

**PREVALENCE OF ZONOTIC BLOOD PROTOZOANS AND
GASTROINTESTINAL HELMINTHS IN RATS (GENUS *RATTUS*) AND MICE
(GENUS *MUS*) IN SRI LANKA**

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Order Rodentia is the most numerous of all the branches of the mammalian family tree. In Sri Lanka, this order includes all the squirrels, gerbils, rats and mice and the porcupines. All rats and mice belong to subfamily Murinae of the family Muridae. Two genera of subfamily Murinae namely genus *Rattus* and genus *Mus* commonly known as domestic rats and mice, are in very close contact with man. Rodents are known to transmit pathogens to human as well as act as reservoirs for other pathogens. Among the pathogens parasitic infection is one of the major zoonotic infections which transmitted from rodents to human. This study has been carried out to investigate zoono-parasitic infection in domestic rats and mice in Sri Lanka.

During this study 42 domestic rats and mice were live-captured from April 2005 to July 2005 from three districts of the country namely Anuradhapura (Anuradhapura and Kekirawa- rural areas), Ampara (Dehiattakandiya- a rural area) and Kandy (Peradeniya- an urban area) and were anaesthetized using diethyl ether. Alimentary tract and associated organs of each rat/mice were removed and helminths were collected and identified according to microscopic morphology. Faeces were collected directly from the rectum and eggs were identified using salt flotation technique. Blood was collected directly from the heart and blood smears were examined for haemo- protozoans. Sera were separated and screened for toxoplasmosis by modified agglutination test.

From a total of 42 rats and mice 36 of them (85.71%) had at least one of the zoonotic parasites namely *Babesia microti* (14.3%), *Trypanosoma* spp (2.3%), *Toxoplasma gondii* (35%), *Hymenolepis nana* and *Hymenolepis diminuta* (38%) and *Moniliformis moniliformis* (19%). Cysticercus cyst of *Taenia* spp were detected in the liver from 13 samples (30%).

This is the first study on zoonoparasitic infections in rodents in Sri Lanka and it has been shown that *Hymenolepis* spp, *Toxoplasma gondii*, and *Moniliformis moniliformis* infections with high prevalence. Further, this is the first report on *M. moniliformis* in Sri Lanka and there is no evidence for the presence of *Moniliformis moniliformis* in Mahiyanganaya and Kekirawa. The majority of rodents that have been infected with intermediate stage of *Taenia taeniaformis* was found from the Peradeniya area and only one infected rat has found in other areas. There was no evidence on geographical distribution of zoonotic tape worms and *Toxoplasma gondii*.

This is a preliminary investigation on zoonoparasitic infection in rats and mice in Sri Lanka. Therefore further investigations with more samples are required in order to assess, the impact of rodent on transmission of zoonotic diseases among the human and to develop strategic control and preventive measures.