The elaborate courtship of lekking birds: Female choice for male motor skills

Sexual selection was proposed by Charles Darwin to explain the origin of traits that seemed to contradict his theory of evolution by natural selection. A particularly spectacular category of behavioural ornamentations that evolved under sexual selection pressure are the elaborate courtship displays performed by males of many species. Despite their widespread presence in many animal taxa, we know very little about the physiological and anatomical mechanisms underlying the evolution of elaborate courtship behaviours. A few species have been studied to estimate the energy requirements of courtship or the hormonal activation of relatively simple courtship behaviours. However, our knowledge about neuromuscular specializations that support elaborate displays is limited to a few model species. In this talk, I will review our work on the physiological control of the elaborate courtship of a tropical bird, the male Golden-collared manakin. Our studies indicate that in this species females select males based on their neuromuscular skills and that elaborate courtship displays evolve to signal these traits. However, the complex array of traits that compose the courtship behaviour of male manakins and the likely involvement of cognitive skills in the make of the choreography of the display suggest that fisherian processes of selection are also involved.

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