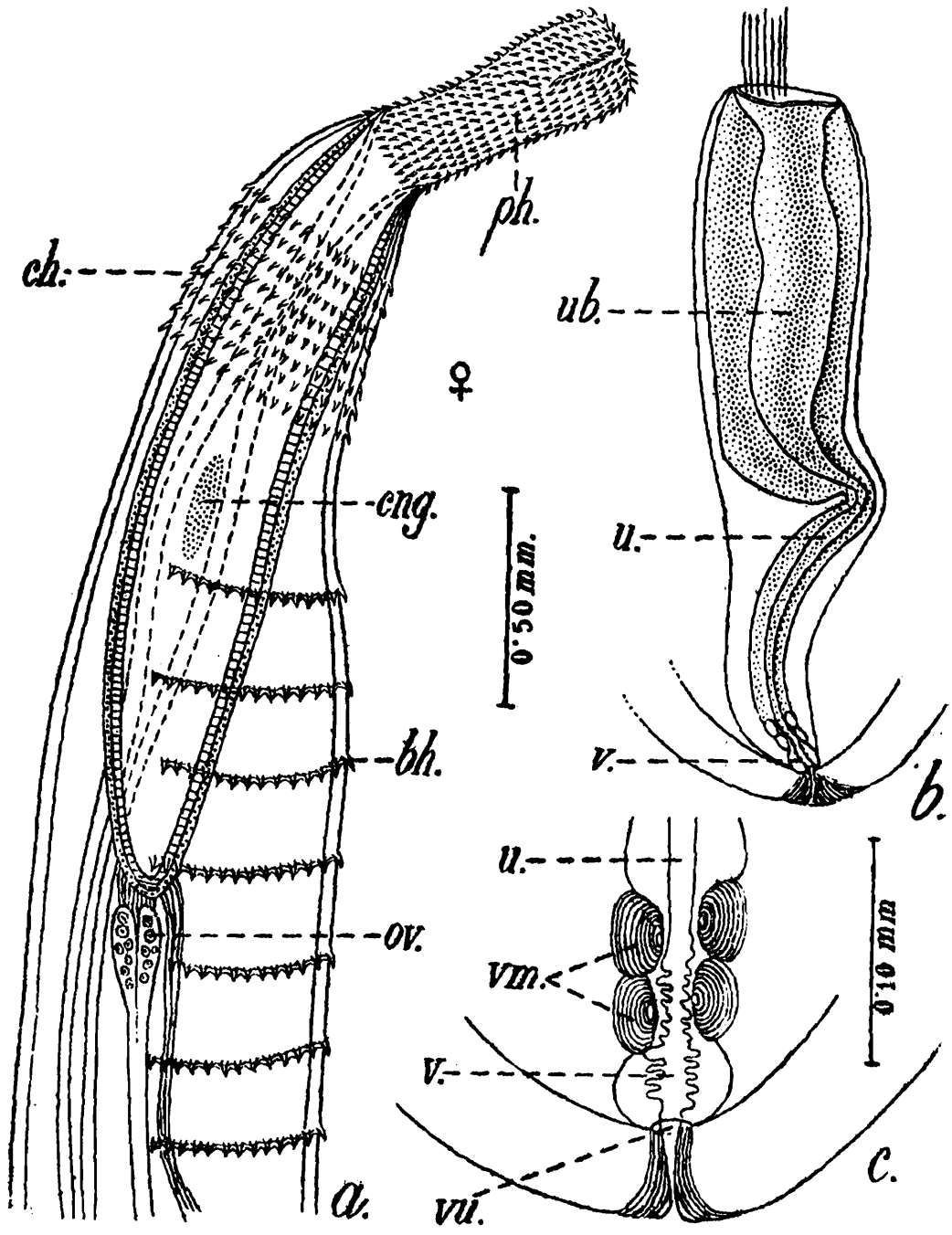
TEXT. FIG. 1.—*Serrasentis chauhanii* sp. nov.,

a. anterior part of the body showing arrangement of spines ; *b*. hooks of proboscis colla and cuticular semi-circles magnified ; *c*. a small immature specimen showing a few body hooks and the proboscis sheath ; *d*. a devlepoed specimen inside cyst wall, posterior portion shrunken and annulated.

