



## Seewiesen Colloquia

Speaker invited by: Alfredo Sánchez Tójar, Julia Schroeder

**Thursday, 27 March 2014, 13:00 h, in House 4, Lecture Room**

### **Causes and consequences of adult sex ratio variation in birds**

Prof. András Liker

University of Pannonia

Adult sex ratio (ASR) is one of the basic demographic parameters of natural populations, and recent theories suggest that ASR may influence reproductive sex roles, including parental care and mating behaviour. In this talk I review the diversity of ASR in natural populations of birds, showing that data often consistently suggest unbalanced ASR in some species. There are several processes that can generate skewed ASR: sex ratio may already be biased at hatching, or becomes unbalanced later due to sex differences in mortality and/or maturation time. I will show the results of phylogenetic comparative analyses that test some of these explanations, and suggest that ASR is more strongly associated with sex differences in adult mortalities than either hatching or fledging sex ratios. Finally, I will present comparative analyses using data on 180 species from 59 avian families in which we explored how variation in ASR is related to variation in sex roles. Theories predict that the rarer sex, which has better mating opportunities than the opposite sex, should invest more in obtaining multiple matings (or changing partners) and at the same time should reduce parental care. According to these predictions, our analyses show that skewed ASRs are often associated with polygamy and high divorce rates, and also with sex differences in parental roles.

## Who is András Liker?

- 1998 PhD University of Debrecen, Hungary
- 1996 Research fellow, University of Veterinary Sciences, Budapest, Hungary
- 2003 Associate professor, University of Pannonia, Veszprém, Hungary
- 2011 Marie Curie Research Fellow, University of Sheffield, UK
- 2013 Professor, University of Pannonia, Veszprém, Hungary

## Selected publications:

- Liker, A., Freckleton, R. & Székely, T. 2014. Divorce and pair-bond infidelity are associated with skewed adult sex ratios in birds. *Current Biology*, in press, doi: 10.1016/j.cub.2014.02.059
- Liker, A., Freckleton, R.P. & Székely, T. 2013. The evolution of sex roles in birds is related to adult sex ratio. *Nature Communications* 4: Article number 1587.
- Liker, A. & Bókonyi, V. 2009. Larger groups are more successful in innovative problem solving in house sparrows. *Proceedings of the National Academy of Sciences USA* 106: 7893-7898.
- Liker, A., Papp, Z., Bókonyi, V. & Lendvai, Á.Z. 2008. Lean birds in the city: body size and condition of house sparrows along the urbanization gradient. *Journal of Animal Ecology* 77: 789-795.
- Liker, A. & Székely, T. 2005. Mortality costs of sexual selection and parental care in natural populations of birds. *Evolution* 59: 890-897.