P 53 Molecular screening for tick-borne pathogens in Romania

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Ticks can carry a large number of different pathogens (bacteria, virus, protozoa etc.), which can affect both animal and human health. So far, little is known about the prevalence and distribution of tick-borne pathogens in the different tick species occurring in Romania.

Therefore, questing and feeding adult ticks were collected in different geographic locations in Romania and the presence of specific pathogen DNA was determined by PCR methods. So far, a total of 382 ticks were analyzed in the study. Of these, 35 were questing ticks from the vegetation and the remainders were collected from naturally infested cattle, sheep, goats, horses, or dogs. Tick species were identified as *Ixodes ricinus* (n=134), *Dermacentor marginatus* (n=48), *Rhipicephalus bursa* (n=15), *R. sanguineus* (n=50), and *Hyalomma* spp. (n=135).

So far, all ticks were screened with conventional PCR methods for *Rickettsia* spp. and *Babesia* spp.

Altogether, 43 ticks (11.3%; 12 *D. marginatus* and 31 *I. ricinus*) and 32 ticks (8.4%; 1 *D. marginatus*, 12 *Hyalomma* spp., 19 *I. ricinus*) showed products of the expected length in the PCR for rickettsiae and *Babesia*/*Theileria* DNA, respectively. Preliminary sequencing data revealed the following species or sequences closely related to: *R. helvetica*, *R. monacensis*, *R. raoultii*, *T. equi*, *T. sergenti/buffeli*, *T. orientalis*, *B. occultans*, and *B. microti*. Further sequence analysis will be applied to confirm these species.

The results of the present study show a wide distribution of pathogens in the Romanian tick fauna, and emphasize differences in the role of different tick species in epidemiological cycles. Further investigations on tick-borne pathogens such as *Anaplasma phagocytophilum*, *A. platys*, *Borrelia* spp., and *Ehrlichia canis* in Romania are currently being prepared.