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Sexual Selection and Reproductive Strategies in Songbirds

Territoriality, mate attraction, parentage and parental care

van Mathew Berg

1. Females should exploit intra-sexual signals for mate choice purposes, because performance in male-male contests is likely to be honest.
Berglund, A., Bisazza, A. & Pilastro, A. 1996. Armaments and ornaments: an evolutionary explanation of traits of dual utility. *Biol. J. Linn. Soc.* 58, 385-399.
2. Flexibility in the expression of costly traits may be more important to fitness than the absolute expression of a particular trait, and may itself be subject to sexual selection.
3. Traditional models of mate choice assume that there are universally “good” and “bad” males from which females are selecting. In contrast, genetic compatibility confers non-additive benefits: the heterozygosity of offspring is a property not only of the father’s genotype but also the mother’s. Therefore, the best male genetically will be relative to a female’s own genotype.
4. Future studies would benefit from examining various acoustic, physiological and behavioural components of song production within a multiple signals framework¹.
¹Sensu Moller, A. P. & Pomiankowski, A. 1993. Why have birds got multiple sexual ornaments? *Behav. Ecol. Sociobiol.* 32, 167-176.
5. Sexual selection is a numbers game¹. As such, it is impossible to understand evolution by sexual selection without considering density-dependent processes.
¹Kokko, H. & Rankin, D. J. 2006. Lonely hearts or sex in the city? Density-dependent effects in mating systems. *Phil. Trans. R. Soc. B* 361, 319-334.
6. The application of DNA fingerprinting and related techniques to the study of mating systems represents one of the most important empirical advances in behavioural ecology so far. What’s more, the molecular revolution in ecology is only just beginning.
7. The practice of science is not isolated from the world we live in. Science has its politics, its economics, its fashions even¹. Often, these will prove an impediment to scientific excellence.
¹Andrew Carnie, *The Guardian*, 2002
8. Cycle tracks will abound in Utopia.
H. G. Wells, *A Modern Utopia*, 1905