

Abstract

Surveillance of ticks & tick-borne diseases in Europe: *Ixodes ricinus* transmitted pathogens

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Tick borne diseases represent an increasing public health threat in Europe. The tick *Ixodes ricinus* is a competent vector for a number of zoonotic pathogens which include bacterial infection such as *Borrelia burgdorferi* sensu lato and *Anaplasma phagocytophilum* among others. Within the framework of an FP7 funded project (EDENext, WP TBD, see full contributors list at <https://www.edenext.eu/>) the acarological hazard related to these pathogens has been assessed in five European countries (Italy, Germany, Czech Republic, Slovakia, Hungary) considering variation in habitat types and anthropisation level (agricultural, urban and natural habitat). Variation of the spatial hazard was related to climatic condition and habitat type but differences were observed accordingly to the pathogens considered. These results provide the basis for a discussion on how current surveillance tools should be further developed and integrated to enhance our tick borne diseases hazard forecasting ability.

Research impact highlights: Current surveillance tools on tick borne diseases in Europe needs integration with more detailed ecological data

Keywords: Tick borne diseases - *Borrelia burgdorferi* s.l. - *Anaplasma phagocytophilum* - Surveillance - ecology

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