

THE POLYMERASE CHAIN REACTION (PCR) AS A FIELD TOOL IN THE CHARACTERIZATION OF TRYPANOSOMES IN ISOLATES FROM THE DROMEDARY CAMEL

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ABSTRACT OF POSTER

The detection and characterization of the various trypanosome species in field infections is paramount, if appropriate decisions are to be made concerning risks to livestock. The development of species-specific DNA probes has greatly improved the accuracy of identification. However, using the dot blot technique at least 100 trypanosomes are required for detection. The Polymerase Chain Reaction (PCR) is a more sensitive technique requiring only 1/10th of a parasite for identification. This is particularly important in field infections where parasitaemia may be low.

The objectives of this study were to characterize trypanosomes collected from field infections in camels using the PCR technique. Parasites were passaged in mice and DNA extracted from mouse blood. DNA probes specific for *T. evansi* Types A and B, *T. congolense*, *T. vivax* and a trypanozoon specific probe were used to screen samples.

T. evansi type A was detected in 94% of the isolates confirming that *T. evansi* is the most important species causing trypanosomiasis in camels in Kenya. Due to the absence of a *T. brucei* specific probe, it was necessary to carry out *in vitro* transformation tests to distinguish between *T. brucei* and *T. evansi*. Mixed infections were indicated in 69% of the samples using these techniques. The presence of *T. congolense* and *T. vivax* could not be confirmed.

The methodology described should be suitable for large scale epidemiology studies and provide valuable information for design of control strategies.

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