

The role of the MHC in mate choice and parasite resistance; insights from avian systems

The existence and nature of indirect genetic benefits to mate choice remain contentious. Major histocompatibility complex (MHC) genes, which play a vital role in determining pathogen resistance in vertebrates, may be the link between mate choice and the genetic inheritance of vigour in offspring. Studies have shown that MHC-dependent mate choice can occur in mammal and fish species, but little work has focused on the role of the MHC in birds. In my talk I will present the result of an investigation into the existence of MHC-dependent mating patterns in the Seychelles warbler (*Acrocephalus sechellensis*) and the consequences of such mating patterns. Evidence that selection has maintained variation within the MHC in this species will be outlined and the role of pathogen-mediated selection in these results will be discussed. I will then briefly present details of ongoing work in which I am using other avian systems to explore in more detail; 1) the role of the MHC in pre- and postcopulatory sexual selection and; 2) the role of fluctuating selection in maintaining MHC variation.