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CO-OPERATIVE HUNTING IN THE BLACK-BACKED

JACKAL CANIS MESOMELAS

PhD UP 1990

Co-operative hunting in the black-backed jackal *Canis mesomelas* Schreber

by

Andrew Alec McKenzie

Submitted in partial fulfilment of the requirements for the degree of

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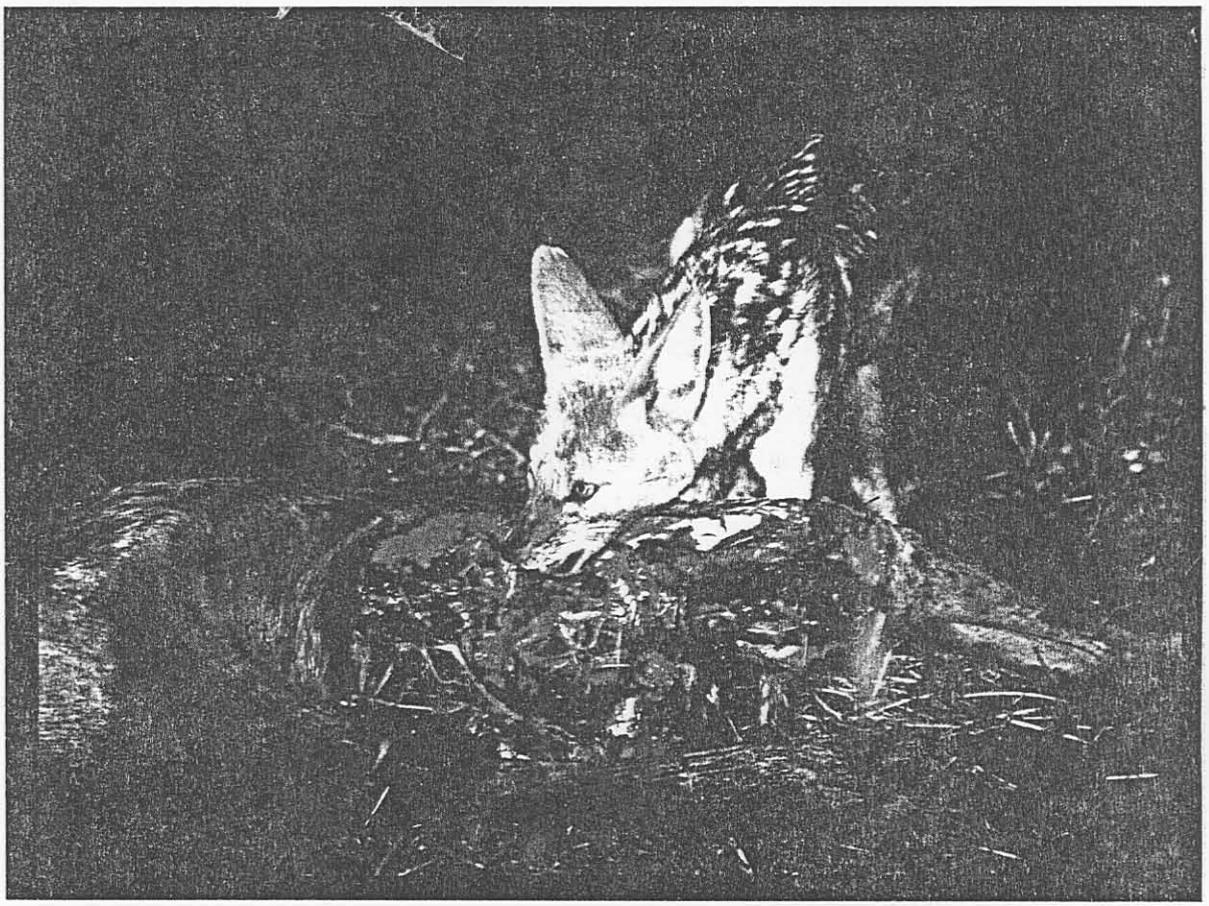

"Premeditated control of animals is a prerogative that only man can exercise.... If man takes this responsibility lightly, he may alter the natural order and indirectly threaten his own place in the unnatural world thus created."

(McCabe & Kozicky 1972: 393, 394)

Dedicated to all those who gave so generously of themselves

Co-operative hunting

in

the black-backed jackal *Canis mesomelas* Schreber

by

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Abstract

Black-backed jackals *Canis mesomelas* prey regularly on adult impala *Aepyceros melampus* in the Northern Tuli Game Reserve, N.E. Tuli Block, Botswana. This predation was found to be highly selective - eight of eleven impala killed were old and in extremely poor condition, one other had a fractured leg; opportunistic - a high percentage of old impala was present in the population where the predation was recorded; co-operative - groups of six to twelve jackals temporarily co-operated in killing and consuming impala; and seasonal - frequency of hunting of impala was highest under dry conditions, and was non-existent following good rainfall when jackals subsisted almost entirely on insects.

Testing of impala by putting resting herds to flight was recorded; this was undertaken by one or two jackals only. Selected potential prey were cornered in thick bush and harassed by an increasingly larger group of jackals. A single throat bite was administered by one of the jackals - no laceration, severing of major vessels or crushing of the trachea was recorded. The prey was dispatched by other jackals which entered the abdomen cranial to the hind leg and severed the major abdominal blood vessels.

Minimum seasonal home ranges of mature jackals were approximately 1 km^{-2}, 10% of total home ranges. Male jackal home ranges increased during winter; this was accompanied by an increase in trotting behaviour and an increase in excursions into adjacent areas. Jackal population density was between four and seven km^{-2}. Signs of a predator trap with respect to several less common prey species was evident.

Extensive use of anterior teeth by impala and other ruminants during grooming was discovered. The teeth are arranged in a comb-like array, and in old animals exhibit wear patterns which are due to the grooming function. Older impala without functional front teeth carried significantly more ectoparasites than other impala. Repeated grooming attempts by these old animals removed the hair resulting in partial baldness named "autogenous alopecia".

Preponderance of old impala, the resultant high jackal population, and autogenous alopecia were ascribed to ecosystem stress induced by the absence of large selective predators.

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List of Contents

LIST OF TABLES

LIST OF FIGURES