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BLACK RHINO *DICEROS BICORNIS MINOR* MORTALITY IN THE KRUGER NATIONAL PARK

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Abstract – The death of two black rhinos *(Diceros bicornis minor)* in the Kruger National Park is described. A diagnosis of lamsiekte, or botulism, was made, based on typical clinical findings backed by circumstantial evidence.

Introduction

In 1975 it was stressed that knowledge on causation of natural deaths in uncommon species such as the white or square-lipped rhinoceros (*Ceratotherium simum*) is still lamentably scant (De Vos 1975, *Koedoe* 18: 199–202). Looking at the literature, this is even more true for the black rhinoceros. It was therefore thought worthwhile to document a case of double mortality in black rhinoceros from the Kruger National Park (KNP).

History

Two young black rhinos that formed part of a re-introduction programme into the KNP, were released in a predator-free enclosure near Pretoriuskop during 1972. For the next year they did particularly well, were in excellent condition and became relatively tame.

In the late afternoon of the 27th September 1973 they were last seen in good health. At about that time it started raining and the temperature dropped somewhat. At 06h00 the next morning one rhino was found dead and the other in a recumbent position about 20 metres off.

Clinical findings

The dead rhino was found in a sternal position with the head forward. No ante-mortal agonal movements could be seen. The evidence surrounding the case gave the impression that the animal dropped in its tracks and died quietly.

At 10h00 the live rhino was examined. He was found in sternal recumbency with the head forward. At this stage his front legs and neck still showed faint movement, but offered little resistance to handling, whilst the hind legs were completely flaccid. When the head was held up the lower jaw drooped, indicating partial paralysis of the muscles. The tip of the tongue lay on the incisors and offered very little resistance to pull, bordering on paralysis. On handling the animal, one was struck by the general loss of muscular tone. The animal showed no fight. It was like handling a wet sack.

The condition gradually deteriorated, with all the voluntary muscles becoming flaccidly paralysed. Near the end only faint abdominal type of breathing was discernible. At 16h00 the animal died.

During the entire period in which the animal was observed he showed an absence of fever and a maintenence of consciousness.

The wet soil clearly marked the movements of the two rhinos during the period after the rain. From these marks it was clear that the rhinos followed the usual and expected movement pattern, but drank at a muddy seep which formed only since the rain started the previous afternoon. On closer inspection it was found that this newly-formed pond lay only a few metres distant from a 6 months old white rhino carcass. It was quite clear that water percolated around and through this old carcass to form the muddy seep. At the phase of investigation the seepage was, however, already dry.

In the necropsies (gross and micro) which were performed afterward no reason for the mortalities could be detected.

The old white rhino carcass was tested for botulism toxin, but with negative results.

Discussion

A diagnosis of lamsiekte, or botulism, was made and based on typical clinical findings, viz. total general paralysis of the volunatary muscles progressing from the hindquarters forward and no sign of fever or impairment of consciousness during life. Negative necropsies and evidence indicating the intake of fluid which percolated through an old carcass, can be taken as further corroborative evidence.

The inability to detect botulism toxin in the suspect old carcass cannot be taken as contrary proof, as "it is seldom possible to establish the diagnosis by demonstrating the presence of toxin in the suspected food" (Blood & Henderson 1960, *Veterinary Medicine*).

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