

DOMINANCE, FEEDING SUCCESS AND INTERSPECIFIC COMPETITION IN BROWN LEMURS. Gerson, J. S., White, F. J., and Overdorff, D. J., Department of Biological Anthropology and Anatomy, Duke University, Durham, NC 22708, USA

Unlike many lemur species, brown lemurs (*Eulemur fulvus*) do not show female social dominance. There is no gender-based dominance hierarchy that can be discerned based on decided won aggressive interactions. This lack of female dominance has been related to the low within-group contest competition expected with their broad, not predominantly frugivorous diet. We examined the ecological basis of the dominance hierarchy in two groups of red-fronted lemurs (*E. f. rufus*) and one group of Sanford's lemur (*E. f. sanfordi*) free-ranging at the Duke University Primate Center to see if increased levels of contest competition would result in female dominance. Food was presented in large, evenly dispersed patches to *E. f. rufus* and in randomized trails of evenly dispersed patches of 1m, 2m, and 4m radius circles to *E. f. sanfordi*. Replicate trials were conducted at each of the three radius lengths. The identity of all individuals feeding was recorded at one minute 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. There was no increase in within-group aggression with decreasing food patch size and no change in the apparent lack of a clear dominance hierarchy. As in previous studies, many interactions were undecided. There was also no evidence of females obtaining higher feeding success than males in any food patch regime. There was an increase in interspecific aggression with increased feeding competition as the *E. f. sanfordi* aggressively evicted the sympatric *E. coronatus* from the food patches. Observations in the wild show similar interspecific feeding competitive success of *E. fulvus* over sympatric species. Even under intense within-group contest competition, intra-group aggression remains low while interspecific aggression increases. We suggest that the social structure of brown lemurs may be an adaptation for success in inter-specific feeding competition.