Medical University
Plovdiv

University of Plovdiv
"Paisii Hilendarski"

INTERNATIONAL CONFERENCE ONE HEALTH AND ZOOLOGY

PROGRAM & ABSTRACTS

September 27–29, 2023
Hissarya, Bulgaria

International Conference One Health and Zoology
Program & Abstracts
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Published by Medical University of Plovdiv, University Publishing Center

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First record of *Heligmosomoides neopolygyrus* in Serbia

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Abstract: Heligmosomoides nematodes are frequent intestinal parasites of rodents, primarily mice and voles. The common species *H. polygyrus* is closely related to the highly prevalent nematodes infecting humans. It is assumed that the Asian species *H. neopolygyrus* arrived in Europe with its host *Apodemus agrarius*, and the presence of this nematode was first recorded in a striped field mouse in Poland in 2014. We present a preliminary report of two *A. agrarius* from the Special Nature Reserve Koviljsko-petrovaradinski rit and Kameničko Island in Serbia, which were found to be infected with *H. neopolygyrus*. Current research is based on phylogenetic analyses of cyt b sequences of Heligmosomoides isolated from Apodemus species. Preliminary results showed clustering of sequences isolates from A. agrarius from this study with those of H. neopolygyrus from *A. agrarius* from Poland, but also with *H. polygyrus* from *A. agrarius* (Poland) and *A. uralensis* (Russia). Due to the great morphological similarities of *H. polygyrus* and *H. neopolygyrus*, some specimens may have previously been misidentified as *H. polygyrus*, which is why the presence of *H. neopolygyrus* on the European continent was only recently established. The most significant morphological difference between the two species is seen in the proximal section of external dorsal rays of the male's copulatory bursa, which is filiform in *H. neopolygyrus* and swollen in *H. polygyrus*. The use of molecular markers may overcome the problems of morphological misidentification in the future. Considering the biology and ecology of other *Apodemus* species, as well as voles, the presence of *H. neopolygyrus* can be expected in these hosts as well.

Key words: heligmosomids, cryptic species, striped field mouse, molecular analysis, morphology

Acknowledgements: The authors gratefully acknowledge the financial support of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia (Grant No. 451-03-47/2023-01/200125).