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ABSTRACT

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Forensic insights into the predatory behavior of the 'Man-Eaters of Tsavo' (ca.1898)

After 123 years, historical documentation of the Man-eating Lions of Tsavo continues to unfold. In 2001, members of our team published a paper (Kerbis Peterhans & Gnoske, 2011) documenting the circumstances surrounding this historical event. One of us (TPG) sought to document the prey remains consumed by the lions by recovering hairs located within the broken canines of the two lions. At that time, through the collaboration of OM, we published the following tentative list of prey species identified through microscopic examination of hairs recovered from the lions' teeth: zebra (*Equus* sp.), porcupine (*Hystrix cristata*), warthog (*Phacochoerus aethiopicus*), impala (*Aepycerus melampus*), eland (*Taurotragus oryx*) and oryx (*Oryx gazella*). We have continued our inquiries, expanded our collaboration (US Army Crime Laboratory; Faculty of Veterinary Medicine, University of Nairobi), searched for additional historical literature and are now able to provide further details on the recovery and analysis of additional hairs. Hairs were found tightly packed in the pulp cavity of the broken canine of each lion and were carefully removed without further damage to the teeth. Approximately 4000 hairs were recovered. Hairs were 'excavated' and placed in vials reflecting their stratigraphic sequence within the canine. Hairs found lower in the canine were consumed at relatively earlier times than hairs extracted toward the apex. Hairs were identified using the comparative collections at the Field Museum of Natural History, Chicago (FMNH), as well as at The National Museums of Kenya (NMK). Our analysis has used the following characters to make species determinations: color, length, thickness. Cuticle scale patterns and medulla configuration of the cleaned hairs were studied under a standard light microscope. Cover-slips dipped into Methylene Blue were used to make the hair scale impressions. Photographs of the scale patterns were taken by Scanning Electron Microscope (SEM).