

Putting sexual conflict in perspective

Sexual Conflict by Göran Arnqvist and Locke Rowe. Princeton University Press, 2005. US\$99.50/£65.00, US\$39.50/£26.95 hbk/pbk (360 pages) ISBN 0 691 12217 2/0 691 12218 0

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If the idea that sexual reproduction is a cooperative transaction from which males and females derive profound and equal benefit still persists in any corner of biology, then it should be dead and buried after the publication of *Sexual Conflict*. Although more than a quarter of a century ago, visionaries such as Robert Trivers, Richard Dawkins and Geoffrey

Parker highlighted the importance of differences in male and female evolutionary interests, it is only in the past decade that empirical and theoretical work has come to grips effectively with this insight. Göran Arnqvist and Locke Rowe have delivered a superb and highly readable review of the diverse ways in which conflict influences the ecology and evolution of sexual reproduction, from vicious penis-fencing duels in hermaphrodite marine flatworms to genomic imprinting of fetal growth promoter genes in mammals.

Sexual Conflict is pitched at graduate students and researchers, yet the pace of the argument is rapid enough to hold the interest of the non-specialist. It is one of the first books that I will suggest that my next PhD student read because it not only treats sexual conflict comprehensively, but it also provides concise and fresh background on many other issues in the field, such as the evolution of mate choice. The conceptual range of *Sexual Conflict* is wide enough that researchers working on conflict will find much of value on areas outside their own area of expertise. Such a wide-ranging treatment of the many facets of sexual conflict was much needed, and the integration of such a variety of topics within a single, simple framework is a triumph.

The authors have not only found fresh and interesting examples with which to illustrate their thesis, but they have also made considerable effort to contextualize these examples in the natural history of the relevant species. This is important because the costs and benefits that are the basis of sexual conflict need to be understood in the context of the organism itself. An incidental, yet pleasing consequence of reviewing this book is that I learned a considerable amount about the natural history of some unfamiliar species. Some of the more obscure examples, such as the barbed spermatophore and stabbing gonopodium of the Malabar rice fish, are among the most compelling, and I am sure many of these examples will lead directly to new research projects.

The authors make no apology for the fact that *Sexual Conflict* advocates a particular position. Although the case for the ubiquity and importance of sexual conflict is well made, there remains considerable disagreement and vigorous debate within the field. The reader gets a sense of this disagreement, but it is only mentioned directly in the preface and the introduction to the last major chapter, and is largely dismissed as the product of misunderstanding between researchers in different subdisciplines. Many of the more heated controversies, including those in which the authors are central figures, are among evolutionary ecologists who come from remarkably similar starting positions. If I have one criticism of *Sexual Conflict*, it is that the authors tend, at several junctures, not to draw attention to areas of current disagreement and controversy. Thus, several opportunities to ameliorate confusion and misunderstanding, and to identify areas of current controversy and potentially fertile study have been missed.

One of the fields currently being revolutionized by sexual conflict is sexual selection, which has, for many years, been mired in rather stale and intractable controversy over the adaptive nature of mate choice. Arnqvist and Rowe are among a few researchers who have shifted the sexual selection agenda toward disparities in the evolutionary interests of males and females. Both authors have worked on waterstriders since their PhD studies, and have made this group with their often violent mating system into a model of sexual conflict. I personally remember a discussion with Arnqvist in 1994, during which I took a long time to grasp that, when female waterstriders try vigorously to shake males off their backs, it is not to test which male has the best genes for her children. The authors comprehensively trounce this idea that sexual conflict is a bitter pill with a good-genes sweetener, hopefully for good. But more importantly, their book is so well argued that it is impossible to see sexual conflict as an interesting diversion to sexual selection anymore. One comes full circle to Trivers' original insight that sexual selection is an interesting emergent property of a more ancient and far-reaching evolutionary dynamic: sexual conflict.