

RECORDS OF TWO CERCARIAE, *HETEROPHYES* SP. AND *HAPLORCHIS*
SP. FROM THE SNAIL, *MELANOIDES TUBERCULATA* (MULLER)
FROM TAMIL NADU.

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INTRODUCTION

Specimens of *Melanoides tuberculata* from two different localities viz. Tiruthani and Tiruvencherry of Chingleput District of Tamil Nadu were examined for cercarial discharge. They yielded two species of cercariae, viz. *Heterophyes* and *Haplorchis*, both of which have not hitherto been recorded from Tamil Nadu.

Adults of these species have been recorded in carnivores and man (Rao and Ayyar, 1931 ; Rao and Kulkarni, 1964 ; Simha and Deshpande, 1964 ; Prakash and Pande, 1968 ; Rao and Anantaraman, 1969 and Mehra, 1980 and Srivastava, 1982).

Both live and preserved materials were studied, live material was examined under a coverslip. 5% formalin or 50% picric acid was used as fixative. Intravivum stains such as methylene blue and neutral red were employed for staining.

1. *Cercaria* of *Heterophyes* sp.

(Fig. 1)

115 examples of the Snail, *Melanoides tuberculata* were examined from Thiruvenchery village, out of which 22 discharged cercariae which closely resembled those of *Heterophyes* sp. described by Ito (1980).

DESCRIPTION

The *Cercaria* is small and the infected snails discharged them both in the morning and afternoon. They swim actively using the tail and occasionally exhibit creeping movements. The body is oval in shape with a narrower anterior end. The tail is simple, slender, longer than the body and provided with minute spines. There were 2 or 3 rows of spines on the oral sucker. The oral sucker leads to a small dilatation representing the pharynx. Oesophagus and intestinal caecae are not clearly seen. Penetration glands vary from 6 to 8 in number and occupy the posterior half of the

body, masking the structures below them. There is a pair of eyespot at the level of pharynx. The ventral sucker is situated a little below the median line of the body.

Cercaria of Heterophyes Sp

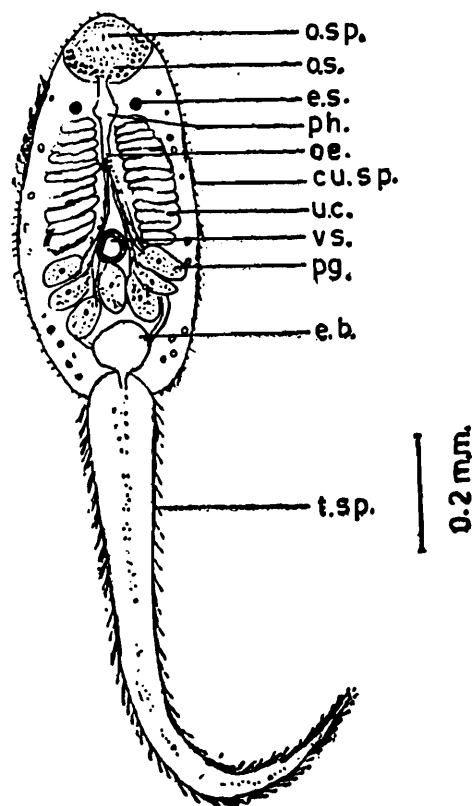


Fig. 1.

The excretory bladder is conspicuous and a tube arising from it is faintly seen. The rest of the excretory system could not be traced properly.

Table 1

Measurements of Cercaria of *Heterophyes* sp. along with those of *H. nocens* by Ito (1980)

		<i>Heterophyes</i> Sp.	<i>Heterophyes nocens</i>
Body	μ	335-340 \times 128-135	355-375 \times 150-165
Oral Sucker	μ	42-45 \times 29-34	35-60 \times 45-50
Ventral Sucker	μ	18-19 \times 20-25	25-35 \times 25-30
Pharynx	μ	15-18	21-22
Penetration glands	μ	30-35 \times 15-18	50-60 \times 20-23
Excretory bladder	μ	38-40 \times 30-35	—
Tail	μ	150-165 \times 48-50	147-162 \times 45-50
Snail host		<i>Melanoides tuberculata</i>	<i>Cerithidea fluviatilis</i>

Rao and Ayyar (1931) recorded the adult to *Heterophyes indica* from a stray dog in Tamil Nadu. However its cercariae have not been recorded or described which has necessitated a comparison of the present specimens with closely related *Heterophyes* Sp. viz. *H. nocens* described by Ito (1980) from Japan, to determine the extent of agreement of important characters. As could be seen from the table of measurements, the present cercaria nearly agrees with those of *H. nocens*. and therefore, is designated as *cercaria Heterophyes* sp. tentatively.

