

STUDIES ON LARVAL TREMATODES FROM *MELANIA SCABRA*, FRESH WATER SNAIL FROM GIRNA RIVER, NASHIK DISTRICT(M.S.), INDIA.

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ABSTRACT:

Nashik district has many natural fresh water streams, dams and small percolation tanks. Many species of mollusks inhabit these streams and reservoirs alongwith a variety of birds, cattle, sheep and goats offering an ideal environment for the operation of life cycle in helminth parasites. Not much information is available on the larval trematode parasite found in this region. Hence it was thought worthwhile to study the new species of monostome larval trematode parasite cercaria chankapuriensis nsp in freshwater snails of Nashik district are described and diagnostic feature of new species compared with related species.

Keywords: Larval trematodes, Parasite, Freshwater Snails, New species, Nashik District.

INTRODUCTION:

The earlier work on the snails and cercariae of Nashik region was carried out by Karyakarte and Yadav (1974-1979) and similarly on other snails by Gorbushin and Levakin (1999) Naincova et al. (1993) Fastny et al.(1996) Horak(1999) Snyder and Locker(2000), Heulsenback and Ronquist(2001), Bayssacle et al.(2002), Johnson and Clayton(2003), Criscione and Blouin and Pough et al. (2005). The work carried out by Karyakarte and Yadav (1979) on "Control" of molluscan Agents of Helminth parasite of Agricultural and veterinary Importance. The examined eight species of snails viz, viviparous bengalensis, melania tuberculata, melania scabra, lymnea acuminata, lymnea luteola, lymnea auricularia, Indoplanorbis exustus, Gyraulus convexiusculus. Out of these eight species they reported cercarial infection in six species of snails and the two species m. scabra and v. bengalensis were free from larval infection

Lunch (1909) the first attempt to classify the cercariae in a comprehensive manner, and classified various cercariae into 3 types namely Amphistome, Lophocercous, and Gastrostome. Labour (1911) made a survey of British marine cercariae and divided them into two main groups Gastrostoma and prosostoma. Cort (1914) made a survey of larval trematodes from north American fresh water snails. Faust(1919,1921,1922,1924,1926), Studied larval trematodes from south Africa and china. studied freshwater larval trematodes of marathwada. Gautam (1982) described nineteen cercariae along with ecological notes on jaykwadi project and Bedse (1986) described nineteen species from Nashik region of Maharashtra. The present paper deals with here as larval trematode cercaria chankapuriansis is report which is considered new to science fig,1, represents a composite reconstruction of the cercaria based on observations of numerous specimens.

MATERIAL AND METHOD:

Studies on cercariae commenced with collection of first intermediate hosts (snails). various species of snails *Melania tuberculata*, *M. Scabra*. *Viviparous bengalensis*, *Indoplanorbis exustus*, *Lymnea auriculria* and *lymnea acuminata* from different localities like Girna, Bhegu , Dhanoli , chankapur Nashik districts. were collected and individuals of different species were separated and kept in separate glass troughs with aquatic plants in the laboratory. Digestive glands & gonads were exposed from fully grown snails for studying rediae and cercariae. For the study of structural details in live condition vital stain Nile blue sulphate was used. Wide variety of specimens were examined and their figures drawn with the help of camera lucida. All measurements are in millimeters.

