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Molecular screening of Tsetse flies and cattle reveal different *Trypanosoma* species including *T. grayi* and *T. theileri* in northern Cameroon

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African trypanosomes are mainly transmitted through the bite of tsetse flies (*Glossina spp.*). The present study investigated the occurrence of pathogenic trypanosomes in tsetse flies and cattle in tsetse fly-infested areas of northern Cameroon. Trypanosomes were identified using nested polymerase chain reaction (PCR) analysis of internal transcribed spacer 1 (ITS1) region, both by size estimation and sequencing of PCR products. Trypanosoma prevalence infection rate for the tsetse fly gut (40%) and proboscis (19%) were recorded. Among the flies where trypanosomes were detected in the gut, 41.7% were positive for *T. congolense* and 14.6% for *T. brucei* ssp., whereas in the proboscis 36% harbored *T. congolense* and 62% contained *T. vivax*. *T. grayi* was highly prevalent in tsetse fly gut (58%). Trypanosome prevalence rate in cattle blood was 6%. Surprisingly, in one case *T. grayi* was found in cattle, providing its first evidence in mammals. The mean packed cell volume (PCV) of cattle positive for trypanosomes was significantly lower ($24.1 \pm 5.6\%$; $P < 0.05$) than that of cattle in which trypanosomes were not detected ($27.1 \pm 4.9\%$). Interestingly, the occurrence of *T. theileri* or *T. grayi* DNA in cattle also correlated with low PCV at pathological levels. This molecular epidemiological study of Trypanosoma species in northern Cameroon revealed active foci of trypanosomes in Dodeo and Gamba. These findings are relevant in assessing the status of trypanosomosis in these regions and will serve as a guide for setting the priorities of the government in the control of the disease.

Biography

Sen Claudine Henriette Ngomtcho has completed her Master at the age of 28 years from the University of Ngaoundéré. She won a DAAD grant for a two year Ph.D sandwich Program at the University of Bremen. She has been working on the coinfection of human by human and animal trypanosomes. Back to Cameroon 4 months ago, she will be defending her thesis very soon. She has published 1 paper in a reputed journal. She is a former medical lab technologist who worked for the ministry of public health of Cameroon. She is interested in doing careers in Research.

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