2. Cercaria of *Haplorchis* sp.

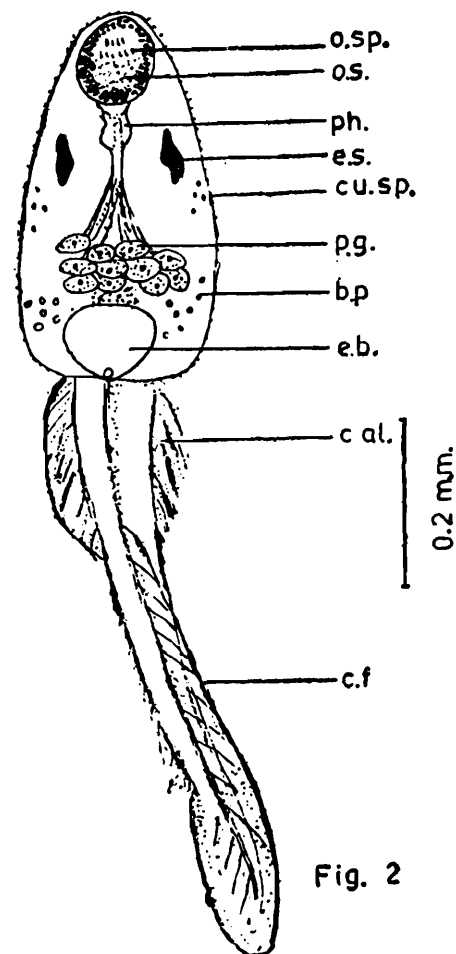
(Fig. 2)

Out of the 65 examples of *Melanoides tuberculata* which were examined from Tiruthani of Chingleput district, four shed cercariae. These share characters of *Haplorchis* sp. described by Ito (1980).

DESCRIPTION

The cercaria is very small and moves actively with its tail directed forwards. It

Cercaria of *Haplorchis* Sp.



was seen to be positively phototactic. The body is oval with a simple tail. There are a number of eight brownish pigments all over the body. The tail is long with a number

of very minute spines. The oral sucker is globular in shape leading to a small pharynx. The bifurcation of the oesophagus into the intestinal caecae is not clearly seen. There is a pair of eyespots. The oral sucker has rows of spines, the exact numbers of which could not be ascertained. Penetration glands numbering 6 to 7, almost occupy two-thirds of the body. Flame cells are not discernible. The ventral sucker is indistinct. The bladder is circular in shape. The caudal alae arise from the base of the tail extending upto the anterior one third. Terminal portion of the tail is expanded like a finfold. Only adult *Haplorchis* trematode worms have been recorded from Tamil Nadu. In Calcutta, Sewell (1922) has described *C. indicae* VIII from *M. tuberculata*.

TABLE II

Measurements of cercaria of *Haplorchis* sp. along with those of *C. I.* VIII of Sewell (1922) and *H. taichui* (Ito, 1980)

	<i>Cercariae indicae</i> VIII (Sewell, 1922)	<i>Haplorchis taichui</i> (Ito, 1980)	<i>Haplorchis</i> sp.
Body μ	210-288 \times 158	89-124 \times 31-43	90-130 \times 33-35
Oral Sucker μ	—	19-25 \times 17-20	22-25 \times 15-20
Pharynx μ	—	7 \times 6	5 \times 4
Tail μ	386-456	250-350 \times 16-22	258-365 \times 20-25
Snail host	<i>Melanoides tuberculata</i>	<i>Melanoides Obliqui-granosa</i>	<i>Melanoides tuberculata</i>

The present *Haplorchis* sp. differs from *Cercariae indicae* VIII described by Sewell (1922) in being smaller and having distinct pharynx (rudimentary in *C. indicae* VIII). The excretory bladder is circular while in *C. indicae* VIII it is triradiate in shape.

No information is available on the occurrence of larval forms of *Haplorchis* in Tamil Nadu. The description and the measurements of the present cercaria agree with those of *H. taichi* given by Ito (1980). The presence of brownish yellow pigment granules in the middle of the body, cuticular alae at the base of the tail are all characters of cercaria of *Haplorchis*. Body and tail surface also show very fine minute spines. Although the measurements of the specimen under study appear to be more than those given by Ito (1980), the differences are slight and therefore this cercaria is tentatively assigned to *Cercaria Haplorchis* species.

SUMMARY

Cercariae of *Heterophyes* sp. and *Haplorchis* sp. from the Snail, *Melanoides tuberculata* are described for the first time from Tamil Nadu and compared with related forms.

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