

Evolution of transgenerational effects: function & genetics of epigenetics.

Initiative: Evolutionsbiologie (beendet)

Ausschreibung: Postdoktorandenförderung

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Phenotypic variation is determined to a large extent not only by the underlying genetic architecture, but by epigenetic effects causing variation in gene expression. Variation in offspring phenotypes induced by hormone mediated maternal effects are especially interesting since steroid hormones act as transcription factors, thereby directly affecting the epigenome which can lead to heritable modifications across generations. However, the adaptive and evolutionary significance of transgenerational epigenetic effects is highly debated. In this experiment we will study not only whether prenatal maternal effects prepare offspring in an optimal way for the future environment but we will also investigate the underlying hormonal mechanisms and the heritability of these. We will breed Japanese Quail (*Coturnix coturnix japonica*) under high or low social density and follow the progeny across three generations. By combining behavioural, endocrinological and gene expression measurements we aim at enhancing our knowledge on the mechanisms and function of prenatal maternal effects.

Projektbeteiligte

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