

POSTER PRESENTATION

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Rodents as reservoirs of human pathogens in Bulgaria

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Small mammals are reservoirs of various human pathogens. The aim of this work was to investigate infections with human pathogens in rodents trapped in different regions of Bulgaria. A total of 284 rodents were investigated by PCR for detection of the flagellin gene of borreliae within *Borrelia burgdorferi* sensu lato complex, *ankA* gene of *Anaplasma phagocytophilum* and nucleoprotein gene of hantavirus Dobrava - conventional nested RT-PCR and Real Time PCR with TaqMan probe. *B. burgdorferi* was detected in 64/284 (22.5%) of the investigated rodents by PCR. Of them, 41 samples originated from *Apodemus flavicollis*, 20 from *A. agrarius*, and 3 from *A. sylvaticus*. Overall, 33 of the investigated 284 rodents were infected with *Anaplasma phagocytophilum* (11.6%) - 11 *Apodemus flavicollis* (infectivity rate 8.6% of the 128 investigated), 13 *Apodemus agrarius* (infectivity rate 13.5% of the 96 tested), and 1 *Apodemus sylvaticus* (infectivity rate 9% of the 11 tested). Hantavirus RNA was detected in 9 of the rodents. Only Dobrava-Belgrade virus but not Puumala or Saaremaa virus was detected. Almost all infected rodents were *A. flavicollis* (8/9 PCR-positive rodents). Rodents are important reservoirs of human pathogens. In this study, active infection in rodents was confirmed by detection of microorganism's genome. Remarkably, a high number of rodents from genus *Apodemus* were infected with borreliae. The high rate of detection of *A. phagocytophilum* in rodents from *A. agrarius* species suggested that this species might serve as major reservoir of human anaplasmosis in Bulgaria. Mainly infected with hantaviruses were *A. flavicollis* mice, known as reservoir of Dobrava hantavirus but hantavirus infections were

detected also in *A. agrarius* mice. Medical authorities should be aware of the risk for humans.

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