



University of
Zurich^{UZH}



European Research Council
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Department of Systematic and
Evolutionary Botany

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PhD Position in Chemical Ecology and Evolutionary Biology (4-year appointment)

I am seeking a highly motivated PhD student to join my ERC-funded research project CARDEVOL at the Department of Systematic and Evolutionary Botany, University of Zürich. For more information on my research, visit www.plant-insect.org

Applicant

The ideal candidate will have completed an MSc degree in Plant Biology, Ecology, or a related field, and has a **strong interest in natural history, fundamental science, and field-based research**. A basic knowledge of native European fauna and flora is advantageous, and a willingness to learn some methods in **molecular biology and analytical chemistry** is required. Good English skills in speaking and writing and a familiarity with the R statistical language and basic statistical methods are expected.

The successful candidate will be the first to join my newly established research group at the University of Zürich, which will be complemented by a postdoctoral fellow, a technician, and a second PhD student within the first year of the project.

Project

Plants are under constant attack by a diverse community of insect herbivores, and in response they often produce a tremendous diversity of defensive secondary metabolites. Plants in the Brassicaceae genus *Erysimum* have gained the ability to produce novel toxic cardenolides, in addition to the ancestral glucosinolate defences of all Brassicaceae plants. This has apparently allowed *Erysimum* to partially escape its co-evolved herbivores. The CARDEVOL project aims to elucidate the causes and consequences of phytochemical diversification in this system. Through a combination of a diverse set of experimental approaches, we will quantify the costs and benefits of novel chemical defences for the plant, and identify mechanisms of generalized tolerance as well as specialized resistance evolution in co-evolved insect herbivores.

The successful candidate will be involved in sampling the natural variation of the annual plant *Erysimum cheiranthoides* in Central and Eastern Europe. They will then lead the efforts to characterize the collected natural accessions for eco-physiological and chemical traits in the greenhouse, and to generate inbred plant lines for further experiments. The main task of the candidate will then be to manage several season-long field experiments in which the performance of different chemical phenotypes will be evaluated under field conditions with ambient insect herbivory or herbivore exclusion treatments.

How to apply

The intended start date for this position is **April 2021**, although a later date could be negotiated. **Applicants are encouraged to apply as soon as possible**. The review of applications will begin in January 2021, and the position remains open until filled. To apply, submit a 1-page **letter of motivation** detailing previous research experience and relevant skills in field- and lab work, a **CV** including publications, and the names and contact information of **two academic references** as a **single pdf** to tobias.zuest@uzh.ch. Please reference PHD1_CARDEVOL in the subject line.