

SEEWIESEN

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for Ornithology

LECTURE SERIES

FALL/WINTER 2017/18



MAX-PLANCK-GESELLSCHAFT

THURSDAY | JANUARY 25, 2018 | 13 P.M. | HOUSE 4 LECTURE ROOM

MICHAEL GRIESSER

Department of Anthropology, University of Zurich | Host: Dept. Kempenaers

Family living: the overlooked steppingstone to kin cooperation

Cooperative breeding is an extreme form of cooperation that evolved in birds, insects, fish, mammals, and humans. Although cooperative breeding in birds is well-studied, the conditions that favoured its evolution are still unclear. My presentation highlights the importance of family living for the evolution of cooperative breeding, explores its adaptive benefits, and assesses its life-history consequences. Phylogenetic comparative work showed that family living is a critical steppingstone for evolutionary transitions from pair breeding to cooperative breeding. The evolution of families is associated with productive environments, which facilitate prolonged parent-offspring associations. The subsequent evolution of cooperative breeding, however, is associated with environmental variability, where helpers can prevent reproductive failure in harsh years. My experiments with the family-living Siberian jay demonstrated that parents provide independent offspring with nepotistic food access, predator protection, and social learning opportunities to acquire vital life skills, for example to learn recognizing predators. Comparative work suggests that these benefits allow individuals in family living species to allocate more resources into their immune system or sexually selected traits. Thus, considering family living as an own social system changes our understanding of the evolution of sociality and cooperation, and provide novel insights into life-history evolution.

WHO IS MICHAEL GRIESSER

- 2003** PhD Uppsala University (Sweden)
2004-2008 Postdocs at Turku University (Finland), Sheffield University (UK), Uppsala University (Sweden)
2009 Assistant Professorship, Swedish Agricultural University
2012 Assistant Professorship, University of Zurich

SELECTED PUBLICATIONS

- Burkart J, van Schaik C, Griesser M. 2017. Looking for unity in diversity: cooperative childcare in humans in a comparative perspective. *Proceedings of the Royal Society B*. 284: 20171184.
 Suzuki T, Wheatcroft D, Griesser M. 2017. Wild birds use an ordering rule to decode novel call sequences. *Current Biology*: 27: 2331-2336.
 Griesser M, Drobniak SJ, Nakagawa S, Botero CA. 2017. Family living sets the stage for cooperative breeding and ecological resilience in birds. *PLoS Biology*: 15(6): e2000483.
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 Griesser M. 2008. Referential calls signal predator behavior in a group-living bird species. *Current Biology* 18: 69-73.
 Covas R, Griesser M. 2007. Life-history and the evolution of family living in birds. *Proceedings of the Royal Society B* 274: 1349-1357

CO-ORDINATOR Nicole Fritz | nicole.fritz@orn.mpg.de | 08157 - 932 240