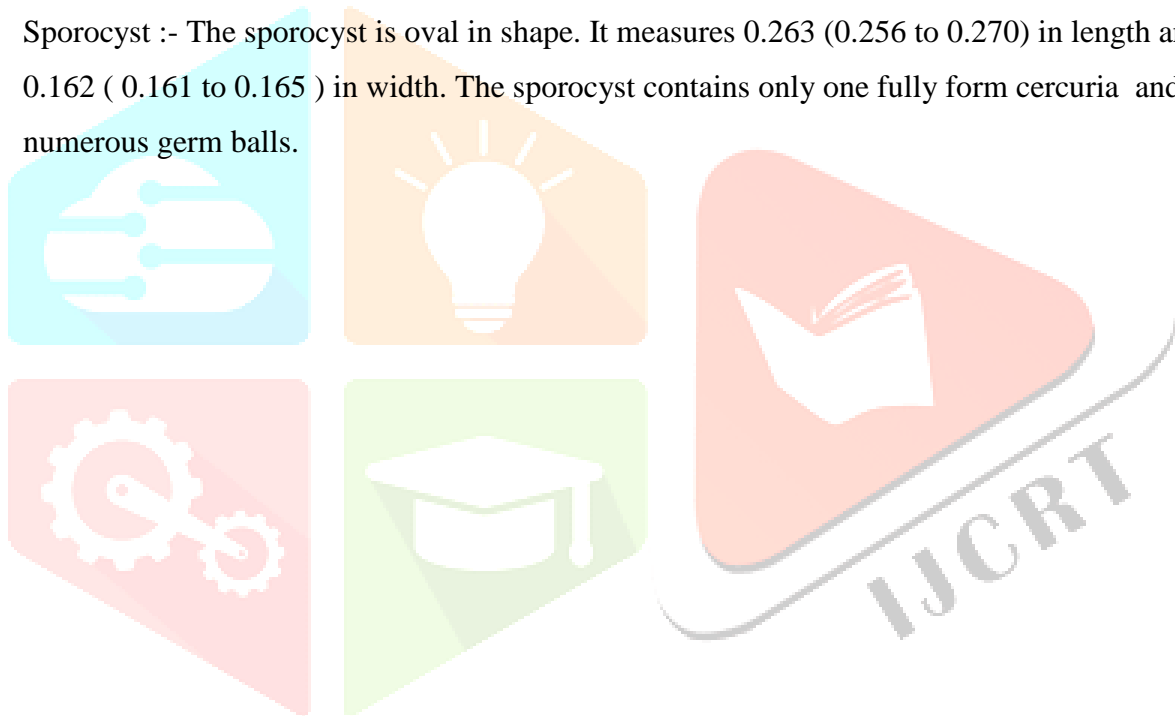
OBSERVATION AND RESULT:

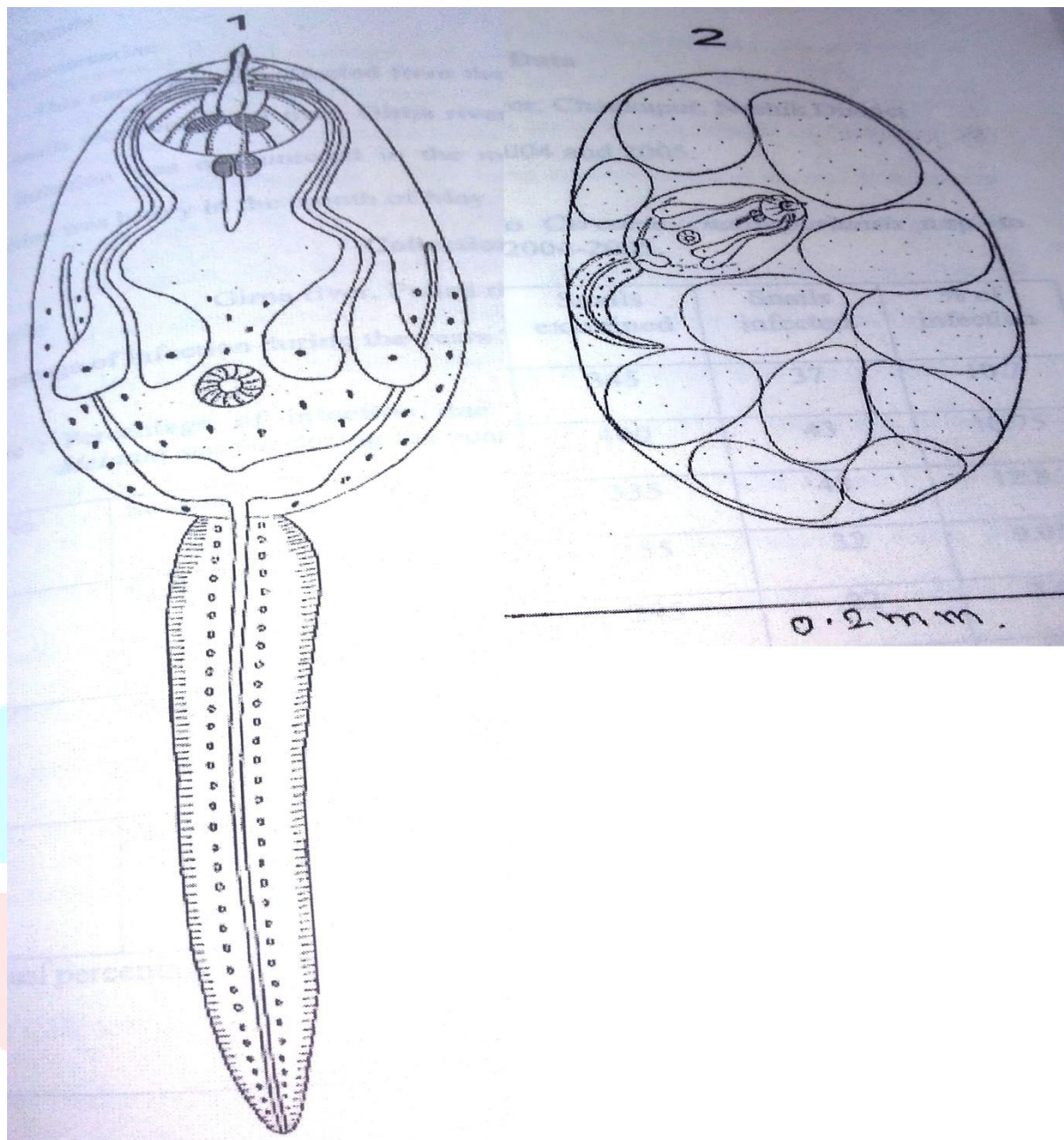
The cercaria was collected from the hepatopancreas of *Melania scabra*. The snails were collected from Girna river at village Kalwan Nashik district. It shows 18-19% infection was encountered in the month from February to June. The infection was heavy in the month of May.

