

Female dominance and feeding priority in a prosimian primate: experimental manipulation of feeding competition F. J. WHITE, Duke University, Durham, NC 27708, D. J. OVERDORFF, University of Texas, Austin, TX 78712, T. KEITH-LUCAS, University of the South, Sewanee, TN 37375, NC 27708, W. E. KALLAM, Z. FORWARD, AND M. A. RASMUSSEN, Duke University, Durham, NC 27708.

Female dominance in lemur species has been related to the high energy demands and inefficient reproductive physiology of prosimians in Madagascar. When food is limited and feeding competition is intense, females would not gain sufficient food without feeding priority and females are socially dominant in non-feeding contexts. We tested the ecological basis of female dominance with feeding experiments conducted on free-ranging ring-tailed lemurs, *Lemur catta*, on St. Catherine's Island, GA. Food was presented in randomized trails of evenly dispersed patches of 1m, 2m, and 4m radius circles. Replicate trials were conducted at each of the three radius lengths for a total of 26 feeding trials. The identity of all individuals feeding was recorded at 30 second intervals until all group members had stopped feeding. In addition, all-occurrences of agonistic interactions were recorded during the feeding bout. Individuals were ranked according to won decided aggressive interactions.

The proportion of time spent feeding in the first 10 mins of a bout was arcsine transformed and differences were compared with ANOVA. Correlations were tested with non-parametric Kendalls rank test. Females fed more than males at each radius. Individual males and females differed in feeding success and there was no significant interaction effect between individual differences and radius. Radius significantly affected the amount of feeding minutes for males but not in females. Rank and feeding time were correlated for males but not for females. At 1 and 2m radii, the aggression received by males from females was correlated with male rank.

We conclude there was a clear relationship between food dispersion, expression of female dominance, and feeding priority. Females always fed more than males and rates of aggression decreased as dispersion increased. Male feeding success was correlated with rank so that the highest ranking males received the least food and the least aggression. We suggest that female feeding priority may be achieved through male deference rather than female dominance. Although male deference carries a cost of reduced feeding success, it appears to carry the advantage of increased reproductive success as DNA fingerprinting confirmed that the highest ranking male sired the majority of the offspring.