

OCCURRENCE OF *Orthocoelium spinicephalus* (TANDON, 1955) AND *Cotylophoron chauhani* (GUPTA AND GUPTA, 1972) IN GOATS (*Capra hircus*)*

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Amphistomes constitute an important group of trematodes in livestock especially in domestic ruminants, and several of them are recorded in India. An investigation which included collection of amphistomes from domestic ruminants slaughtered in some slaughter houses in Kerala and their specific identification was conducted. Two of the species of paramphistomes recorded from the rumen of the goats are described in this paper.

Materials and Methods

Amphistomes were collected from ruminants slaughtered at Trichur, Trivandrum, Mannuthy slaughter houses, Department of Veterinary Public Health of the College and also those animals brought for post-mortem at the Department of Pathology of the College.

The specimens were collected, flattened, fixed and stained in acetic alum carmin as per the standard technique.

Results and Discussion

Amphistomes recovered from rumen of goats (*Capra hircus*) were identified as *Paramphistomum epiclitum*, *P. cervi*, *Cotylophoron cotylophorum*, *C. indicum*, *C.*

chauhani, *Fiscoederius elongatus*, *F. cobaldi*, *Orthocoelium scoliocoelium*, *O. spinicephalus*, *Gastrothylax crumenifer* and *Calicophoron calicophorum*.

One of the amphistomes collected during the present study belonged to the genus *Cotylophoron* and closely agreed with the description by Gupta and Gupta (1972) and Dutt (1980) for *Cotylophoron chauhani* (Gupta and Gupta, 1972).

The second one belonged to the genus *Ceylonocotyle* now referred as *Orthocoelium* was identified as *O. spinicephalus* (Tandon 1955) on the basis of the key and the descriptions furnished by Mukherjee and Chauhan (1965).

***Orthocoelium spinicephalus* (Tandon, 1955)**

The body is conical in shape with a convex dorsal and concave ventral surface. The anterior extremity tapers while the posterior extremity is more or less rounded. The body is pink in colour while fresh and the anterior region is covered with several chitinous papillae. Five or six rows of small cuticular spines are found just beneath the mouth opening. The distance between the adjacent rows of spines is 0.283 mm (average).

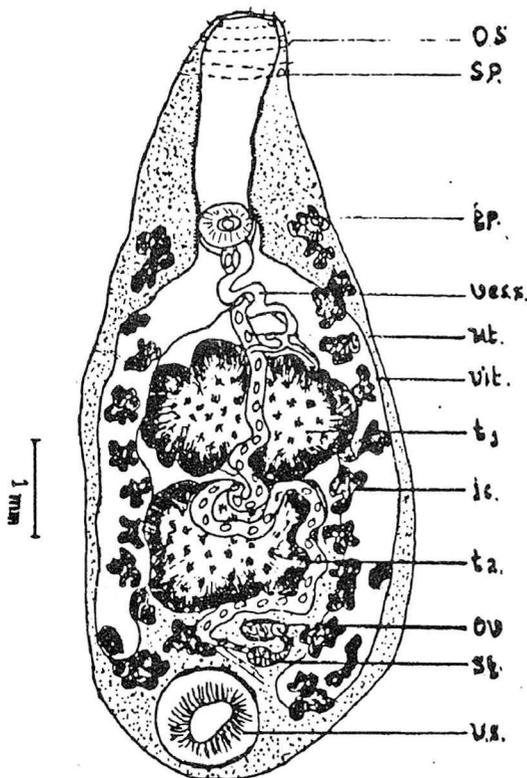
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The body measures 7.683 mm in length and 3.057 mm in breadth. The oral sucker measures 0.94 mm x 0.862 mm in size. The oesophagus is tube like, elongated measuring 2.195 mm in length. It bifurcates into two thick conspicuous intestinal caeca which terminate near the anterior margin of the acetabulum. The intestinal caeca are without any coiling or twisting and was uniform in shape and size.

The two testes which are tandem, with few lobes, lie in the middle of the body. They are comparatively larger in size with regard to the body size of the fluke. The common genital opening situated anterior to the intestinal bifurcation is surrounded by a muscular ring.

