



International Symposium on Tick-Borne Pathogens and Disease

**ITPD 2019 Vienna, Austria
8 to 11 September 2019**

Under the auspices of the Austrian Society for Hygiene,
Microbiology and Preventive Medicine (ÖGHMP)

Organisers

ÖGHMP and ESGBOR

Venue

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Preliminary Programme



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Österreichische Gesellschaft
für Hygiene, Mikrobiologie und
Präventivmedizin

ÖGHMP

Austrian Society for Hygiene, Microbiology and
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and



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ESCMID Study Group for Lyme Borreliosis



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Lyme borreliosis spirochaetes in red foxes (*Vulpes vulpes*) from Serbia

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The first human case of Lyme borreliosis (LB) in Serbia was recorded in 1987. Since then, it has been registered with annual incidences of 5.61-13.67/100.000 inhabitants. Previous studies revealed high diversity of *Borrelia burgdorferi* sensu lato in *Ixodes ricinus* ticks from Serbia, with *B. lusitaniae* found to be the most dominant species, followed by *B. burgdorferi* sensu stricto, *B. afzelii*, *B. garinii*, *B. valaisiana* and *B. bavariensis*. However, except from isolation of two *Borrelia* strains from yellow-necked mouse (*Apodemus flavicollis*), there is no data on vertebrate reservoirs involved in enzootic cycles of LB spirochaetes in Serbia. It has been previously documented that red foxes (*Vulpes vulpes*) may serve as competent reservoirs for *B. burgdorferi* s. l. in Europe. Distribution range of foxes covers the whole territory of Serbia. Foxes are the most abundant medium-sized canids, often present in the vicinity of human settlements and domestic animals. Moreover, they are frequently infested with various tick species. All this impose the need to explore the role of foxes in enzootic cycles of borrelia in Serbia. In total, 129 legally hunted red foxes from the 14 localities in Serbia, were included in the study. Spleen samples were collected over a period of seven years (2010-2016). Conventional PCR and sequencing were used for the detection and characterization of *B. burgdorferi* s.l. Presence of DNA of *Borrelia* was detected in 7 samples (5.4%) originated from 2/73 (2.7%) male and 5/56 (8.9%) female animals collected from 3 localities. Sequencing of 5S-23S rRNA intergenic spacer confirmed three species of *B. burgdorferi* s. l., namely: *B. burgdorferi* s. s., *B. lusitaniae* and *B. garinii*. Prevalence detected in our study (5.4%) is in the range of previously published data for Europe, however, it is the first record of *Borrelia* spirochetes in spleen samples of red foxes.