

A report of anthrax in cheetahs (*Acinonyx jubatus*) in Botswana

In November 2004, 3 cheetahs (*Acinonyx jubatus*) died in captivity while held by Cheetah Conservation Botswana in their transit enclosures. A 6-month-old cub died within 24 hours and 2 adults died within 36 hours of being fed red hartebeest (*Alcelaphus buselaphus*) meat from the Jwana Game Park, Jwaneng, Botswana. The cub's neck had a slight ventral oedema and one of the adults vomited 12 hours prior to death. At death, a bloody nasal discharge and scleral congestion were present in all three cheetahs. Anthrax was suspected and blood smears were taken from the cheetahs and liver impression smears from the hartebeest. These smears, taken to the National Veterinary Laboratory in Gaborone, were stained with polychrome methylene blue (M'Fadyean stain reaction)⁸. All showed the typical presence of *Bacillus anthracis* bacilli. Their typical M'Fadyean stained presence is considered pathognomonic

for anthrax²

These episodes confirm previous observations^{1,4,5,7} that cheetahs are susceptible to anthrax and that anthrax can strike at virtually any zoo and wildlife farming facility where carcasses from the field are used^{2,3}.

In future all cheetahs being held in the Jwana Game Park by Cheetah Conservation Botswana will be immunized against anthrax. It has been shown that the live spore vaccine (Sterne strain 34F2) elicits an immune response and is safe for use in cheetah.⁹

All meat fed to the cheetahs will also be inspected and tested for anthrax.⁶

References

1. DeVos V, Bryden H B 1977 The role of carnivores in the epidemiology of anthrax in the Kruger National Park. In Van Heerden J (ed.) *Proceedings of a Symposium on Lions and Leopards as Game Ranch Animals*, Onderstepoort: 198–203
2. DeVos V, Turnbull P G T 2004. Anthrax. In Coetzer J A W, Tustin R C (eds) *Infectious diseases of livestock with special reference to southern Africa* (2nd edn).

3. Oxford University Press, Cape Town
Hugh-Jones ME, DeVos V 2002 Anthrax and wildlife. In Bengis R G (ed.) *Infectious diseases of wildlife – detection, diagnosis and management*. OIE Scientific and Technical Review 21(2): 337–361
4. Jager H G, Booker H H, Hubschle O J B 1990 Anthrax in cheetahs (*Acinonyx jubatus*) in Namibia. *Journal of Wildlife Disease* 26(3): 423–424
5. Lindeque P M, Turnbull P C B 1994 Ecology and epidemiology of anthrax in the Etosha National Park, Namibia. *Onderstepoort Journal of Veterinary Research* 61: 71–83
6. Muller J D, Wilks C R, O'Riley K J, Condron R J, Bull R, Matbczum A 2004 Specificity of an immunochromatographic test for anthrax. *Australian Veterinary Journal* 82(4): 220–222
7. Pienaar U de V 1997 Epidemiology of anthrax in wild animals and the control of anthrax epizootics in the KNP, South Africa. *Federation Proceedings* 26: 1490–1501
8. Turnbull P C B, Bohm R, Cosivi O, Doganay M, Hugh-Jones M, Joshu D D, Lalitha M K, DeVos V, 1998 *Guidelines for the surveillance and control of anthrax in humans and animals* (3rd edn). World Health Organization, Department of Communicable Disease Surveillance and Response, WHO/EMC/ZDI/98.6
9. Turnbull P C B, Tindall B W, Coetzee J D, Conradie C M, Bull R L, Lindeque P M, Hubschle O J B 2004 Vaccine-induced protection against anthrax in cheetah (*Acinonyx jubatus*) and black rhinoceros (*Diceros bicornis*). *Vaccine* 22: 3340–3347

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