

**BLACK BACKED JACKAL (CANIS MESOMELAS) PREDATION
ON IMPALA (AEPYCEROS MELAMPUS) AT
MOKOLODI NATURE RESERVE,
BOTSWANA**

by

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ABSTRACT

Fieldwork conducted during November 1995 to March 1997 revealed that jackal numbers in Mokolodi Nature Reserve (MNR) fluctuated on a monthly and seasonal basis, with a peak in winter and a nadir in summer. Foraging (28.7%, n=181) was the most common observed behavioural activity pattern, followed by locomotion (23.8%), flight (21.2%), resting (14.4%), and social interactions. Jackals exhibited a bigeminous activity pattern (crepuscular and nocturnal). Peaks of activity suggested that they synchronised their activity with that of their animal prey, and the relative inactivity of their main disturbance factor (man). Mean home-range size was 15.9 km² (range = 8.2-20.0 km²). Home range sizes of individuals differed between seasons with a tendency for range expansion in early winter. Jackal density was estimated at 0.4 animals/km². Tree and bush savanna, semi-sweet mixed bushveld and agricultural areas were used much more than expected. Extra-

territorial excursions were commonly witnessed, and these were usually directed towards agricultural and human establishments. Jackal foraging ecology involved hunting (76.0%, n=355), scavenging (9.2%), and gathering (14.8%). Jackals fed on ungulate afterbirths, in addition to killing concealed neonates. Jackal predation on impala lambs was extensive, and therefore deemed to depress the impala population in MNR. Overall, jackal foraging behaviour reflected the availability of a wide variety of food items and the differential vulnerability of prey. Jackal social structure comprised solitary residents, transients, and pair/pack members. Groups were uncommon presumably due to persecution by man and a food-base independent of large prey. Territories were maintained directly by aggressive and agonistic interactions, and indirectly by scent marking and vocalisations. Finally, conservation and management options are provided and discussed, their likely impact on jackal behavioural ecology explored, and suggestions for carnivore conservation and management presented.

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