

**FIRST RECORD OF *MASTOPHORUS MURIS* (GMELIN, 1790) (NEMATODA: SPIRUROIDEA) IN *MUS MUSCULUS* FROM THE SUBURBAN AREA OF BELGRADE, SERBIA. Olivera<sup>1</sup> Vukićević-Radić, D. Kataranovski<sup>1,2</sup>, and Milena Kataranovski<sup>1,2</sup>. <sup>1</sup>Siniša Stanković Institute for Biological Research, Bulevar despota Stefana 142, 11060 Belgrade, Serbia; <sup>2</sup>Faculty of Biology, University of Belgrade, Studentski Trg 16, 11000 Belgrade, Serbia**

Key words: Nematoda, Spiruroidea, *Mastophorus muris*, *Mus musculus*, Serbia

UDC 595.132 (497.11 Beograd)  
576.89 : 599.323.4 (497.111)

This communication presents the first documented data on the parasitic helminth fauna of the house mouse in the Belgrade area. The house mouse, *Mus musculus* (Linnaeus, 1758), is a cosmopolitan synanthropic rodent (Reeves, 2005). Its life-strategy (high reproductive potential, short reproductive period, and adaptation to extreme environmental conditions) makes for high ecological fitness of this species and accounts for its wide distribution and abundance. The paucity of data on endoparasites of the house mouse might be explained by the fact that it is not common in natural habitats where wild rodents are usually caught.

The paper contains the first record of the species *Mastophorus muris* (Gmelin, 1790) in the house mouse in Serbia (Figs. 1 and 1A). *M. muris* is a parasitic nematode of rodents. The life cycle of this species involves several insect (e.g., Coleoptera) species as intermediate hosts (Kisilewska, 1970). The given parasite is often found in rodent species such as *Clethrionomys rutilus*, *Clethrionomys glareolus*, *Sigmodon hispidus*, *Rattus rattus*, *R. norvegicus*, *R. exulans*, and *Mus musculus*. It has been collected from the northern temperate climatic region as far north as Poland (Behnke et al., 2001), Alaska (Bangs, 1985), and Finland

(Tenora et al., 1983), although there are also records from warmer climates, e.g., Tel Aviv and Haifa (Wertheim, 1962), Florida (Kinsella, 1974), and New Zealand (Miller and Miller, 1995). In addition to seven other rodent hosts, Mazeika et al. (2003) found this parasitic species in a new host, the house mouse, in Lithuania.

Specimens of house mice were captured using Sherman live traps and details of trapping, locality, body length (head and the body), and sex were noted. Trapping was carried out from April of 2004 to November of 2005 in the village of Jabuka, 15 km northeast of Belgrade. The digestive tracts (stomach, small intestine, cecum, and colon) were examined for helminths and analyzed under a stereoscopic microscope. Identifications of helminths were based on the keys to helminths of rodents (1978, 1979) and descriptions given by Genov (1984). The terms prevalence, abundance, and intensity are used as defined by Bush et al. (1997). Parasite prevalence for different helminth species was tested using the Mann-Whitney test (U), the ANOVA test, and Fisher's exact test.

A total of 223 wild house mice (*Mus musculus* Linnaeus, 1758) were collected in the suburban area of Belgrade. Parasite infections were found in 70.4% of the total sample (85 males, 72 females). The most common nematode species were *Heligmosomoides polygyrus* (prevalence of 43.5%) and *Aspicularis tetraaptera* (prevalence of 16.6%). The species *Heterakis spumosa*, *Gongilonema* sp., *Mastophorus muris*, *Trichuris muris*, *Trichocephalus muris*, and *Syphacia* sp. showed prevalence <9%, and they were not taken for further statistical analysis of factors affecting the prevalence and abundance of infection. The species *M. muris* was detected in the stomach. Females were 30.00 mm long and 2.00 mm wide, males 23.30 mm long and 0.80 mm wide. According to Genov (1984), the length of females is 30.15–47.3 mm and width 1.47–1.63 mm, while males measure 13.06–22.21 mm in length and 0.34–0.80 mm in width. According to his guide to the Helminths of Rodents (Genov, 1979), the length of females is 17.5–47.0 mm and width is 0.34–2 mm, while males measure 12.5–25.00 mm in length 0.28–0.69 mm in width. In our sample, seven male mice (prevalence of 1.3%) were infected with *M. muris*. Genov (1984) noted the presence of *M. muris* in *M. muscu-*



Fig. 1. Ventral view of male of *Mastophorus muris*. Magnification x 80.



Fig. 1. A. A typical egg of *Mastophorus muris*. Magnification x 80.

*lus* with higher prevalence (3.02%). Milazzo et al. (2003) examined 44 adult specimens of *M. musculus* in Sicily and Corsica and found the prevalence of *M. muris* to be 11.36%.

In comparison with other parasites, *Gongylonema sp.* and *Mastophorus muris* are the only helminths whose development requires the presence of an intermediate host. In order to explain the presence or absence of certain helminth species in populations of the house mouse, detailed observation of the hosts, examination of the qualitative composition of their foods, and study of their ectoparasites are needed.

*Acknowledgements:* I am very grateful to Carolina Frey and Dejan Konjević for help in determination of the given species. This study was supported by the Ministry of Science and Environment protection of the Republic of Serbia (Grant # 143038).

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