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Behavioural acclimatisation of relocated black rhinos in Namibia

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In this study we systematically examined species-specific exploration behaviour and behavioural acclimatisation of a black rhino (*Diceros bicornis*) founder group post-translocation. The study was carried out in a fenced region 370 km² in size and directly adjacent to Etosha National Park (ENP) in Namibia. Rhinos were radio tracked for 2 years. Movement data were complemented by detailed habitat descriptions at the centres of rhino activity with vegetation plot sampling. Home range size varied from 10.8 km² in a subadult male to 234.6 km² in an adult male. Rhinos used both geological formations of the study area: Otavi dolomite (OD) and Etosha calcrete (EC) substrate. The latter was dominated by *Acacia* spp. due to former land use for livestock farming. After release, pairs of rhinos (adults, subadult females, subadult males) each established greatly overlapping home ranges. Individual patterns of home range establishment were present (steady increase, settlement after exploration and sudden shifts of home range). Several rhinos clearly changed spacing strategy after 8 months, in response to seasonal availability of resources. The seasonal movement in this study is a good indicator for the acclimatisation of the spatial organisation of the founder group. Size and the habitat mosaic of the study area, and also the study period allow for detection of behavioural acclimatisation processes, which would not be apparent in smaller areas, nor over shorter durations. The results provide our best estimate to date for the natural exploration behaviour and behavioural acclimatisation of black rhinos in a semi-arid savannah ecosystem.