



EVENET – An eco-evolutionary network of biotic interactions

The ecology-physiology-life-history nexus: integrating ecophysiology in evolving life history syndromes

Special symposium @ Ecology Across Borders; the Joint Annual Meeting of the British Ecological Society (BES), the Gesellschaft für Ökologie (GfÖ) and NecoV, in association with the European Ecological Federation (EEF).

ICC Ghent, Wednesday 13th December 2017, 11.00-13.00

Changes brought by humans on the natural environment act on unprecedented temporal and spatial scales (e.g. urbanization, pollution, global change) and may not have been encountered by a range of species during their evolutionary history. It is vital to understand if and how organisms can adaptively respond to these changes. This understanding is limited by the complexity of both the environment and the organisms. Not only is an organisms niche multidimensional in nature, comprising niche dimensions related to for example resource availability, abiotic stress and predation pressure, but organisms too are integrated entities characterized by co-evolved life-history traits. Hence, their plastic and evolutionary responses to these changing conditions involve coordinated changes in many traits. Life history evolution and ecophysiology provide complementary information on the phenotype and how it interacts with the environment, yet they are still largely disjunct research fields. Many physiological studies are primarily conducted in a lab setting on a few species with little connection to the environmental conditions under which these species evolved. Linking ecophysiology and evolutionary ecology from a life-history perspective could greatly increase our understanding of the living world, including the vulnerability of organisms to environmental change.

Speakers:

Enrico Rezende (Andrés Bello National University, Chile)- Size-dependency of dealing with global warming: is smaller really better when things get hot?

John Spicer (Plymouth University, UK) – Does altering the timing of physiological development have fitness consequences? Lessons from hypoxic aquatic invertebrates.

Sonya Auer (University of Glasgow, UK) – Metabolic rate evolves rapidly and in parallel with the life history.

Jacintha Ellers (Vrije Universiteit Amsterdam, The Netherlands) – Can we use ecophysiological traits to understand impacts of climate change on ecological communities?

Michael Berenbrink (University of Liverpool, UK) - Do life-histories dictate properties of respiratory pigments or vice versa?

Wilco Verberk (Radboud University, The Netherlands) - Universal metabolic constraints shape the evolutionary ecology of diving in ectotherms and endotherms.

Lloyd Peck (British Antarctic Survey, UK) – How adaptations to extreme polar marine conditions impact life histories and responses to change.

Host and info: Prof. Robby Stoks – robby.stoks@kuleuven.be