



Seewiesen Colloquia

Speaker invited by: Hau Research Group

Thursday, February 23, 2017, 13h, in House 4, Lecture Room

A journey inside the nuptial gift of a spider

Cristina Tuni
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Nuptial gifts, consisting of male donations of nutritious substances to females, are widespread and diverse. They are used by males to attract females, secure sperm transfer and as parental investment. In a series of experimental laboratory studies I have explored the evolutionary significance of gift giving in the spider *Pisaura mirabilis*, addressing both, male and female reproductive interests. Males exploit female foraging motivation by offering an insect prey wrapped in silk, that is eaten by the female during mating. The gift increases both, male mating success and fertilization success by prolonging sperm transfer. Interestingly, males also produce worthless (non-nutritive) gifts consisting of prey leftovers rather than genuine prey gifts. These males successfully 'cheat' females into mating while minimizing the costs associated with gift production (i.e. a missed meal), but suffer from shortened copulations. Results from my on-going research address the potential ecological drivers for worthless gifts in a natural spider population, such as intra-sexual competition and prey availability, and unearth how nuptial gifts may become a target of sexually antagonistic co-evolution, where cheating via worthless gifts leads to female resistance to the trait.

Who is Cristina Tuni?

- 2011 PhD Aarhus University, DK
- 2013 Postdoctoral fellow Aarhus University, DK
- 2014 Research associate LMU Munich, DE

Selected publications:

Talk-related

- Ghislandi, P.G., Beyer, M., Velado, P., and Tuni, C. 2017. Silk wrapping of nuptial gifts aids cheating behaviour in male spiders. *Behavioural Ecology*. In press.
 - Tuni, C., Albo, M. J., and Bilde, T. 2013. Polyandrous females acquire indirect benefits in a nuptial-feeding species. *Journal of Evolutionary Biology* 26: 1307-1316
- #### Other
- Tuni, C., Perdigón Ferreira, J., Fritz, Y., Muñoz Meneses, A., and Gasparini, C. 2016. Impaired sperm quality and delayed mating but no costs for offspring fitness in field crickets winning a fight. *Journal of Evolutionary Biology*. DOI: 10.1111/jeb.12888
 - Berger-Tal, R., Lubin, Y., Settepani, V., Mejer, M., Bilde, T., and Tuni, C. 2015. Evidence for loss of nepotism in the evolution of permanent sociality. *Scientific Reports* 5. doi:10.1038/srep13284