The cercaria is oval in shape and greenish in colour. The general body surface is smooth. It is an active swimmer. It moves with lashing movements of tail. It also shows gyrating movements. The length of the cercaria is 0.255 (0.223 to 0.267) including tail. the main body measure 0.128 (0.120 to 0.134) in length and 0.073 (0.070 to 0.074) in width measured just posterior to the equatorial region. The tail measures 1.128(0.122 to 0.134) in length and 0.022 (0.021 to 0.023) in width. The ratio between the length of body and tail is 1:1. The oral sucker is ventral in position and rounded in shape. It measures 0.030 (0.029 to

0.031) in diameter. The stylet shows usual thickening behind the pointed anterior end . It measures 0.023 (0.022 to 0.024) in length. The oral sucker has two oval bodies lie at the base of the stylet i.e. Virgula organ. The ventral sucker is smaller than the oral sucker and located in the posterior half of the body. The mouth is subterminal in position and open into a pharynx. The latter measures 0.006 (0.005 to 0.007) in length and 0.007 (0.007 to 0.008) in width. It opens into the characteristic rhabdocoel gut measuring 0.014 (0.013 to 0.015) in length. There are two pairs of salivary glands extends to acetabular region. The gland cells are pyriform, nucleated and their narrow ducts ascend in zigzag way to open in the mouth. The excretory bladder is bilobed. The anterior excretory tubules run forward laterally upto level or posterior end of rhabdocoel gut. The caudal excretory tubule runs the entire length of the tail and opens at the tip.

Sporocyst :- The sporocyst is oval in shape. It measures 0.263 (0.256 to 0.270) in length and 0.162 (0.161 to 0.165) in width. The sporocyst contains only one fully form cercuria and numerous germ balls.





In distome leptocercous xiphidiocercaria described above, belong to cercariae virgulae group. As the cercaria possesses rhabdocoel gut it is included in para virgula group of cercariae virgulae .

There are four known species in para virgula subgroup namely *C. indicae* . xxx vii sewell, 1922, *C. indicae* XLII sewell, 1922 *C. indicae* XLIII sewell, 1922 and *C. chankapurina* Bedse, 1986.

The cercariae *chankapurinsis* . The common characters in the two species are body tail ratio, position of ventral and two pairs of salivary glands. The minor differences are the

diameters of oral/ ventral sucker ratio (1: 1,18 in the known species and 1:1 in the present form) .

However these differences do not warrant for creation Of a new species and hence present form is considered as *c. chankapurinsis* n.s.p.

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