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SMALL RODENT SPECIES (MAMMALIA: RODENTIA) – CARRIERS OF LEPTOSPIROSIS

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Introduction. In the Republic of Moldova, small rodents are represented by 8 species from the family Cricetidae and 8 from the family Muridae, of which 2 species (*Cricetus cricetus* and *Micromys minutus*) are rare and legally protected. Eleven species are widespread across various ecosystems, where they achieve high population densities and possess a high adaptive potential to anthropogenic and climatic changes. Thus, the small rodents represent an important link in the circulation of many pathogens such as Leptospirosis that is recognized as an emerging global public health problem, being addressed in an interdisciplinary context related to biomedicine, ecology, veterinary medicine, public health, in social and economic aspects.

Purpose of the study. This study aimed to characterize the ecological features of small rodents with significant epidemiological importance and their role in the formation and maintenance of leptospirosis foci.

Material and methods. The study was conducted from 2020 to 2024 across different seasons in various ecosystems of the republic. Small rodents were captured using live and snap traps, following standard methodologies. Each trapping session lasted five days. Traps were set in lines or randomly, with 50 to 100 traps placed at 5-meter intervals and baited with pieces of bread crust soaked in unrefined sunflower oil.

Results. During the study period, 8 small mammal species were identified: *Mus musculus*, *M. spicilegus*, *Apodemus sylvaticus*, *A. flavicollis*, *A. uralensis*, *A. agrarius*, *Clethrionomys glareolus*, and *Microtus* spp. Species of the *Apodemus* genus were dominant, comprising over 70% of all collected individuals. High rates of *Leptospira* spp. infection were detected specifically in *A. agrarius*, *A. sylvaticus*, and *A. flavicollis*. No human leptospirosis cases were registered in 2020–2021. However, from 2022 to 2024, 25 cases were reported in the Republic of Moldova. In 2022, 3 cases were diagnosed in Briceni, Drochia, and Slobozia districts. In 2023, 6 cases were recorded: 4 in Glodeni district, one in Ocniţa district, and one in Chişinău. In 2024, 16 cases were reported: 5 in Drochia, 3 in Glodeni, 2 in Chişinău, and one each in Fălești, Florești, Ocniţa, Orhei, Râșcani, and Telenești districts. Four death cases occurred in Ocniţa, Fălești, and Drochia, the cause being delay in seeking medical assistance.

Conclusions. Species of the *Apodemus* genus are dominant across various terrestrial habitats. They hold the highest proportion in small rodent communities, are widely distributed throughout all studied ecosystems, and exhibit high adaptive potential. The species *A. flavicollis*, *A. agrarius*, and *A. sylvaticus* are of particular epidemiological importance due to their high levels of *Leptospira* spp. carriage and their specific ecological traits. Human leptospirosis cases were reported primarily in the northern and central regions of the republic.

Keywords: *small rodents; leptospirosis foci; Apodemus genus. ywords: small rodents, Apodemus genus, Leptospirosis, Republic of Moldova.*

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