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## EFFECT OF BOMA CONFINEMENT ON HEMATOLOGIC AND BIOCHEMICAL VALUES IN FREE-RANGING WHITE RHINOCEROS (*Ceratotherium simum*) IN KRUGER NATIONAL PARK, SOUTH AFRICA

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### Abstract

Although African rhinoceros are captured and translocated each year, there is limited data on effects of these procedures on physiologic values in free-ranging rhinoceros.<sup>1,2</sup> The application of new diagnostic technology would permit more informed translocation decisions in the field since this information can now be obtained in some field laboratories. The primary objective of this study was to address antemortem diagnostic testing to assess the health status, provide a baseline for free-ranging rhinos, and comparison for any changes that may occur during boma confinement.

Sample collection was performed during the 2007 capture season for white rhinoceros (*Ceratotherium simum*) in Kruger National Park (KNP). Protocols were developed so the KNP veterinary technician was able to collect samples in the field. A portable chemistry analyzer (Abaxis) was used to run biochemical analyses. Hematologic results were based on estimated white blood cell counts and differential counts.

Preliminary analyses used statistical comparisons between paired samples from individuals caught in the field and resampled in the boma using the Student's t test at p=0.1. The results showed statistical higher mean white blood cell counts, relative eosinophil counts, GGT, alkaline phosphatase, phosphorus, and magnesium in animals when they were first captured. In contrast, mean values for albumin, BUN, and CPK were statistically higher after boma confinement. Implications include possible changes in immune parameters, nutritional, and hydration status while in the boma which may lead to possible health complications. Awareness of these changes may provide keys to management changes that can prevent or minimize these potential issues.

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