

Speed Presentation

Diurnal activity and disturbance behaviour of relocated black rhinos (*Diceros bicornis* Linnaeus 1758) in Namibia

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Translocation is an invasive procedure that exposes rhinos to multiple stressors. Acclimatisation is the adaptive response of individuals towards a multi-stress environment. The primary goal of this study was to examine aspects of the post-translocation acclimatisation of a founder group of six black rhino (*Diceros bicornis* Linnaeus, 1758) individuals. The study was carried out in a fenced region, 368 km² in size and directly adjacent to the south-western border of the Etosha National Park in Namibia. The study period was two years (Mar 2005 – Feb 2007). Data analysis was based on VHF radio telemetry and direct observations. A general bimodal diurnal activity pattern was found that is in line with the species-specific activity rhythm of black rhinos as described in the literature. The results reveal seasonal variation in diurnal activity with rhinos being more active during the dry season, which is a useful indicator for the acclimatisation of the investigated rhino group. During most direct observations, black rhinos detected observers, while the dominant response was adopting an alert posture but not direct flight. Overall, rhinos displayed a rather inquisitive behaviour, and mock charges were very seldom. The closest distances to which observers approached rhinos appear to be generally shorter than the species-specific alarm distance, owing to habitat features and the study design. Interestingly, observations where rhinos directly fled were associated with longer distances than observations where the rhinos stayed in the area. This supports the hypothesis that the degree of alarm appears to be lessened when the animals are able to locate the source of the stimulus. Again, the typical, species-specific behaviour was observed. A time-related effect was found with regards to the approach distance of observers (shorter distances during the second year of the study) but not regarding the duration of attentive periods. The present results are in accordance with the limited literature available on species-specific activity patterns and response-behaviour of black rhinos towards humans. The results provide a reasonable estimation of the natural acclimatisation of black rhinos in a semi-arid savannah ecosystem.