FOOD INTAKE AND ENERGY EXPENDITURE AMONG ADULT FEMALE BABOONS (*Papio cynocephalus*) IN AMBOSELI NATIONAL PARK, KENYA

A thesis presented in partial fullfilment of the requirements for the Degree of Master of Science in Zoology of the University of Nairobi.

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1988

ABSTRACT

This thesis describes the energy expenditure, food intake and other feeding behaviours of non-provisioned and semi-provisioned wild baboons of two social groups in Amboseli National Park, Kenya. In both the group that was non-provisioned (wild-feeding) and the one that was semi-provisioned (ate both human and wild foods), females showed strong consistency of paired agonistic relationship between themselves. Reversals in agonistic rank involved nulliparous females (those that had not given birth to an infant) interacting with older females.

Quantitative measures of food intake were used to estimate the daily energy and protein intakes. Field measurements included estimation of time spent feeding and mass of food ingested per unit time. Proximate food composition of Amboseli plant foods and provisioned human foods were obtained from laboratory analyses and existing data. Semi-provisioned baboons spent half the time feeding and had slightly lower mean daily protein intake than non-provisioned ones, but no differences in daily energy intake were found. There was no relationship between percent of time spent feeding on a food item and protein content of that food; however, a significant regression of feeding time on energy content was found for non-provisioned but not semi-provisioned baboons. Social dominance rank was not related to differences in feeding time or daily energy and protein intakes in either

baboon group. Non-provisioned nulliparous females spent more time feeding and had higher daily energy and protein intakes than multiparous females, those that had given birth to infants. Pregnant or lactating females spent more time feeding and had higher daily energy intakes than sexually cycling females.

Females of the non-provisioned baboon group travelled more than double the distance per day than their semi-provisioned peers. Their daily energy expenditure was higher than that of semi-provisioned females. An energy balance in favour of semi-provisioned baboons resulted from a difference in energy expenditure rather than intake.

Rates of feeding interruptions were significantly higher at places where food resources were spatially concentrated than where they were dispersed. The various age/sex classes were interrupted by or interrupted adult females at significantly different rates. There was no relationship between percent interruptions due to a food item and that food's protein or energy content for the semi-provisioned baboons. However, there were significant relationships between percent interruptions and either energy or protein content of foods eaten by non-provisioned baboons.

The results of this study are discussed with focus on differences between groups and among individuals within a group. The practical implications of these differences are presented.