

EVOLUTION, ECOLOGY, & GENETICS

RESEARCH SCHOOL OF BIOLOGY

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Temperature-dependent sex determination in a changing world

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For organisms whose sex is determined by the environment, changes in the environment have the potential to dramatically impact population demography. With temperature-dependent sex determination (TSD), climatic extremes can lead to the production of heavily-biased offspring sex ratios. This has consequences for both the ecology of the population and the evolution of this mechanism of sex determination.

This talk explores both the evolution and ecology of TSD in fluctuating environments. First, the role of environmental fluctuation in the evolution of TSD reaction norms is explored. Second, the influence of recent climatic variation on the nesting behavior and population ecology of the TSD-exhibiting Painted turtle (*Chrysemys picta*) is examined. While these approaches suggest that the evolution of TSD in long-lived organisms can accommodate the influence of fluctuating climates, directional climate change may strongly impact population ecology.

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