

MSc Course
at University of Fribourg, Dep. Biology, Unit Ecology & Evolution, on
Plant Invasions and Trophic Interactions
Fourth Edition

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As a result of global trade and transport, the number of organisms introduced to novel areas by humans has increased dramatically. Biological invasions are regarded as one of the greatest current threats to global biodiversity. Moreover, some introduced species cause major economic problems in agriculture and forestry.

Determining the factors that enable introduced species to proliferate and become invasive has emerged as a fundamental challenge to ecologists and evolutionary biologists worldwide. There are multiple hypotheses to explain biotic invasions among which changes in trophic interactions play a key role. Besides ecological, also evolutionary processes are thought to underlay successful invasions. Because of the unusual combination of genetic bottlenecks and changing selection regimes, invasive species may in fact provide some of the best model systems for studying rapid evolution in action.

The course *Plant Invasions and Trophic Interactions* (BL.0202) builds on knowledge in population biology and plant-insect interactions. We will discuss both ecological and evolutionary explanations of biological invasions and review recent theory and practical applications for their control.

The course will take place in its **fourth edition** during the **fall semester 2008 on Monday 13.15-16h** (in general 2h lecture course, 1h paper discussion). Active participation of the students is an integral part of this graduate course. A special website will be arranged to accompany this course. The course can be validated with **4 ECTS**.

Students of the **Plant Doctoral Programme “Plants and the Environment”** and the **Inter-University Doctoral Program in Ecology and Evolution** are required to present a case study of a biological invasion touching upon the various issues discussed in this course, in consultation with the lecturers.

Date		Topic	Lecturer
15 Sept.	1	Plant invasions: scientific and environmental issues	MvK
22 Sept.	2	The paradox of invasions: hypotheses	MvK
29 Sept.	3	Genetic processes in plant invasions	CHH
6 Oct.	4	Methods to study evolutionary change in plant invasions	CHH
13 Oct.	5	Enemy Release, Biotic Resistance and Novel Weapons	MvK
20 Oct.	6	EICA and hybridization	MvK
27 Oct.	7	Invasions in a community & ecosystem context	LFB
3 Nov.		(no course)	
10 Nov.		(no course)	
17 Nov.	8	Biological Control: exploiting enemy release to manage invasions	HH
24 Nov.	9	Plant invasions in EU and CH and biocontrol prospects	HH
1 Dec.	10	Case studies I	stud
8 Dec.		Festive day (no course)	
15 Dec.		Case studies II (if needed)	stud
22 Dec		(no course)	

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