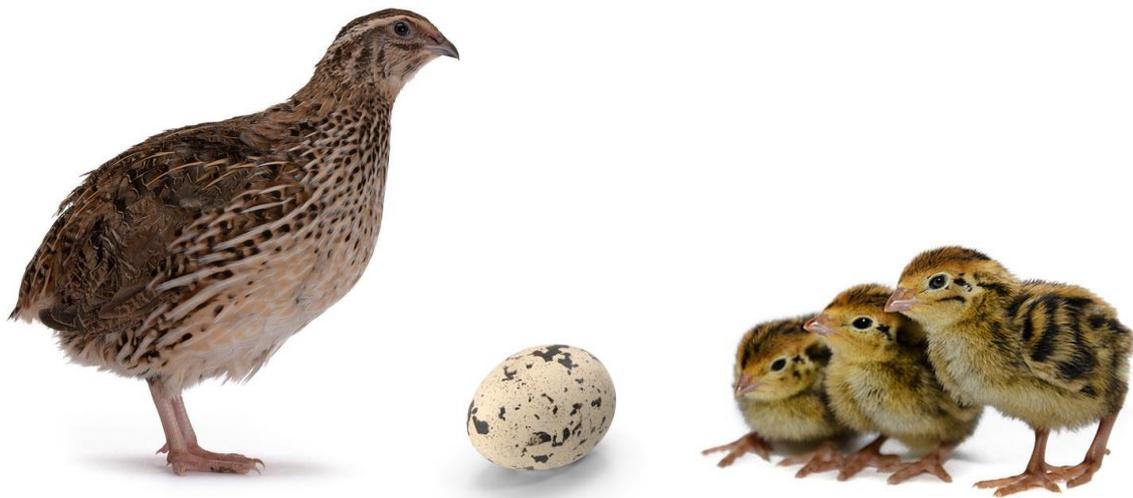


MSc project:

The inheritance of maternal effects

In many species, a mother not only provides her offspring with genes, but also determines the quality of the developmental environment during embryogenesis. In birds, the nutrients the offspring have available for successful embryonic development are already set at the start of life, by being confined to the egg the mother lays. In this project, we want to investigate whether increased maternal investment in eggs increases daughters' investment in eggs, independent of the genes these daughters inherit.

To this end we will utilize replicated lines of domesticated Japanese quail (*Coturnix japonica*) that are experimentally selected for high and low maternal egg provisioning. Japanese quail are relatively small precocial birds that produce eggs almost daily when housed under appropriate conditions, and are sexually mature within 8 weeks after hatching. We will make reciprocal crosses of males and females selected for high and low maternal egg provisioning. Subsequent monitoring of the daughters' egg size will allow us to differentiate between maternal and autosomal inheritance of egg size. Moreover, by testing for the effect of egg size variation within mothers on their daughters' eggs we can differentiate between genetic and non-genetic maternal inheritance.



We are searching for a dedicated MSc student who can start in the spring of 2019. The student will participate in breeding quail, monitoring artificial incubation, raising quail chicks and measuring the size of the eggs the female offspring lay once they are mature. The student will therefore experience a lot of close interaction with the birds, and learn handling, breeding and measurement of domesticated birds. Moreover, the project has a clear experimental setup with a fundamental question within the field of evolutionary ecology that allows training in advanced statistical skills. No prior experience with birds is required.

For more information, contact:

Dr. Oscar Vedder

Institute of Avian Research

Wilhelmshaven, Germany

oscar.vedder@ifv-vogelwarte.de