

**Invitation to a Guest Lecture  
at the joint colloquium of the Institute of Biology and Environmental Sciences and the  
Department of Neuroscience**

**Module bio890: Current topics in biology**

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### **Physiological and genomic consequences of hybridization in a killifish**

Sexual reproduction is pervasive among vertebrates. However, hybridization sometimes produces asexually reproducing lineages. These lineages offer a unique opportunity to investigate the physiological and genomic consequences of asexual reproduction. The Common Killifish (*Fundulus heteroclitus*) is a small euryhaline fish whose range partly overlaps with that of the Banded Killifish (*F. diaphanus*), a primarily freshwater species. These species can hybridize and produce fertile offspring as evidenced by the reporting of sexually and asexually reproducing individuals. In our first study, we have compared mitochondrial function among parental species and natural and lab-bred hybrids using high-resolution respirometry. Despite ~15-20 million years of divergence between parental species, we did not detect any evidence of cytonuclear incompatibilities in the hybrids. In our second study, we have compared the repetitive DNA content of natural asexually reproducing hybrids to their parental species. Repetitive DNA content of the hybrids was generally intermediate to that of parental species, as expected. However, we detected accumulation of a Neptune-like element in asexually reproducing hybrids, consistent with derepression of this paternally-inherited transposable element.

**28.01.2025, 16:15 Uhr, W04 1-162/hybrid 5.02.001**

Host: Matthias H. Weissensteiner (Institute of Avian Research), IfV

Members of all institutes are cordially invited to join the lecture.