

FITNESS CONSEQUENCES OF MIGRATION STRATEGIES IN MALE RHESUS MACAQUES

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Deciding when and where to migrate is expected to influence male fitness. Consequently, factors shown to affect male reproductive success might also influence migration strategies. Life-time fitness consequences of alternative migration strategies have been difficult to assess in primates, particularly when individuals move several times between groups throughout their lives. This study aims at investigating how migration decisions affect fitness in male rhesus macaques (*Macaca mulatta*) on Cayo Santiago Island, Puerto Rico. We used census records collected continuously since 1956 and genetic data available for almost completely sampled cohorts born between 1992 and 2000 (1100 individuals) and more than 500 animals born before 1992 in all groups. Initially, the association between the timing of successive migration events and age, past reproduction, current tenure length, group size, adult sex ratio and relatedness between focal males and his group members was examined in order to define male migration patterns. Subsequently, genetically determined paternity data were used to check whether males that adopt alternative strategies attain similar reproductive success over time. Reproductive skew was high among 58 sexually mature males alive between 1992 and 2000 (mean $\pm$ SD = 6.0 $\pm$ 5.7 offspring, range = 0-29). More successful sires used different migration strategies to attain high reproductive success, but tended to produce offspring in more groups than less successful sires. However, total number of offspring was not associated with number of migrations or groups of residency. This study constitutes one of the first attempts to quantify long-term reproductive success for the dispersing sex in a non-human primate.

Keywords: male dispersal, reproductive success, *Macaca mulatta*, paternity