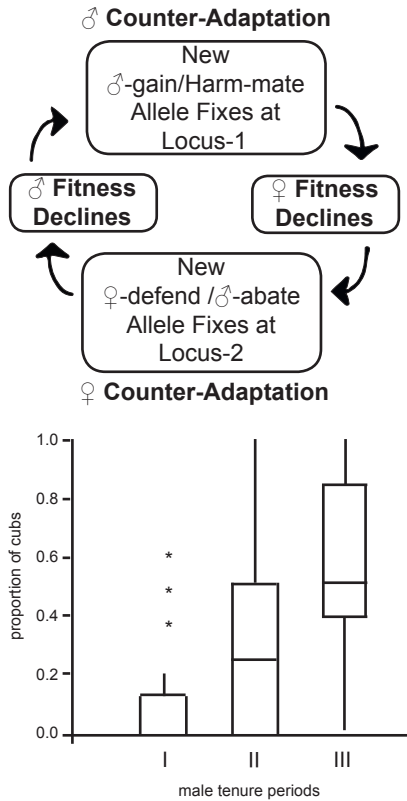


Interlocus sexual conflict in age-structured populations

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East et al. 2003. Proc. R. Soc. B Biol. Sci. 270: 1247–1254.
Rice 2000. Proc. Natl. Acad. Sci. U. S. A. 97: 12953–12955.

Interlocus sexual conflict (IRSC) occurs when males and females have different interests in reproduction. Both are selected to maximize their fitness, even if this goes at the costs of their mates. As a result, adaptive traits may arise in each sex that increase their fitness, but reduce the fitness of their mates. This leads to male-female coevolution, as the evolution of such traits in one sex promotes the evolution of counter adaptations in the other sex. The eco-evolutionary dynamics of IRSC have mainly been studied in the context of young mature individuals. Ageing is commonly associated with reduced reproductive function, but it is currently poorly understood whether this can affect the dynamics of IRSC. Recent evidence suggests that in older individuals, the expression of IRSC-related traits may be less efficient. On a population level, the coexistence of individuals of varying age may therefore produce substantially different dynamics than those observed between individuals of similar age. In this project, we will develop a model for interlocus sexual conflict interactions in populations. By incorporating different mechanisms of ageing-related decline in reproductive performance, we will study if and how the eco-evolutionary dynamics of IRSC are different in age-structured populations versus populations without such ageing. Experience with C++ is preferred but not required, though some familiarity with programming (e.g. R) is recommended.

Methods & keywords: C++; computer simulations; individual-based modelling; R.

Starting date: open