



P 50 *Anaplasma phagocytophilum* and *Rickettsia* spp. in *Ixodes ricinus* in Bavarian recreational areas

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Public parks represent local hot spots of recreational activity in urban areas with a high density of daily visitors as well as circumscribed ecosystems. Previous studies have revealed that such ecosystems might also influence the occurrence of tick-borne pathogens including *Anaplasma (A.) phagocytophilum* and *Rickettsia (R.)* spp.

Therefore we investigated, as part of the Bavarian research network VICCI, the prevalence of these bacterial agents in *Ixodes (I.) ricinus* in Bavarian public parks.

In 2009 and 2010, ticks were collected in selected Bavarian public parks by 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 for *Rickettsia* spp. was carried out by sequencing.

A total of 5569 ticks was tested for the presence of *A. phagocytophilum* and 3851 ticks for *Rickettsia* spp. Both pathogens were detected in all public parks. The average prevalence was 9% (4.5–13.3% depending on the sampling site) for *A. phagocytophilum* and 7.5% for *Rickettsia* spp. The sequence analysis of the rickettsial PCR products of the positive samples revealed that 95% showed highest similarity with *R. helvetica* and 5% with *R. monacensis*.

These results confirm the presence of *A. phagocytophilum* and *Rickettsia* spp. in Bavarian public parks. Furthermore, they verify higher *A. phagocytophilum* prevalences in urban greens compared to woodlands in southern Germany, suggesting a different ecological niche in parks. Additional studies are being outlined to further analyze the epidemiological cycles of tick-borne organisms in urban greens. This information is indispensable for an appropriate assessment of the potential risk of tick-borne diseases for humans and animals in recreational areas in cities.