

FEATURE ARTICLES

SEXUAL SELECTION AND THE GENETIC MATING SYSTEM OF WILD TURKEYS

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Abstract. Molecular measures of parentage provide important insights into the opportunity for sexual selection; in birds, such studies have been conducted almost exclusively on pair-bonded passerines. Here I employ a multitiered parentage analysis involving 10-locus microsatellite genotypes to characterize the genetic mating system of a population of Wild Turkeys (*Meleagris gallopavo*), a promiscuous species in which males and potentially females have been thought to mate multiply. Young in almost half of nests (48%, $n = 15$) were each apparently the product of a single male and female parent. Fourteen broods (45%) resulted from multiple paternity; seven contained eggs from multiple females, four of which appeared to be cases of quasi parasitism, in which the offspring of the brood parasitic female were fathered by the same male that sired at least one of the host females' offspring. Bateman gradients for males and females indicate that males experience a significantly greater gain in reproductive success from additional mates; the trend for females to benefit from multiple matings disappeared when the small "clutches" of parasitic females were excluded from the analysis. Of the components of variance in male fitness, number of mates was the most important determinant of male reproductive success. Somewhat surprisingly, when considering only reproductively successful males, the proportion of a female's offspring that a male sired also explained a substantial proportion of the total variance in male reproductive success. Incomplete sampling of offspring could mean that these estimates, particularly the importance of mate number, may be underestimated. Regardless, these results suggest that multiple mating by females may be an important and overlooked component of sexual selection in species with lek-like mating systems, and that selection may act independently on males to attract more mates and increase their share of paternity with those mates.

Key words: Bateman gradient, brood parasitism, kin selection, microsatellite, opportunity for selection, polyandry, polygyny