

How do we do thermal physiology in a variable world?

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Life has evolved in the presence of thermal variability on multiple, interacting, timescales. Yet our experimental designs often oversimplify this, assuming that data collected under constant temperature conditions or after only a single stress exposure can be extrapolated to animals living in the wild. This is often for practical reasons: thermal variability can be described and quantified many ways and it is unclear which are the most biologically-relevant. Here I offer a few examples of thermal variability studies in insects and molluscs, and suggest a few ways of pushing the field forward with simplified experimental designs. In particular, I suggest explicitly considering and testing for physiological thresholds, carefully considering null hypotheses, and looking for higher-level control for predicting the effects of thermal variability on organisms.



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Seminar room at Zoophysiology (1131-127)