

## UNRAVELING THE ROLE OF MURINE RODENTS AS POTENTIAL RESERVOIR OF INTESTINAL PARASITIC ZOONOSES: A PARASITOLOGICAL SURVEY IN DHAKA METROPOLITAN AREA

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### Executive Summary

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Rodents are common pests that transmit various deadly pathogens to humans. Their predatory and depredatory habits have a noticeable impact on human health through their role in the transmission of both human and domestic animal diseases worldwide. The study was conducted during the period from July, 2017 to June, 2018 in different ecological niches in Dhaka city, Bangladesh. The objective of the study was to observe the prevalence and population dynamics of intestinal parasites in murine rodents as well as their detail morphological identification. A total of 70 rodents namely *Bandicota bengalensis* (20), *Rattus rattus* (15), *Rattus norvegicus* (25) and *Mus musculus* (10) were live-captured from houses in the slum areas (20), stationary shops (20), residential buildings (15) and rice field (15), and brought to the laboratory for dissection. The helminths were collected from the intestinal content, washed and preserved in 70% ethanol for morphological observation following the keys and description of Soulsby, 1982. The overall prevalence of helminth infection was 71.43%. The highest prevalence was found in *R. norvegicus* (84%), followed by *B. bengalensis* (75%), *R. rattus* (66.66%) and *M. musculus* (40%). Among different areas of Dhaka city, the highest prevalence recorded in slum areas (85%). Out of 50 rodents 36 (72%) had mixed endoparasitic infection whereas only 14 (28%) rodents had single infection. The prevalence of endoparasitic infection in male (66%) rodents was higher than that of female (34%). The parasites detected from the rodents were *Heterakis spumosa* (60%), *Hymenolepis diminuta* (47.14%), *Moniliformis moniliformis* (42.85%), *Taenia taeniaeformis* (35%) and *Gongylonema neoplasticum* (34.28%). To the best of our knowledge, *G. neoplasticum* is going to be reported for the first time from rodents in Bangladesh. Except *H. spumosa*, all the parasites recovered have public health significance. Therefore, proper attention needs to be paid for the prevention of rodent borne zoonosis through the control of rodents.

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