

parva and *Theileria taurotragi* in the indigenous cattle compared to a high prevalence in the crossbred cattle. In contrast, we show higher prevalences of *Theileria mutans* and *Theileria velifera* in the indigenous compared to the crossbred cattle. Interestingly *Anaplasma marginale*, *Babesia bovis* and *Babesia bigemina* were of low prevalence but a high prevalence of *Ehrlichia bovis* was seen, raising the question of whether this rickettsial species could be pathogenic in cattle. Analysis of animals with clinical symptoms of East Coast Fever showed that, while *T. parva* is a major cause of these symptoms, *T. mutans* and possibly *T. taurotragi* and *T. velifera*, may also cause clinical disease. Overall, the results presented here highlight the complexity of tick-borne pathogen infections in cattle in Uganda.

Serological and virological investigations on an emerging Peste des Petits Ruminants Virus infection in sheep and goats in Tanzania

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Peste des petits ruminants virus (PPRV, genus *Morbillivirus*), which causes a severe disease in sheep and goats, has only recently been officially declared to be present in Tanzania. An exploratory cross-section study was carried out in August 2008 to determine the sero-prevalence, distribution, isolate and characterize an emerging PPRV infection in sheep and goats in Tanzania. A multistage sampling strategy with 4 hierarchical stages was used to investigate sero-prevalence PPR status, and risk indicator for positive serological status in agro-pastoral and pastoral livestock farming systems in 7 districts of northern Tanzania. A total of 1546 serum samples from small ruminants reared in 48 villages from the 7 districts, were investigated; virologic and molecular epidemiologic techniques were applied to isolate, characterize and trace the origin of the PPRV in Tanzania. Prevalence for PPRV infection varied (range 0.00%–13.99%) and was higher in goats (50%) than in sheep (40%). The overall antibody response to PPRV was 45.00% (CI_{95%} 43-47%); the proportion of sero-positive animals significantly ($P \leq 0.05$) differed between species, age groups, sex categories and farming practices. PPRV was isolated from sheep blood and tissues samples, real time PCR results showed that the isolated strains belong to lineage III whose origin is in the East Africa and the Middle East; thus one of the neighboring countries in the Eastern Africa region is most likely the source of infection.

Keywords: Competitive enzyme linked immunosorbent assay (ELISA), *Peste des petit ruminants* (PPR), Real time PCR, Sero-prevalence, Tanzania