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**ASPECTS OF BEHAVIOURAL
ECOLOGY OF CAPTIVE FERAL GOATS
(CAPRA HIRCUS L.) WITH EMPHASIS
ON THE MOTHER-OFFSPRING RELATIONSHIP**

**A thesis presented in partial fulfilment
of the requirements for the degree of
Master of Science in Ecology
at Massey University**

**Julienne Clare Alley
1991**

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ABSTRACT

A 10-month study of the behaviour of a herd of 60 captive feral goats (*Capra hircus*) was carried out at the Ballantrae D.S.I.R. hill country research station in the lower North Island of New Zealand from April 1990 to February 1991. The primary aim of the study was to describe the mother-offspring relationship over the first three months of the kid's life and to investigate sex differences in maternal investment.

There was no significant sex difference in the mother-offspring spatial relationship, however, it was found that twins remained closer to their mothers during the first three months. There were small sex differences in the frequency of suckling in single kids only, but other variables of suckling behaviour including total time spent suckling, and the duration, initiation and termination of suckling were not significantly different between the sexes. Total suckling time, suckling duration and frequency, mother initiation and kid termination all decreased with kid maturation. There were significant differences in all suckling variables between single and twin kids. Sexual differences in kid birth weight, and growth rate, were also highly significant. Discrepancy in the proximate measures of parental investment made it difficult to conclude whether sex-biased maternal investment occurs in feral goats. Further investigation is required to determine the accuracy of suckling behaviour as a measure of maternal investment.

The second part of the study involved the construction of diurnal activity budgets for adults and for kids over the period 0830 to 1630 hours. The percentage of time spent grazing was greatest during the mating season whereas in the

gestation and kidding season a larger portion of time was devoted to rest. Female kids spent more time grazing and less time playing and resting than male kids up to the age of three months. Time spent grazing was greater in single than in twin kids. The time allocated to different activities changed significantly over the first three months of age.

In the third part of the study, the social events following the introduction of a new entrant to the herd was investigated. Exploration was the most common action of herd members toward the new entrant. A peak of agonism occurred within the first hour following the introduction of each new entrant then decreased rapidly. The response of the herd was influenced by the dominance status of the new entrant, and the season of the introduction.

ACKNOWLEDGEMENTS

I am deeply appreciative of the encouragement and support of my supervisor, Dr Robin Fordham, throughout the study. I am particularly thankful for the considerable faith he had in my ability to complete this thesis.

I would also like to thank Angus Fordham and Paul Barrett for their practical assistance in recording kid weights.

Dr Greg Lambert (D.S.I.R. Grasslands) contributed greatly to the initiation of the project by organising some funding and necessary materials. Funding was also provided by the R.F.B.P.S. Conservation Scholarship, and the Massey University Post graduate Research Fund.

Many thanks goes to the D.S.I.R. Ballantrae technicians and farm staff, especially to Phil Budding who constructed the observation hides and Brian Devantier for his assistance with the study herd.

I am grateful for the statistical advice of Mr Greg Arnold, Dr Ganesalingham (Statistics Dept., Massey University) and Dr Ian Henderson. Much credit, however, must also go to Dr Ed Minot for his guidance with data analysis.

I am indebted to my parents, Dorothy and Maurice Alley, for the tremendous encouragement they have provided during the past two years.

I would like to dedicate this thesis to the memory of Roger Redmayne (retired Ballantrae Farm Manager) for whom I had much respect and admiration.

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