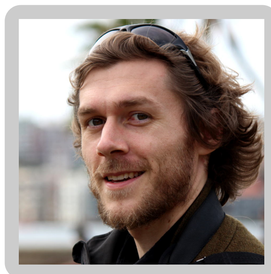

How much are wild vertebrate populations evolving right now?

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The big problem: We do not know how much wild organisms are currently evolving!

Fisher's fundamental theorem of natural selection says that **additive genetic variation in fitness measures evolution across all traits and all the genome**. That is just what we need*! Yet, there are few estimates in free-ranging populations, and most may be unreliable. Indeed, it is difficult to measure fitness, difficult to estimate genetic variance, statistical models tend not to fit the data, and it is unclear how to interpret estimates from generalized linear models. We assemble data from the monitoring of a dozen pedigreed populations and

Theory: How to estimate additive genetic variance in relative fitness ($V_A(\omega)$)

model fitness?

ZI distribution

estimate genetic variation?

Convert estimates to $V_A(\omega)$

Understanding genetic adaptation to climatic changes: lessons from two examples

Understanding the interplay between genetic evolution and population dynamics

Website

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* Fisher's theorem relies on stringent assumptions, or alternatively on quite a specific meaning of evolution:

R and LaTeXcode