

SEEWIESEN

# LECTURE SERIES

FALL/WINTER 2017/18

Max Planck Institute  
for Ornithology



MAX-PLANCK-GESELLSCHAFT

THURSDAY | November 30th, 2017 | 13 P.M. | HOUSE 4 LECTURE ROOM

## BARBARA TSCHIRREN

University of Exeter | Host: Küpper Research Group

### Artificial selection reveals the costs, benefits and constraints shaping the evolution of maternal provisioning

Conditions experienced early in life have long-term fitness consequences. Because in most taxa the early-life environment is provided by the parents, selection should favour increased parental care. Yet, considerable variation in parental provisioning is observed within and across populations. Life history theory predicts that this variation is maintained through parental costs associated with increased offspring provisioning. Yet, the proximate mechanisms underlying such fundamental life-history trade-offs remain poorly understood.

To gain insights into the constraints and trade-off that shape the evolution of life history strategies, we artificially selected Japanese quail (*Coturnix japonica*) for divergent maternal egg provisioning, and explored costs, benefits and constraints at the genetic, transcriptomic and phenotypic level. In this talk I will show how different family members 'like their eggs' and provide evidence that the immune system plays a key role in mediating the trade-off between reproductive effort and lifespan

#### WHO IS BARBARA TSCHIRREN?

2005	PhD University of Bern, Switzerland
2006	Swiss National Science Foundation (SNSF), Janggen-Pöhn and Australian Research Council APD Postdoctoral Fellow, University of New South Wales, Australia
2009	SNSF Advanced Postdoctoral Fellow, Lund University, Sweden
2011	SNSF Assistant Professor, University of Zurich, Switzerland
2017	Senior Lecturer in Evolutionary Ecology, University of Exeter, UK

#### SELECTED PUBLICATIONS

- Pick, J.L., Hutter, P. and Tschirren, B. 2017. Divergent artificial selection for female reproductive investment has a sexually concordant effect on male reproductive success. *Evolution Letters* 1(4): 222-228.
- Ihle, K.E., Hutter, P. and Tschirren, B. 2017. Increased prenatal maternal investment reduces inbreeding depression in offspring. *Proceedings of the Royal Society B* 284(1860): 10.1098/rspb.2017.1347.
- Tschirren, B., Ziegler, A-K., Pick, J.L., Okuliarová, M., Zeman, M. and Giraudeau, M. 2016. Matrilineal inheritance of a key mediator of prenatal maternal effects. *Proceedings of the Royal Society B* 283(1838): 10.1098/rspb.2016.1676.
- Tschirren, B., Postma, E., Gustafsson, L., Groothuis, T.G.G. and Doligez, B. 2014. Natural selection acts in opposite ways on correlated hormonal mediators of prenatal maternal effects in a wild bird population. *Ecology Letters* 17(10): 1310-1315.

CO-ORDINATOR Nicole Fritz | [nicole.fritz@orn.mpg.de](mailto:nicole.fritz@orn.mpg.de) | 08157 - 932 240