

## BORRELIA SPECIES COMPOSITION DETECTED IN AUTOCHTHONOUS SPECIES OF TICKS OF IXODIDAE FAMILY IN KHARKIV REGION

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**Introduction.** *Ixodidae* ticks (*Parasitiformes:Ixodidae*) are temporary ectoparasites, obligate bloodsucking arthropods, as well as carriers and vectors of many pathogens of viral, rickettsial, bacterial, mycotic, protozoal diseases of animals and humans. Lyme borreliosis, one of the dangerous diseases is a common natural focal vector-borne disease caused by the spirochete of the genus *Borrelia*. The main carriers are ticks of the species complex *Ixodes* spp. (*I. persulcatus*, *I. ricinus* etc.).

**Goal of the work.** To establish the *Borrelia* species composition in *Ixodides* in Kharkiv region.

**Methods.** The study was carried out in period 2019-2020. *Ixodidae* ticks collected in the natural biotopes of Kharkiv Region using flagging method. Identification up to the species has carried out in the scientific laboratory at the Department of Parasitology of Kharkiv State ZooVeterinary Academy using MBS-1. *Ixodides* were tested by qPCR to determine *Borrelia* species in the Molecular diagnostics and cell biotechnology laboratory “VIROLA” of Kharkiv Medical Academy of Postgraduate Education.

**Results.** Three *Borrelia* species were identified of the total number of *Ixodes ricinus*, and *Dermacentor reticulatus*, studied ticks, which are the autochthonous species in the Kharkiv Region. The infestation of *Ixodidae* ticks with pathogen *Borrelia afzellii* was 24.2%, *Borrelia garinii* was 8.4%, which are part of the genocomplex *Borrelia burgdorffery* s.l. but infestation of *Ixodidae* ticks with pathogen *Borrelia miyamotoi* was 1.1%. Infection of ticks *D. reticulatus* with *Borrelia* was 18.8%, by species: *B. afzellii* – 12.5%, *B. garinii* – 6.3%. *I. ricinus* ticks were infected by pathogen *Borrelia* at the level of 37.6%, by species: *B. afzellii* – 26.6%, *B. garinii* – 9.4%, *B. miyamotoi* – 1.6%. The infection of female ticks was higher than that of males – 16.8% and 10.5%, respectively. Infection of *I. ricinus* nymphs was 33.3%, by species: *B. afzellii* – 26.7%, *B. garinii* – 6.6%. *B. afzellii* was found in ticks 3 times more often than *B. garinii*.

**Conclusion.** *Borrelia* Species – *B. afzelli* and *B. garinii* (24.2% and 8.4%, respectively) were found in the autochthonous species of *Ixodidae* ticks *I. ricinus* and *D. reticulatus* in the Kharkiv Region. Species *B. miyamotoi* was detected only in ticks *I. ricinus* – 1.1%. The issue of *Borrelia* circulation among all links in the epizootological chain, namely the identification of reservoir hosts as carriers of *Borrelia*, requires more detail studies.