

Last time...

Evolutionary stability of sexual reproduction (i.e., when is a sexual population stable to invasion and replacement by an asexual clone?)

A. the cost of producing males (the “cost of sex” Maynard Smith 1978)

Aside 1: effect of sex ratio on the cost of sex...

Aside 2: Williams’ “cost of meiosis”

B. the macroevolutionary hypotheses. (these are about speciation (Stanley) and extinction (Nunney) rates.)

C. the microevolutionary hypotheses.

1. Mutation Clearance

Muller’s Ratchet.

Kondrashov’s Hatchet.

This time...

2. the adaptive variation (ecological genetic) hypotheses.

Aside 3: The “Paradox of Recombination” (individual vs group level advantages to sex)

Aside 4: Hard vs Soft vs DD vs FD selection...

A. The lottery model (hard selection in a temporally variable environment [Williams 1975])

B. The Tangled Bank model (Soft selection in a spatially variable environment [Bell 1982])

C. The Red Queen model. (time lagged frequency-dependent selection due to parasite-host coevolution [Jaenike 1978; Hamilton 1980])

a. data

b. problems on theory

D. Pluralist models. (West et al 2001)