



P 66 Tick-borne pathogens in sheep and goats in Southern Italy

Alessandra Torina^a, Santo Caracappa^a, Annalisa Agnone^b, Salvatore Scimeca^a, Rosalia D'Agostino^a, Angelina Alongi^a, Vincenzo Di Marco^a

^a Centro di Referenza Nazionale per Anaplasma, Babesia, Rickettsia e Theileria (CRABaRT), Istituto Zooprofilattico Sperimentale della Sicilia, Italy

^b Dipartimento di Biopatologia e Biotecnologie Mediche e Forensi, Università di Palermo, Italy

The pathologies of tick-borne diseases in sheep and goats are not well known, also in those countries where farming is economically very important. Ticks that bite small ruminants can transmit many viral, bacterial, and protozoal pathogens. Some of them can be zoonotic agents. In Italy, the diseases due to *Babesia*, *Theileria*, and *Anaplasma* are underestimated because of the mild clinical signs that they cause in ovine and caprine breeding in endemic regions and because of the natural resistance of autochthonous races.

We have performed serological and biomolecular diagnostic analyses by PCR to detect the presence of *Anaplasma* spp., *A. marginale*/*A. ovis*, and *A. phagocytophilum*. For the protozoarian disease, we used reverse line blot hybridization (RLB) to detect *T. ovis*, *T. annulata*, *T. lestoquardi*, *Theileria* sp1 (China), *Theileria* sp2 (China), *B. crassa*, *B. ovis*, *B. motasi*, *Babesia* sp1 (Turchey), *Babesia* sp2 (Lintan). Prevalences of infection were calculated based on the data collected in Southern Italy from 2004 to 2009.

Serological prevalence in sheep was 82.9% for *A. ovis* and 11.9% for *A. phagocytophilum*, in goats 74.9% for *A. ovis* and 15.2% for *A. phagocytophilum*. With reference to biomolecular prevalence, serological prevalence was 47.3% for *A. ovis* and 5.4% for *A. phagocytophilum* in sheep and 31.7% for *A. ovis* and 2.5% for *A. phagocytophilum* in goats.

Theilerioses in sheep, detected by RLB, seem to be common, especially for *T. ovis* (17.7%), followed by *T. lestoquardi* (7.1%) and *T. annulata* (4.1%). Babesioses were less common, only 1% of *B. ovis* prevalence was detected. Both in goats and sheep, an unexpectedly high percentage of *Theileria* sp. China was detected.

These data show that tick-borne pathogens are well represented in southern Italy, and that they represent a risk of economic losses due to their spreading into previously non-endemic areas through vector adaptability to climatic changes and animal movements.