



Seewiesen Colloquia

Speaker invited by: Niels Dingemanse

Thursday, December 20, 2012, 13h, House 4, Lecture Room

Challenges in understanding agents of selection: the case of predation

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There is an increasing interest in understanding the ecological causes of selection, and not only to estimate selection strength. Selection is an ecological process that might (or might not) lead to evolutionary change, but we still lack a major understanding of the importance of various selective agents and how the environment influences selection pressures on phenotypes. Ecological causes of selection are often ignored in most selection studies, and selection coefficients are often presented outside an ecological context, with little or no information about environmental factors driving selection. This is unfortunate, as selection is a distinct process from evolution, and deserves to be investigated in its own right. Or to quote legendary population geneticist R.A. Fisher in his first sentence of his legendary volume „The Genetical Theory of Natural Selection“: „Natural selection is not evolution“. Here I will discuss one important agent of selection and the challenges entailed in studying it: predator-mediated selection. I will discuss some recent work in this area, including both paleontological and ecological studies, in order to arrive at some general conclusions that would help us to move forward. Research both in my own laboratory and from other groups will be used to discuss the challenges of studying predator-mediated selection and its evolutionary consequences.

Who is Erik Svensson?

1997	PhD Lund University, Sweden
1987-1999	Fulbright postdoctoral scholar, University of California Santa Cruz (UCSC), USA
2000-2009	Junior Researcher, followed by Senior Research Fellow, Lund University, Sweden
2007	Professor in Animal Ecology, Lund University, Sweden

Selected publications:

- Sinervo, B. & Svensson, E. & Comendant, T. 2000. Density cycles and an offspring quantity and quality game driven by natural selection. *Nature* 406: 985-988
- Svensson, E., Sinervo, B. & Comendant, T. 2001. Density-dependent competition and selection on immune function in genetic lizard morphs. *Proc. Natl. Acad. Sci. USA* 98: 12561-12565.
- Svensson, E.I., Karlsson, K., Eroukhmanoff, F. & Friberg, M. 2007. Gender differences in species recognition and the evolution of asymmetric sexual isolation. *Curr. Biol.* 17: 1-5
- Svensson, E. I., Eroukhmanoff, F., Karlsson, K., Runemark, A. & Brodin, A. 2010. A role for learning in population divergence of mate preferences. *Evolution* 64: 3101-3113.
- Verzijden, M.N., ten Cate, C., Servedio, M.R., Kozak, G. M., Boughman, J.W. & Svensson, E.I. 2012. The impact of learning on sexual selection and speciation. *Trends Ecol. Evol.* 27: 511-519.