Studies on Indian cercariae

I. Strigeoid cercariae*

A. S. Murty**

Department of Zoology, Andhra University, Waltair 530003

MS received 15 November 1974

(Communicated by Prof. P. N. Ganapati, F.A.Sc.)

ABSTRACT

Three new species of strigeoid cercariae, viz., Cercariae indicae LXIII, LXIV and LXV are described. C. indicae LXIII and LXIV are pharyngeate, distomate, longifurcate furcocercous cercariae with respectively six and eight pairs of flame cells in the body. C. indicae LXV is a pharyngeate, monostomate, longifurcate furcocercous cercaria with eight pairs of flame cells in the body. C. kumaunensis, a cyathocotylid cercaria, is reported from Andhra Pradesh also. Suppression of the various sub-groups of cyathocotylid cercariae, which neither have any taxonomic validity nor indicate any phylogenetic relationship, is advocated.

INTRODUCTION

During the course of work on larval forms and life cycles of digenetic trematodes from Andhra Pradesh, India, eight species of snails, viz., Melanoides tuberculatus (Müller), Indoplanorbis exustus (Deshayes), Amnicola travancorica (Benson), Lymnaea luteola Lamarck, L. acuminata Lamarck, Vivipara bengalensis (Lamarck), Pila globosa (Swainson) and Gyraulus convexiusculus (Hutton) were collected and studied for trematode infections. During a period of two and half years of study, 39 species of cercariae were recorded of which 23 were found to be as yet undescribed. The present communication deals with the description of four strigeoid cercariae (La Rue 1957), of which three appear to be new. The new species are named as Cercariae indicae with serial numbers in continuation of those given by Sewell (1922).

* Part of a Ph.D. Thesis approved by Andhra University, Waltair.

** Present address; Department of Zoology, Andhra University Postgraduate Centre, Guntur 522005.
Collection and transportation of snails from the field were followed by their isolation in the laboratory in suitable containers. The snails were maintained in the laboratory on boiled, dried and powdered leaves of *Ipomea pes-capre* (Linn.) Sweet.

Only freshly emerged living cercariae were used for the study of the morphological and structural details. The incidence of emergence as advocated by Miller (1936) and not the incidence of infection is given. Neutral red, Bismarck brown, Janus green and methylene blue were used as intravitam stains. Amphibian Ringer's solution, 0.9% saline and India ink were helpful in locating flame cells. Measurements are those of 10 heat killed cercariae, as recommended by Cable (1956), with the mean given in parentheses. Intramolluscan stages were measured under coverslip pressure, while alive. All measurements are in microns. Figures are camera lucida drawings.

**Observations**

*Strigeoid cercariae*

**Description of Cercariae**

*Cercariae indicae* LXIII sp. nov. (figures 1–4)

Furcocercous, body fusiform, broader than tail. Maximum width of body anterior to ventral sucker. Body spinose, spines at tip of anterior organ more prominent and directed forward. Following a circumoral spineless region, is an oral cap of 6 to 8 rows of concentrically arranged spines decreasing in size posteriad, extending up to two-fifths of length of the anterior organ. Following the oral cap of spines is a spineless region. Preacetabular body spination arranged in 7 to 8 rows. Orange yellow pigment patches lateral to pharynx, as well as anterior to ventral sucker. Tail longifurcate. Cuticle of the tail stem thrown into concentric rings. Eleven pairs of lateral bristles on tail stem. Numerous very small caudal bodies surrounding caudal excretory tubule, connected to cuticle by strands. Rami covered with spinulets. Ventral sucker post-equatorial. Three alternating rows of spines around opening of ventral sucker. Mouth subterminal; prepharynx small, pharynx muscular, oesophageal bifurcation preacetabular. Caeca undulating, extend up to the excretory bladder. Penetration glands two pairs, intercaecal and postacetabular, contents of glands finely granular. Excretory system mesostomate, bladder tripartite. Two ciliated patches in the main tubules. Anterior and posterior collecting tubules end in three flame cells each. Caudal excretory tubule bifur-