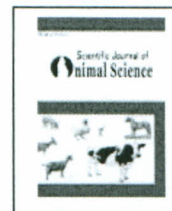


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Original article

Use of cytochrome oxidase 1 gene region: a molecular tool for the domestic and wildlife industry in Kenya

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ABSTRACT

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Illegal substitution of meat products by traders either as closely related domestic species or as bush meat is a common occurrence in various parts of Kenya. This has implications on biosafety, food safety and consumer confidence and subsequently the meat and meat products industry both locally and export. In recent times, use of molecular techniques have seen increased application in wildlife conservation through conservation genetics in areas such as population genetics, evolutionary genetics, molecular ecology and wildlife forensics. We used DNA of the Cytochrome C Oxidase 1 gene region as a bar-coding technique for species identification. The accuracy of CO1 as a marker was tested using five known samples of wildlife species. Retail meat product substitution and bushmeat prevalence was estimated from 99 unknown meat samples that were randomly collected from meat traders in Nakuru County. The study validated the use of CO1 marker for species identification and illustrated use of the marker in identification of unknown tissue samples collected from the market survey.

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1. Introduction