

## Ultrastructural Study of Surface Topography of Trematode Parasites of Domestic Buffalo (*Bubalus bubalis*) in Udaipur, India

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**Abstract :** Paramphistomiasis and fascioliasis diseases have been prevalent due to presence of trematode parasites in the rumen and liver of domestic buffalo (*Bubalus bubalis*) in Udaipur, India. The trematode parasites such as *Paramphistomum cervi*, *Gastrothylax crumenifer*, *Cotylophoron cotylophorum*, *Orthocoelium scoliocoelium*, *Fasciola hepatica* and *Fasciola gigantica* were collected from infected rumen and liver of the freshly slaughtered buffaloes (*Bubalus bubalis*) at local zoo abattoir in Udaipur. Live trematodes were washed in normal saline, fixed in 0.2M cacodylate fixative, post fixed in osmium tetroxide, dehydrated, dried, coated with gold sputter and observed under scanning electronic microscope (SEM). The surface tegument of *Paramphistomum cervi* was spineless with transverse folds, discontinuous with ridges and grooves. Two types of sensory papillae such as knob like and button shaped were also observed. The oral opening of *Cotylophoron cotylophorum* was surrounded by wrinkled and ridged tegument which formed concentric elevated rings. Tegument of *Cotylophoron cotylophorum* in acetabulum region was observed to be rough and bee-comb like structure. Genital sucker of this worm was surrounded by a tyre- shaped elevation of the tegument. *Orthocoelium scoliocoelium* showed circular and concentric rings of tegumental folds around the oral sucker. Genital pore had knob like papillae with radial tegumental folds. Surface topography of *Fasciola gigantica* and *Fasciola hepatica* were found to be rough due to occurrence of different types of spines, three types of sensory papillae, transverse folds and grooves. Oral and ventral suckers were spineless and covered with thick rims of transverse folds. Genital pore showed small scattered spines. Present research work would provide knowledge for ultrastructural characteristics of trematode parasites for chemotherapeutic measures and help us to evolve suitable strategy for the eradication of trematode parasites from the domestic buffalo (*Bubalus bubalis*).

**Keywords :** Domestic buffalo, tegument, trematode parasites, ultrastructure

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