

STUDY OF A NEW TREMATODE PARASITE FOUND IN THE AMPHIBIA *RANA CYANOPHLYCTIS* (SCHIEIDER) FROM DISTRICT KANPUR

DR. ANUPAM YADAV*

ABSTRACT

This new species has been found in the stomach of Amphibia *Rana Cyanophlyctis* collected from a pond located in Rawatpur, District Kanpur. The experiment was carried out from the laboratory from September to October 2017. Out of these only two specimens were found infected with four trematode parasites.

KEYWORDS: *Rana Cyanophlyctis*, Stomach, *Tremiorchis Kanpurensis*.

INTRODUCTION

During the study of trematode parasite of Amphibia *Rana Cyanophlyctis* have been collected at the different sites of Rawatpur of district Kanpur (U.P.). About one hundred forty amphibia were collected and examined for the study of trematode infection. Out of these only two specimens were found infected with four trematode worms. The present form has been referred to the genus *Tremiorchis* Mehra and Negi, 1928. Many species have been described under the genus *Tremiorchis* Mehra and Negi 1928. In which some are Verma 1930 described *Tremiorchis Varani*. Agrawal 1966 described *Tremiorchis ranarum varani*, *Tremiorchis Mehrai*, *Tremiorchis vitellochfluentum*. Swarup and Jain 1976 described a new species *Tremiorchis Mathurachsis*. Kalaynkar and Palladwar 1977 described *Tremiorchis spinophlyctis*. *Tremiorchis Jamshedpurensis* Hasnain, 1989.

MATERIAL AND METHODS

The host amphibia were collected from river, ponds, and other water bodies of Kanpur District.

These host amphibia was kept in aquarium in the laboratory and then freshly killed, dissected and examined for study of trematode parasites.

After collection the parasites was thoroughly washed and studied alive. Parasite was fixed in 70% alcohol containing 5% glycerin, stained in acetic alaram carmine, differciated in acid water, dehydrated in graded series of alcohol cleared in clove oil and finally mounted in Canada balsum.

OBSERVATION

Body elongated, subcylindrical, spinose, narrow towards both ends of the body with subrounded margins, 1.74mm long and 0.2-0.6mm wide. Oral sucker subrounded, subterminal, 0.24×0.21mm in size. Prepharynx absent. Pharynx ovoid, muscular, 0.11mm in length and 0.12mm in breadth. Oesophagus short, tubular, 0.08×0.05mm in size. Intestinal caeca simple, asymmetrical extending almost up to the middle region of the body.

*Sneh Lata Gupta Memorial Degree College, Rasoolabad, Kanpur Dehat.

Correspondence E-mail Id: editor@eurekajournals.com

Ventral sucker subspherical, a little smaller than oral sucker lies, close to the right branch of intestinal caeca, 0.2×0.14 mm in size at 0.54 mm from anterior extremity.

Excretory bladder Y shaped and open externally by terminal excretory pore.

Genital pore present at right branch of intestinal caecum at 0.53mm from anterior extremity.

Testes two oval or subrounded, post ovarian lying on either side of uterus, nearly equal and diagonally present. Anterior testis lies below ovary, close to left side of the body, 0.25mm long and 0.09-0.2mm wide at 0.94mm from anterior extremity. Posterior testis present towards right side of the body, 0.26 × 0.2mm in size. Cirrus sac long, flask shaped, curved lying on the upper side of ventral sucker extending nearly up to ovary, 0.43mm long and 0.03-0.08mm wide. Vesicula seminalis, 1.38× 0.07-0.03mm in size. The space between parsprostatica and cirrus sac is filled with prostate gland cells.

Ovary subrounded, pretesticular present close to left branch of intestinal caeca, 0.11 × 0.1mm wide at 0.75mm from anterior extremity. Receptaculum seminalis oval shaped lies between ovary and anterior testis, 0.05 × 0.04mm in size. Vitellaria follicular small lateral in position, overlapping partly left branch of intestine caeca. Uterus coiled occupying the region behind acetabulum up to the posterior end of the body. Eggs numerous, small, non operculated, 0.0 12-0.02 ×0.01-0.0 18mm in size.

Systematic position

- Family :** Plagiorchiidae Ward, 1917
- Subfamily:** Plagiorchiinae Pratt, 1902
- Genus :** *Tremiorchis* (Mehra and Negi) 1928
- Species :** *Tremiorchis kanpurensis* (n.sp.)

