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Molecular diagnosis of *Theileria* infections in wildlife from Southern Africa: Implications for accurate diagnosis

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The potential impact of co-infection on disease dynamics of Piroplasmida is becoming more recognized. The co-infection dynamics of *Babesia* and *Theileria* species of cattle, dogs and various wildlife species are widely documented and increasingly studied. In a conservation conscious era, the focus on the risk at the game-livestock interfaces and trans-boundary parks also fuels the study of reservoir disease hosts and accurate diagnosis of disease. Buffalo are notoriously known to harbor and act as a source of infection to vectors and other animals of especially FMD, bovine tuberculosis and brucellosis. They also harbor a number of *Theileria* parasites. To this extend, we examined the piroplasm burden of ~2500 blood samples of buffalo and other game species across three national parks in South Africa and national parks from Zimbabwe, Botswana, Mozambique and Namibia to determine the extent of infection, diversity and parasitaemia ranges of parasites using real-time PCR technology. We identified two main genotypes that interfered with accurate molecular diagnosis of *Theileria parva*, the causative agent of East Coast Fever and Corridor Disease in cattle, and calculated their parasitaemia ranges. Resulting data supported a hypothesis that similar parasitaemia ranges exist for different *Theileria* species that holds implications for accurate diagnosis in the case of mixed infections. The vector ticks for many of these piroplasms are still unknown.

Biography

Ronel Pienaar obtained her MSc degree (cum laude) in 2014 from the University of the Free State, South Africa with a thesis entitled 'Assessment and improvement of the molecular diagnosis of *Theileria parva* of African Buffalo (*Syncerus caffer*) in southern Africa', resulting in 3 publications in peer reviewed journals and one conference proceedings. She received the Junior W O Neitz Medal in 2014 conferred by The Parasitological Society of southern Africa for a Postgraduate thesis in parasitology. Since she started her research career in 2010 she has 13 articles and 4 conference papers.

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