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NOTE

DETECTION OF *ARTYFECHINOSTOMUM SUFRARTYFEX* - A ZONOTIC PARASITE FROM THE SMALL INDIAN MONGOOSE *HERPESOTES AUROPUNCTATUS* (MAMMALIA: CARNIVORA: HERPESTIDAE) IN JAMMU & KASHMIR, INDIA

Sanku Borkataki, Pankaj Goswami, Rajesh Katoch, Sahil Kumar & Pratiksha Raghuvanshi

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The Small Indian Mongoose *Herpestes auropunctatus* is a small animal with short legs, generally recorded in northern India from Jammu & Kashmir to the eastern part of the country involving Bengal, Odisha, Assam and up to Myanmar. It is a voracious and opportunistic predator of a variety of native species and livestock (Hays & Conant 2007). It mostly feeds on insect, crabs, fishes, frogs, earthworms, lizards, rodents, spiders, scorpions, snakes and even fruits. It controls the snake populations in agricultural areas, but also acts as a vector and reservoir of rabies and leptospirosis.

The genus *Artyfechinostomum* Lane, 1915, with type species *A. sufrartyfex* Lane, 1915 is prevalent in India and the parasite was first reported from an Indian Assamese girl and gained much importance because of its zoonotic significance. In India, the occurrence of *A. sufrartyfex* has been reported from the states of Andhra Pradesh, Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal (Beaver et al. 1984; Anonymous 2005). This trematode parasite commonly occurs in pigs and infection is also recorded in dogs and cats.

Incidentally, a Small Indian Mongoose was found dead in the veterinary college campus, SKUAST-Jammu, and was brought for post-mortem examination (Image 1). The carcass was dissected systematically organ wise and searched for the presence of any endoparasites. The small intestine revealed a few live trematodes of similar type, which showed movement under the dissecting microscope. The trematodes were washed and fixed in hot 10% formalin. The parasites were further subjected to Borax-carmin (alcoholic) staining for morphometric studies (Soulsby 1982). After fixation,

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the parasites were thoroughly washed with running tap water overnight in a beaker, covering it with a muslin cloth for complete removal of formalin. The parasites were gradually dehydrated by passing through ascending grades of alcohol 30%, 50% and 70% for 15–20 min each. Then the parasites were kept in a borax-carmin alcoholic stain overnight. The parasites were then washed with 70% alcohol and de-staining was done with 1% acid alcohol followed by dehydration with ascending grades of alcohol. After complete dehydration, the parasites were cleared with xylol, and finally mounting was done with DPX. For morphometric identification, the parasites were examined under 10X and micrometry was also done to take the measurement of the parasites. Grossly the flukes were elongated tapering anteriorly with a mean length 6.2–9 mm and width 2–3.2 mm (Image 2). On microscopic examination, the cuticle was armed with small spines. Rounded oral sucker with 43 collar spines and five corner spines on each side of the oral sucker was observed (Image 3). The adult parasites

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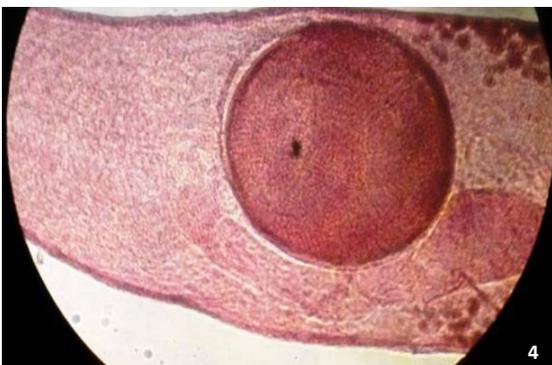
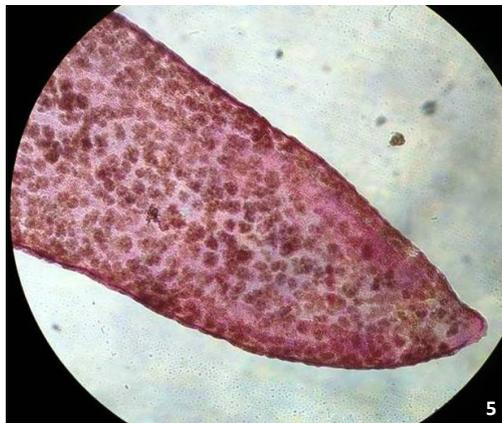
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Image 1. Dead Small Indian Mongoose

normally have 43 collar spines whereas cerceria of the parasite have been reported to contain 43–45 spines (Mohandas 1971). A ventral sucker was present in the one fourth position of the parasite (Image 4) and genital opening at the bifurcation of the intestine. The intestine was extending up to posterior end of the parasite. Well developed vitellaria are follicular in type and extending from the posterior part of the lateral field of ventral sucker to the posterior end of the parasite and extending medially also up to the end (Image 5). Gonads were present in last the third quarter of the body. Ovary was pre-testicular and rounded (Image 6). Testes were highly



Images 2–7. 2 - Morphology of adult *Artyfechinostomum sufrartyfex*; 3 - Oral sucker with collar spines of *A. sufrartyfex*; 4 - Ventral sucker of *A. sufrartyfex*; 5 - Follicular vitellaria extending up to posterior end of *A. sufrartyfex*; 6 - Cirrus sac and ovary of *A. sufrartyfex*; 7 - Highly lobed testes of *A. sufrartyfex*

lobed and tandem in position (Image 7). Premavati & Pande (1974) reported that the extent of lobulation varies depending upon the maturity of parasite and involvement of the definitive host. The posterior extent of the cirrus sac developed beyond the ventral sucker. Both ends of the parasite anterior and posterior were narrow and tapering. Based on the above morphological features the fluke was identified as *Artyfechinostomum sufrartyfex* (Yamaguti, 1958). Human beings acquire infection from improperly cooked or uncooked pork, fish, prawn, crabs, mollusks and tadpoles (Adams & Motarjemi 1999). The presence of this parasite is also reported from dog and cat, white rat, Honey Badger and Indian Civet (Srivastava 1964; Deodhar et al. 1967; Dubey et al. 1969).

The present communication puts on record the new host, wild Mongoose for the trematode, *A. sufrartyfex*, which has public health significance.

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