



## Seewiesen Colloquia

Speaker invited by: Research Group Goerlitz

Thursday, 17 December 2015, 13:00 h, in House 4, Lecture Room

## Acoustic communication and vocal production learning in bats

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Acoustic signals are by far the best studied component of bats' social communication. Various different vocalization types accompany diverse social interactions, such as mother-pup recognition, male-male aggression, territoriality and courtship. Rich vocal repertoires might be a by-product of the bats' excellent control over their vocal tract which is necessary for echolocation. Correspondingly, bats comprise one of the few mammalian orders capable of vocal production learning. In my talk, I will summarize the current knowledge about learned vocalizations in a Neotropical bat, the greater sac-winged bat *Saccopteryx bilineata*. This species is one of the most thoroughly studied bats with regard to its natural history and social communication in the wild. Male *S. bilineata* sing to repel rivals and attract mates. Moreover, the vocalizations of males and females encode different vocal signatures (individual-, sex- and group-specific) facilitating social communication. Juvenile *S. bilineata* are capable of vocal production learning, namely the social modification of an innate, naturally selected vocalization type (pup isolation call) and the learned acquisition of a sexually selected vocalization type (male territorial song).

## Who is Mirjam Knörnschild?

- 2009 Dissertation University of Erlangen-Nürnberg, Germany
- 2013 Habilitation University of Ulm, Germany
- 2014 Research Associate of the Smithsonian Tropical Research Institute, Panama
- 2015 Heisenberg Fellow Free University Berlin, Germany

## Selected publications:

- Knörnschild M (2014) Vocal production learning in bats. **Current Opinion in Neurobiology** 28: 80-85.
- Knörnschild M, Jung K, Nagy M, Metz M, Kalko EKV (2012) Bat echolocation calls facilitate social communication. **Proceedings of the Royal Society B** 279(1748): 4827-4835.
- Knörnschild M, Nagy M, Metz M, Mayer F, von Helversen O (2012) Learned vocal group signatures in the polygynous bat *Saccopteryx bilineata*. **Animal Behaviour** 84(4): 671-679.
- Knörnschild M, Nagy M, Metz M, Mayer F, von Helversen O (2010) Complex vocal imitation during ontogeny in a bat. **Biology Letters** 6(2): 156-159.