

## Detection of *Borrelia burgdorferi* sensu lato, *Anaplasma phagocytophilum* and Spotted Fever Group Rickettsiae in ticks from the region of Sofia, Bulgaria (Acari: Parasitiformes: Ixodidae)

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**Abstract:** The aim of this study is to determine the prevalence of a number of bacterial pathogens in ticks from Sofia region. The data on prevalence for *Borrelia*, *Anaplasma* and *Rickettsia* in ticks can be used to assess the risk for human health of tick-borne diseases. Up to now, only a few surveys on the presence of *Borrelia* and *Anaplasma* in ticks from Bulgaria exist. Detection of *Rickettsia* spp. in ticks corresponds to the risk of tick-borne rickettsioses, because of existence of pathogenic and apathogenic rickettsiae. The high prevalence of tick-borne pathogens found revealed many cases of co-infections. Our data showed that about half of the males and one third of the tick females were simultaneously infected with two or three pathogens. Furthermore, the risk for humans to be infected becomes very high after a long stay of the tick in the skin.

**Key words:** *Ixodes*, *Rickettsia* spp., tick-borne diseases, co-infections