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STELLENAUSSCHREIBUNG

Master-/Diplomarbeit

Cruciferous plants defend themselves against their herbivore enemies by producing mustard oil glycosides (glucosinolates). Upon plant tissue disruption, toxic mustard oils (isothiocyanates) are released. By ingesting these plant products, herbivorous insects usually suffer harmful consequences, ranging from retarded development over diminished growth to death. Yet, some species of butterflies are specialized to this group of plants and have developed special biochemical adaptations dealing with those plant toxins.

In our group Glucosinolate Metabolism in Small Herbivores (<http://www.ice.mpg.de/ext/746.html>), we explore the metabolism of isothiocyanates in caterpillars using isotope-labeled glucosinolates. In this thesis project you will investigate the detoxification of glucosinolates in different specialist caterpillars, which are adapted to feeding on cruciferous plants.

The following techniques will be used:

- Mass insect rearing
- Bioassays with insects
- Biological synthesis of marker molecules
- Extraction and analysis (HPLC, LC-MS & GC-MS) of metabolites

Requirements:

Candidates should be in the last stage of their diploma/master studies in biology, ecology/ biochemistry or chemistry and should have a strong interest in entomology/ physiology/ ecology/ biochemistry/ plant defenses. The duration of the work will be ≥ 6 months.

If you are interested, please contact Katharina.

Dr. Katharina Schramm
Department of Biochemistry
Max Planck Institute for Chemical Ecology
Hans-Knöll-Straße 8
07745 Jena
E-mail: kschramm@ice.mpg.de