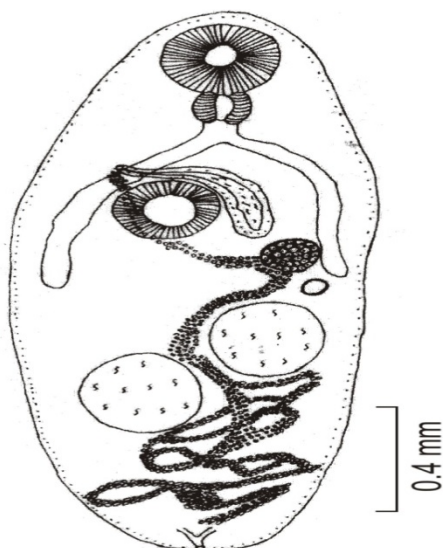


Figure 1.

Table 1. *Rana cyanophylctis*

Name of Parasite	Habitat	Total No. of parasites recorded during Sep. 2017 to Oct. 2017	Total No. of positive host	Month and year which infection was recorded
<i>Tremiorchis kanpurensis</i> (n.sp)	Stomach	4	2	Sept. 2017 to Oct. 2017

DISCUSSION

The present form belongs to genus *Tremiorchis* on the basis of similarities with other Verma 1930 described *T. Varani* from *Varanus bengalensis* Agarwal, 1966 restudied the tremiorchis and described *T. ranarum varani*, *T. mehrai*, *T. Vitellocnfluentum*. He recorded extension of caeca, position of testes, genital pore, ventral sucker and spines of the body and found that these are variable characters within the species. Swarup and Jain 1976 described a new species *T.mathuraensis* from *Rana cyanophlyctis* from Mathura and narrated the absence of prepharynx, massive uterine coils, position of genital pore and large elongated eggs. Kalyankar and palladwar 1977 had marked out *T. Spinophlyctis* from *Rana cyanophlyctis* from Aurangabad as a new species, on the basis of position of the testes and spines of the body.

The present form comes closer to *T. spinophlyctis* due to close resemblance in having spines on 2/3rd of body length, in oral sucker and testis not completely intercecal in both the species, but the new species also shows the differences with it in having the different position and size of ovary, in ventral sucker and in the relative shape and size of the various organs of the body.

On the basis of these differences it is logical to conclude that the present form deserves a status of new species with a specific name as *Tremiorchis kanpurensis* (n. sp.).

Host : *Rana cyanophlyctis* (Schneider)

Location : Stomach

Locality : Pond at Rawatpur in District Kanpur (U.P.)

REFERENCES

[1]. Agrawal, V. 1966. Three trematode

parasites of *Rana Cyanophlyctis* from Udaipur (Rajasthan). *Proc. Nat. Acad. Sci. India* 35, 530-533.

- [2]. Chakrabarty, S & I.B. Dutta 2006. Fauna of Nagaland. Trematoda: Digenea. *State Fauna Series: 12 (Part 12): 43-53.*
- [3]. Chakrabarty Shuvajit & Anindita Ghosh 2007. Fauna of Andhra Pradesh: Trematodes of Fishes, Amphibia & Reptiles. *State Fauna series: 5 (Part-4): 1-79.*
- [4]. Chakrabarty Shuvajit & Anindita Ghosh 2010. Fauna of Uttarakhand: Trematoda. *State Fauna Series, 18 (Part-3): 15-57.*
- [5]. Chakrabarty Shuvajit & Anindita Ghosh & Venkatraman K. 2011. On a new trematode parasite *Pleurogenoides sahransis* n.sp. (Lecithodendriidae: Pleurogeninae) from *Rana cyanophlyctis* of Sahran, Himachal Pradesh, India. *J. Interacad., 15 (4): 610-615.*
- [6]. Hasnain, M. 1989. On a new species of the genus *Tremiorchis* from the intestine of *Rana cyanophlyctis*. *Indian U. Helmith* 41, 78-82.
- [7]. Kalyankar, S.D. and Palladwar, V.D. 1997. On a new digenetic trematode of amphibian host *Rana cyanophlyctis* in Aurangabad. *Rev. Iber, Parasitol* 37, 319-327.
- [8]. Pandey B.P. 1937. On some digenetic trematodes from *Rana cyanophlyctis* Schneider. *Proc. Zool. Soc. Calcutta., 26: 15-19.*
- [9]. Swarup, M. and Jain, S.P. 1976 described *Tremiorchismathuraensis* n.sp. from *Rana cyanophlyctis* from Mathura. *Agra Univ. J. Res.* 25, 99-102.
- [10]. Verma, S.C. 1930. On the synonymy of the genera *Tremiorchis* Mehra & Negi, 1926 and *Centrovitus* Bhalerao, 1926, with a description of *Tremiorchis varanam* n.sp. *Parasitology*, 22: 302-312.