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SÉMINAIRE

Phenotypic plasticity: a resilient mechanism to overcome ongoing climate change

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Recent global changes in climate impose new energetical constraints. As evidence for widespread biological impacts of recent climate change accumulates, there is an increasing interest in understanding how organisms adapt to changing environments. Direct abiotic and indirect biotic factors are impacting on individuals' energy balance. Long-lived vertebrates seem to largely compensate these energetic bottlenecks by phenotypic plasticity. We present a summary of current works on the flexible control of energy expenditure conferred by phenological shifts and heterothermy that provide the ability to respond to environmental variations. Although some species may adapt to climate change through phenotypic plasticity, there are significant limits and costs to this strategy. A detailed understanding of physiological and behavioural mechanisms involved would provide a powerful tool for predicting future ecological patterns and managing their consequences.