



P 27 Comparison of the prevalence of tick-borne pathogens in the years 2009 and 2010 in ticks around Berlin

Peter Hagedorn^a, Timo Hillebrand^b, Elmara Graser^b, Oliver Donoso-Mantke^a, Doreen Vollandt^a, Panchali Roy Chowdhury^a, Cristina Domingo Carrasco^a, Matthias Niedrig^a

^a Robert Koch Institut, Consultant Laboratory for Tick-borne Encephalitis, Berlin, Germany

^b AJ Innuscreen GmbH, Jena, Germany

Population density of *Ixodes* and *Dermacentor* ticks and the burden of *Borrelia burgdorferi*, *Rickettsia* spp., *Babesia* spp., and *Anaplasma phagocytophilum*-infected ticks in 7 sampling sites of Berlin were determined in 2009, and the ongoing spread of *Dermacentor* ticks was shown at this time. The results of monthly tick collection showed defined areas with high tick density, and the data of the molecular-biological analysis detected delimited areas with high prevalence of *Bo. burgdorferi*, *A. phagocytophilum*, or *Babesia* spp.

In 2010, the same sampling sites were investigated again, and the tick densities and the prevalences of the mentioned pathogens were determined. The occurrence and changes in tick density and pathogen prevalence during this 12-month period has been investigated. Due to the registration of temperature and humidity directly in the habitat of the ticks, it was possible to estimate the influence of these factors and to compare 2009 and 2010. Supplementary, the RNA from 2009 collected ticks was screened for Alpha- and Flaviviruses by generic nested PCRs.

In order to get a survey of the complete area of Berlin, the investigated area was extended in 2010. Sampling sites in Berlin-Marzahn and Berlin-Spandau were included. The comparison of the founded data allows risk assessment for Berlin-Marzahn and Berlin-Spandau in relation to the other sampling sites in Berlin.

Additionally, a high number of *Haemaphysalis concinna* ticks from Brieskow-Finkenherd were screened for the same pathogens like the ticks found in Berlin. These results give a hint what pathogens potentially could be transferred by *H. concinna*. This tick recently appeared in a revegetated area in Brieskow-Finkenherd near to Frankfurt (Oder). Due to the rareness of this tick in Germany, little is known about the potentially transferred pathogens.