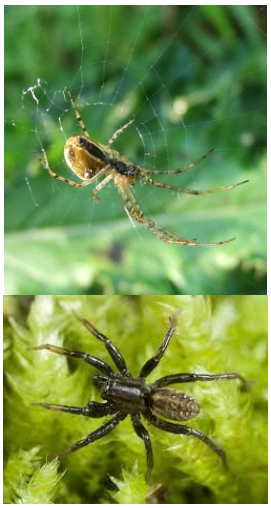
Thesis-Topics 2025 - Comparative Physiology
(Master BEE, LENC)

Master thesis: Life history strategies: the resting metabolic rates of web-building vs cursorial spiders

Supervisors: Dr. Jonas Wolff; Prof. Philipp Lehmann & Postdoc AG Lehmann

Background: There are two contrasting life history strategies among spiders: living in a self-constructed web or hunting prey directly without the use of a snare (cursorial hunters). Web-builders have to maintain a costly silk production machinery, but are thought to benefit from capturing more and larger prey, resulting in higher metabolic rates, faster growth and higher fecundity. So far, metabolic rates have only been measured for a handful of species, therefore evidence for this hypothesis is scarce.



Question: How do resting metabolic rates differ between web building and cursorial species?
So far this is barely known to science - and you could change that!

Start: any time 2025

Tasks:

- field collection and identification of multiple species of web building and cursorial spiders
- measuring resting metabolic rates in the AG Lehmann
- phylogenetic comparative analysis of metabolic rates

Why should I take this topic?

- work with diverse species - get fascinated by biodiversity
- learn to measure the metabolic rates of small animals and to apply phylogenetic comparative methods
- learn about variation and evolution of life history strategies and their effect on ecological functions
- work in a young, interdisciplinary team

Caught your interest? Please contact
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