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Patterns of philopatry and dispersal in a multilevel primate society

Hamadryas baboons (*Papio hamadryas*) are characterised by a suite of features unique to non-human primates. Like humans, they exhibit stable pair bonds embedded in a hierarchically structured social system. In hamadryas, a leader male and one or several females form a one-male unit (OMU) with several OMUs grouping together to form the next higher level of the society, the clan, and several clans grouping together to form bands. In contrast to many other primate species, hamadryas baboons have also generally been thought to exhibit male philopatry and female-biased dispersal. However, at which level of the social system and to what degree dispersal occurs has long been unclear. We genotyped 244 hamadryas baboons from one habituated and four unhabituated bands at Filoha, Ethiopia, at 23 autosomal microsatellite loci, one Y-linked locus and the hypervariable control region I using DNA extracted from non-invasively collected faecal samples. We found that males were largely philopatric at the level of the band and clan with more movement of females between bands and clans. However, we also found evidence for female philopatry at both levels, potentially allowing the maintenance of post-dispersal kin bonds. The existence of intrasexual kin bonds in both sexes combined with cooperation among males within bands, stable pair bonds and a multilevel social structure would emphasize the applicability of hamadryas baboons as a model for the evolution of the human social system.