

**The Department of Community Ecology at UFZ  
cordially invites to its series of seminars.**

**Venue:**

Helmholtz Centre for Environmental Research – UFZ  
Theodor-Lieser-Str. 4, D-06120 Halle (Saale)  
Seminar room, ground floor

**August 27, 2019, 02:00 pm**

**Marija Milanović (Helmholtz-Centre for Environmental Research – UFZ, Department of Community Ecology):** *Trait – environmental relationship between native and non-native plant species*

The success of non-native plant species can occur due to the differences in their functional traits and how are these species adapted in new habitats. Studies have shown that non-native plant species (especially invasive species) show the difference in traits such as SLA (specific leaf area), height, seed size or flowering period. As a result, the success of non-natives can be expected to increase in the habitats where native species express different traits (limiting similarity hypothesis). However, introduced species can often thrive in communities with similar characteristics (habitat filtering hypothesis). To test these hypotheses we studied the trait – environment relationship between native and non-native plant species (archaeophytes and neophytes). Further, we investigated the difference between introduced neophytes and (potentially) invasive neophytes. We analyzed the relationship between functional traits of 1300 plant species occurring on 1000 sites in Germany and different climatic and land use variables.

Our results show that temperature, precipitation, the proportion of natural habitats, as well as the number of land use and geological patches affect differently archaeophytes and neophytes, regarding their level of urbanity and self-pollination. The similar pattern was observed between neophytes and invasive neophytes, where additionally, SLA, storage organs and the beginning of flowering had a significant relationship with environmental factors. Yet, the native species did not express any significant relationship between traits and environment possibly due to high heterogeneity of species. The non-native species at different stages of introduction showed both similarities and differences in terms of the relationship between traits and the environment. Therefore, the results support both hypotheses showing that the success of introduced species is context dependent.

Please find information on our series of seminars here:

<http://www.ufz.de/index.php?de=38646>

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