

Sexual selection is an important evolutionary force that acts on variations existing exclusively in mating and fertilization success. Theories of sexual selection strive to explain the evolution of sexually dimorphic (and sometimes apparently maladaptive) morphological and behavioural traits. One of the major mechanisms through which sexual selection works is intra-sexual competition which often gives rise to male traits that increase their fitness (competitive ability). An important byproduct of these traits is that they can be harmful towards females in the context of mating. This gives rise to a scenario where the evolutionary interests of the two sexes are in direct conflict. This form of sexual conflict often results in a coevolutionary 'chase', called sexually antagonistic coevolution. Experimental evolutionary studies that can artificially manipulate the intensity of sexual selection (and thereby conflict) have been proven to be important in answering important questions and testing several theories in this area of research. While independent studies have met with varying degrees of success, cumulatively these studies have provided a wealth of knowledge and insights. Despite this, there are several important questions regarding sexual conflict that are still either not well addressed or disputed. The work – carried out using laboratory experimental evolution on populations of *Drosophila melanogaster* – presented in this thesis addresses some of these questions, such as: a. How does sexual conflict affect evolution of post-copulatory female behaviour and/or physiology, in particular, the ability of females to influence the outcome of sperm competition? b. Further, does sexual conflict stretch to a conflict over how much resource females invest in offspring? c. How are life-history traits such as immunity and ageing associated with sexual selection? d. Is sexual conflict really an engine of speciation? By addressing these questions, I have tried to shed some light on the fact that sexual conflict, above and beyond shaping the reproductive strategies of the sexes, can affect a diverse array of evolutionary phenomena. In an area of research that has started gaining traction recently, I hope that these findings are going to be useful addition to this growing body of knowledge.