

Paternal care in a prosimian primate: protection from predators or infanticide? J. S. GERSON, F. J. WHITE, Biological Anthropology and Anatomy, Duke University, Durham, NC 27708, and W. E. KALLUM, Duke University Primate Center, Durham, NC 27705.

Ruffed lemurs, *Varecia variegata*, give birth to litters of 1 to 4 offspring that are kept in nests or parked and guarded for the first 7 to 8 weeks after birth by mothers, fathers, and occasionally full sibs. Guarding may serve to protect infants from predation and/or from infanticidal males. Degree of infanticide threat was compared to variation in parental care. Data on male and female guarding during the first 7 weeks after birth was examined for 9 litters between 1989 and 1995 for free-ranging groups at the Duke University Primate Center. Predation threat from raptors was assumed to be constant among enclosures and years and independent of group size as females seclude themselves for the first 7 to 8 weeks after birth. Groups were either single-male (SM) or multi-male. In multi-male groups, females either bred with all males (MMA) or with only one male (MM1). Infanticide by non-mating males has been observed in multi-male groups. Infanticide threat was assumed to be highest with single-male matings in multi-male groups (MM1) due to the presence of non-mating males and lowest in single-male groups (SM) as there were no non-mating males.

Using data from representative years, females were present at the nest or parked infant(s) at least 80% of the time (SM 92.8%, MMA 80.0%, MM1 92.1%) and their mean distances to the infant varied: mothers were closest to infants when infanticide threat was highest (SM 3.3m, s.e. 0.6; MMA 4.9m, s.e. 0.8; MM1 2.3m, s.e. 0.3). Males were both present most often (SM 46.9%, MMA 48.4%, MM1 70.8%) and closest to infants (SM 14.1m, s.e. 1.4; MMA 15.9m, s.e. 1.6; MM1 5.3m, s.e. 0.5) when infanticide threat was greatest.

Male care was highly variable (from 0 to 100% of weekly focal sampling) and highest where infanticide threat was greatest. Female care was always high and the mother was closest to infants with the greatest threat of infanticide. Infants were also occasionally guarded by full-sibs but not half-sibs. Aggressive guarding behaviors were directed primarily at non-mating males. Mating with multiple males, while confusing paternity, incurs the cost of decreased male guarding. We conclude that while female guarding functions to protect against predation as well as possible infanticide, male guarding functions primarily to protect against infanticide.