



P 51 Occurrence of *Babesia* spp. in *Ixodes ricinus* in Bavarian public parks

S. Schorn, K. Pfister, C. Silaghi

Comparative Tropical Medicine and Parasitology, Ludwig-Maximilians-University Munich, Germany

Babesia spp. (*Apicomplexa*) are protozoan hemoparasites, transmitted by hard ticks (*Ixodidae*) to over 100 different vertebrate species, including man. Human babesiosis in Europe is elicited by *Babesia* (*B.*) *divergens*, but also by *B. microti* and *Babesia* sp. EU1. However, clinical cases are rare and occur only in immunocompromised patients. The widely spread vector *Ixodes* (*I.*) *ricinus* in Europe and its potential numeric increase due to climatic changes makes it necessary to investigate the occurrence of *Babesia* spp. in this tick species.

One of the objectives of the Bavarian Research Association VICCI is to investigate the prevalence of *Babesia* spp. in *I. ricinus* in Bavarian public parks. Thereby, the presently achieved data shall provide a basis for risk assessment on human babesiosis in the future.

In 2009 and 2010, ticks were collected in selected Bavarian parks using the flagging method. DNA from 30 ticks per developmental stage, sampling site, and month, respectively, was extracted and screened by specific PCR. Species differentiation was carried out by sequencing.

A total of 5791 ticks was tested for the presence of DNA from *Babesia* spp. Thereby, 28 samples (0.5%) revealed an appropriate product. After sequence analysis, 25 of the positive samples showed highest similarity with *Babesia* sp. EU1 and one sample each with *B. divergens*, *B. divergens/B. capreoli*, and *Babesia* of the *gibsoni*-complex, respectively.

These results give clear evidence that the agents of human babesiosis are present in Bavarian public parks. Very interesting is the finding of *Babesia* of the *gibsoni*-complex in *I. ricinus*. Further studies will provide us with more information about the various *Babesia* spp. in *I. ricinus* and their potential role in human and/or veterinary medicine.