Fig. 1 *Orthocoelium spinicephalus*

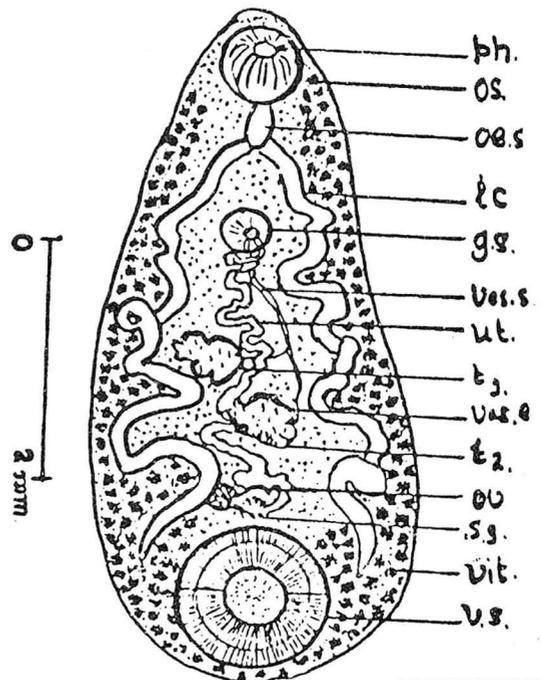


The vitellaria are well developed consisting of elongated follicular masses in 12-14 groups in each side. The transverse diameter of the acetabulum is 1.097 mm.

The eggs are oval in shape and measures 0.125 mm x 0.670 mm.

Cotylophoron chauhani (Gupta and Gupta, 1972)

Fig.2 *Cotylophoron chauhani*



The body is conical in shape and slightly curved ventrad. It measures 5.73 mm in length and 2.82 mm in breadth. The dorsoventral diameter is 1.26 mm.

The acetabulum measures 1.56 mm in diameter. Its relation to the length of the body is

1:3.67. The oesophagus is a small tube measuring 0.39 mm in length. Its relation to the body length is 1:14.70. The intestinal caeca are wavy forming some coils and terminate at the acetabular zone.

The testes are very small in size with regard to the body size of the fluke, lobed and diagonal in position.

The vitellaria are well developed, extending along the lateral sides of the body from the level of the middle of the pharynx to the posterior extremity of the acetabulum.

The uterus is simple, tube like, originates from the ootype, runs anteriorly in the medial field to open into the genital pore. The genital pore is situated at a distance of 1.89 mm from the anterior end and is surrounded by a well developed genital sucker. The diameter of the genital sucker is 0.32 mm and the relation between the length of the pharynx and the diameter of the genital sucker is 1:0.5.

Cotylophoron chauhani and *Orthocoelium spinicephalus* were not recorded from goats in India before and hence this report is a new host record for those two species on goats in this country.

Summary

Of many amphistomes collected from rumen of goats, two were identified as *Cotylophoron chauhani* Gupta and Gupta 1972 and *Orthocoelium spinicephalus* Tandon 1955. These two species have not been reported from goats in India before.

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References

- Dutt, S.C. (1980). Paramphistomes and paramphistomiasis of domestic ruminants in India. Joint Director, Communication Centre, Punjab Agri. University, Ludhiana. pp. 1-105.
- Gupta, N.K. and Gupa, P. (1972). *Cotylophoron chauhani* n. sp. from sheep at Ernakulam (South India). Res. Bull. Punjab University. **23**: 37-41.
- Mukherjee, R.P. and Chauhan, B.S. (1965). Studies on the trematode fauna of India. Part V.J. Zool. Soc. India. **17**: 150-225.
- Tandon, R.S. (1955). On a new amphistome *Paramphistomum spinicephalus* n.sp. from the rumen of buffalo. Indian J. Helminth. **7**: 35-40.

Abbreviations used in figures

g.p.	Genital pore
g.s	Genital sucker
i.c.	Intestinal caeca
oes.	Oesophagus
o.s.	Oral sucker
o.v.	Ovary
ph.	Pharynx
s.g.	Shell gland
t1	Anterior testis
t2	Posterior testis
ut.	Uterus
vas.e.	Vas efferens
ves.s.	Vesicula seminis
vit.	Vitellaria
v.s.	Ventral sucker