

# #0929: Tick-borne zoonotic bacteria in fallow deer (*Dama dama*) in Euganean Hills Regional Park of Italy

## Authors

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## Type

Poster Presentation

## Topic

Diseases at the interface of humans, wildlife and other animals

## Keywords

Tick-borne zoonosis  
Wildlife  
Natural park

## Purpose

In the last decades an increasing incidence of tick-borne zoonoses (TBZ) has been reported in Europe. This trend regards in particular pathogens transmitted by *Ixodes ricinus*, which is the main vector of several viral, bacterial, and protozoan zoonotic infections. This tick species feeds on a broad range of mammals, birds and reptiles and frequently bites human.

The aim of the study was to investigate the prevalence of zoonotic bacteria (*Borrelia burgdorferi* sensu lato, *Rickettsia* spp., *Anaplasma* spp. and *Ehrlichia* spp.) transmitted by ticks in a population of fallow deer (*Dama dama*) in the tourist area of Euganean Hills Regional Park, Veneto Region, Italy.

## Methods & Materials

The study was conducted over a 13 months period from March 2014 to March 2015. The presence of *B. burgdorferi* s.l., *Rickettsia* spp., *Anaplasma* spp. and *Ehrlichia* spp. was evaluated by PCR and real time PCR assays on 61 blood samples of fallow deer culled during the population control campaigns by the park operators. PCR assays were targeted to *groEL* (*B. burgdorferi* s.l.), *gltA* (*Rickettsia* spp.) and 16S rRNA (*Anaplasma* spp. and *Ehrlichia* spp.) genes. Amplicons were purified and directly sequenced. The nucleotide sequences were analyzed using the basic local alignment search tool (BLAST).

## Results

Eighteen samples (29,5%) were positive for *A. phagocytophilum* and one (1,6%) for *Ehrlichia* spp. BLAST analyses showed sequence identity ranging from 97% to 100% with those already present in the database. None of fallow deer tested carried *B. burgdorferi* and *Rickettsia* spp.

## Conclusion

The results demonstrate the presence of zoonotic tick-borne pathogens in the studied area. Although the most dangerous pathogen, *B. burgdorferi*, was not detected, our results underline the risk of human recreational or professional exposure to infections during the outdoor activity or manipulation of hunted animals. Furthermore, the presence of deer populations in peri-urban areas promotes the diffusion of ticks and increases the TBZ of humans and domestic animals.

## Affirmations

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