



1 PhD & 1 Post-Doc Position in Plant Invasion Ecology

University of Fribourg, Switzerland



Rationale

The proposed project will be the first one that considers the importance of polyploidy and herbivores for invasions simultaneously. Our leading hypothesis is that herbivore pressure and assemblage will, at least partially, explain the predominance of specific cytotypes both in the native and introduced range. The *Centaurea stoebe* L. (syn. *C. maculosa* Lam.) (Asteraceae) system provides an excellent model system to study these interactions, and we take advantage of the large knowledge already available on this plant and its herbivores. Native to Europe where it occurs as a diploid (2x) and a tetraploid (4x) cytotype, the species is highly invasive in North America, where nearly exclusively only 4x plants have been found. Several specialist insect herbivores have been introduced to North America for its biological control, with only partial success so far.

We seek two highly motivated researchers to help clarifying underlying mechanisms of this most successful plant invasion as a complement to various presently ongoing studies that we carry out in collaboration with both national (through NCCR Plant Survival) and international partners. We plan to (i) explore the relationship between type and amount of herbivory and the occurrence of the two cytotypes of *C. stoebe* in its native range by a European-wide survey combined with a replant/transplant experiment, (ii) carry out a series of experiments to analyze interactions between two selected specialist herbivores and the *C. stoebe* cytotypes, and (iii) investigate more generally into the role of generalist herbivores for plant invasions (in collaboration with Urs Schaffner, CABI Europe-Switzerland and our US counterparts).

Requirements

- PhD position: Master Thesis in Biology, preferentially in ecology and evolution
- Post-Doc position: doctoral degree in plant ecology and evolution

For both positions, knowledge of, and experience in one or several of the following areas of research is desirable: experimental (field) ecology and evolutionary biology, invasion biology, plant-herbivore interactions, experimental design and statistical analysis; furthermore, fluency in English and driver's license will be required.

Salary and conditions

The positions are funded by the Swiss National Science Foundation, and start April 1, 2009. Salaries: PhD c. 43'000 SFr/year for 3 years; Post-Doc dependent on age and status, gross salary in the first year about CHF 70'000, for 2-3 years.

Applications

Applicants should e-mail their CV and publication list, together with a short motivation letter and a summary of research experience and interests, and the names of two professional referees to Heinz.mueller@unifr.ch. Please indicate your earliest possible, and your ideal start.

For further information, please contact:

Prof. Dr. Heinz Müller-Schärer, Département de Biologie, Unité Ecologie & Evolution, Université de Fribourg, Chemin du Musée 10; CH-1700 Fribourg, SWITZERLAND; tel: + (41) (0) 26-300 88 35/50 cf. my research website at <http://www.unifr.ch/biol/ecology/muellerschaerer/group/mueller/> for further information and recent publications on this subject.