Evaluation of Molecular Characterization of Ticks (Acari: Ixodidae) From Selected Wildlife Herbivores in Kenya

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Declaration

This proposal is my original work and has not be submitted for a degree in any other University or any other reward

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This research proposal had been submitted for examination with our approval as supervisors

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Abstract

Ticks are haematophagous parasites on animals, birds, reptiles and humans and they are considered to be second to mosquitoes as vectors for infectious diseases. They are known to transmit pathogenic micro-organism of protozoa, bacterial, rickesttsial and bacterial origin. The infections and diseases that they transmit lead to economic losses in livestock and cause public health risks to human. Tick identification relies on the basis of morphological traits, an approach that has several drawbacks. It is difficult to identify damaged ticks, nymphs and larvae of closely related species, and requires experience in morphological work. Newer approaches that utilize molecular methods have been regarded as a useful tool in identification and several related studies have been described from various parts of the world. However, there are insufficient genetic profiles of ticks especially in wild animals in Kenya Sand this may be considered as one of the factors that have led to little understanding of ticks and the diseases they transmit. Such information would provide accurate information that would assist development of control strategies of tick borne diseases in both humans and animals. The objective of this study is therefore, to determine morphological and molecular characteristics of ticks sampled from wild herbivore hosts in Kenya. The ticks will be collected from different regions in Kenya and DNA will be extracted using Qiagen Tissue Kit. Polymerase Chain Reaction (PCR) will be carried out to amplify the Internal Transcribed Spacer (ITS) region which will then be followed by sequencing which will provide molecular phylogeny for the collected ticks. Information obtained from this study will aid in the identification of novel ticks species and add value to the existing knowledge in identification of ticks. Therefore, providing accurate information that will assist in various investigations related to ticks.