ch. Collar hooks ; *cw*. cyst wall ; *ng*. nerve ganglion ; *ps*. proboscis sheath ; *ph*. proboscis hooks ; *sh*. semi-circular ventral hooks ; *rm*. retractor muscles.

with cuticular theca. In the ventral semicircular rows the disposition of spines in each circles is seen as follows :—i-26, ii-24, iii-20, iv-20, v-22, vi-24, vii-20, viii-xiii-19, xiv-xviii-16, thereafter the number of hooks diminishes to 12 and later a further reduction to a few in number is marked. After the 20th row two more marginal hooks are seen to indicate the last two cuticular semicircles.

The sexual characters were marked in one specimen where traces of genitals were present. One oval mass was seen suspended by suspensory ligaments from the base of the proboscis sheath to form the ovary later on.



TEXT FIG. 2—*Serrasentis chauhani sp. nov.*

a. anterior portion of female showing ovary formation ; *b*. female genitalia ; *c*. Vaginal portion magnified.

bh. body hooks ; *ch*. collar hook *cng*. central nerve ganglian. *ph*. proboscis hooks ; *ov*. ovary ; *u*. uterus ; *v*. vagina ; *μm*. vaginal muscles ; *vu*. vulva.

The rest of the female genitalia were also formed such as the uterine bell, suspended by the suspensory ligament, the uterus, vagina and the strong vaginal muscles and vulva (*Text-fig.* 2).

The liminiscii were distinguished as a pair a long filamentous structures hanging from the base of the proboscis. The proboscis sheath was thick walled and made up of two layer, the upper one thick and the inner a loose texture. The nerve ganglion was present.

It will be seen from the comparative chart given below that the new species differs from *S. lamelliger* and *S. socialis* in the dimensions of the body, number of circles of hooks on the proboscis and their number in each circle, the number of ventral semicircles of spines and their number in each circle.

Comparative chart of existing and new species of Serrasentis.

Male.	S. lamelliger (Diesing 1854).	S. sagittifer (Valentine 1923)	S. socialis (Van Cleave 1924).	S. chauhani sp. nov.
Male . .	25·0	6·40—9·20	18·0 23·C	8·625×0·552
Female . . .	..		..	6·036×0·460
Proboscis . .	1·1	0·90—1·20× 0·44—0·52	..	0·736×0·253
Proboscis sheath .	..	1—80	..	1·748×0·276
Proboscis hooks .	6 of 12-16	18-12 of 16-18	24 of 16-18	16-20 circles of 14-16
Collar hooks . .	..	8-10 circles	..	6-10 circles of 14-16
Cuticular hooks .	..	..	18-23 of 6-24	22 semicircles of 12-26
Hosts . . .		*Paralichtys dentatus, Pomatomus saltatrix, Cynoscion regale.*		*Psettodes erumei, Lutjanus johnii.*

All measurements are in milimeters.

The specific diagnosis.—Body elongaed, externally annulated at the posterior half, always slightly bent. Proboscis elavate, broad anteriorly tapering towards the neck, studded with 16-20 circles of 16-16 thick arrow shaped hooks. Presence of a naked space, the neck. Cuticular body spines in two groups—the collar spines of 6-10 circles of 14-16 hooks each and 22 ventral semicircular bands of 12-24 hooks each. Proboscis sheath double walled. Parstitic in the intestines of marine fishes.

Name . *Serrasentis chauhani*, sp. nov.
Host *Psettodes erumei* (Bloch & Schn.) and *Lutjenus johnii* (Bloch).
Location . Membrane on the intestines.
Locality . Bombay seas.

Type specimens slide number (W 3998/1, 3799/1) preserved in the collections of the Zoological Survey of India, Calcutta.

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