

## **Biomonitoring of haemoparasites in sylvatic rodents from the Mazury Lake District region of Poland**

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Rodents, members of the most abundant and diversified mammalian order Rodentia, can pose a significant threat to the health of humans, livestock, and wildlife because they are hosts for a wide range of pathogens and, in some cases, constitute important reservoir hosts for life-threatening zoonoses. Haemoparasites are vector-borne pathogens (VBP) that may affect animal and human health. The study aimed to monitor the seroprevalence of **haemoparasites** in the six abundant vole species found in the region (*Myodes glareolus*, *Microtus arvalis*, *Microtus agrestis*, and *Alexandromys oeconomicus*, *Apodemus sylvaticus*, *Apodemus agrarius*, *Apodemus flavicolis*). Rodents (n=78) were sampled in September 2020. Trapping was carried out for five consecutive days in study sites in the forest and grasslands in NE Poland. Blood samples were collected directly from the heart by cardiac puncture using a sterile 1.5 mL syringe immediately after death from over-exposure to an anaesthetic. Blood smears were air-dried, fixed in absolute methanol, stained for 45 min in Giemsa's stain (diluted 1 : 3) in buffer at pH 7.2. Each smear was examined under oil immersion using Zeiss Axio Lab 5 microscope). We found three blood parasites within the studied population. The most prevalent species was *Mycoplasma* spp. 35.9% [25.1-48.1], followed by *Trypanosoma* spp. = 6.4% [2.3-15.3] and *Babesia microti* = 1.3% [0.1-7.9]. We believe that identifying rodent species that can serve as reservoirs of pathogens and zoonotic diseases and predicting regions, where new outbreaks are most likely to happen are crucial steps in preventing and minimizing the extent of zoonotic diseases in humans.

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