



Universität
Basel

Research Project

Effects of invasive plants on soil microbial communities

Project funded by own resources

Project title Effects of invasive plants on soil microbial communities

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Organisation / Research unit

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Status Completed

There is growing evidence that biodiversity plays a key role for maintaining ecosystem functions and services which are of immense importance for both society and the environment. The invasion of alien plants is considered as a major threat for the native biodiversity in forests. Alien plants have the potential to affect ecosystems by changing plant, soil bacterial and fungal communities and to disrupt symbiotic association between soil fungi and plants. This project aims to assess in situ the effects of the annual invasive plant *Impatiens glandulifera* on the diversity of AM and EM fungi and to evaluate the spatial scale on which the invasive plant influences mycorrhiza. Moreover, the effects of *I. glandulifera* on root diversity, an important compound of the belowground biodiversity, will be assessed. It is assumed that the bioavailability of allelochemicals released by invasive plants determines the magnitude of the effects on mycorrhiza and plant performance. Soil characteristics determining the availability of the allelochemicals released by *I. glandulifera* will also be assessed. The results of the study will provide new insights into the effects of an invasive plant on mycorrhizal and belowground plant diversity that are important for ecosystem functioning. The project will also deliver sound data for the management of forests invaded by alien plants and will be of great interest to forest and conservation agencies.

Keywords Allelochemicals, Belowground plant diversity, Bioavailability, Deciduous and coniferous forests, Invasive plants, Mycorrhiz

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