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Abstract: In this study evidence of current lentivirus infection has been found in lions, leopards and cheetahs in geographically diverse parts of Botswana.

Lentivirus Infection in Lions, Leopards and Cheetahs in Botswana

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Evidence of current lentivirus infection has been found in lions, leopards and cheetahs in diverse parts of Botswana. The study was undertaken in the light of the knowledge that subpopulations of large felids in southern Africa exhibit a range of lentivirus prevalence, with some subpopulations showing no evidence of infection. With more information on these viruses, scientists and managers in southern Africa can make more informed decisions regarding the movement of large cats locally or internationally for research, management, or commercial purposes.

The Botswana cats were evaluated for evidence of feline lentivirus infection by assaying for antibodies against a puma lentivirus isolate and a domestic cat feline immunodeficiency virus (FIV), and for oncovirus infection (feline leukemia virus, FeLV) using an antigen-detecting as-

say. Blood collection filter paper kits were distributed countrywide to safari hunters and Department of Wildlife and National Parks field officers involved in problem predator management. All sampling (n = 53) was opportunistic: no cats were captured, anesthetized, or killed for this project. Five different assays for antibodies to lentivirus were used on most samples. One test was used for FeLV: a commercial ELISA. None of the cats tested positive for FeLV infection.

When evaluating non-domestic felids for lentivirus infection, it becomes clear that assay choice is important and that caution is warranted in interpreting data: different assays can yield different results. Evidence of current lentivirus infection (defined as a positive result on at least the western blot assay based on puma lentivirus antigen) was found in all three species: eight of 31 lions (25.8 %), three of

18 leopards (16.7 %), and one of four cheetahs (25 %). Seropositive cats were found in geographically diverse parts of Botswana. Although this study was not a comprehensive virologic evaluation of the lion, leopard, and cheetah populations of Botswana, it does reveal wild felid lentivirus infection in a previously unexamined portion of sub-Saharan Africa.

Reference

Osofsky, S.A., Hirsch, K.J., Zuckerman, E. E., and Hardy, W. D. 1996. Feline Lentivirus and Feline Oncovirus Status of Free-Ranging Lions (*Panthera leo*), Leopards (*Panthera pardus*), and Cheetahs (*Acinonyx jubatus*) in Botswana: a Regional Perspective. *Journal of Zoo and Wildlife Medicine*, 27 (4): 453-467, 1996.