The evolution of cis-regulation in the Arabidopsis genus

Adaptation of a complex trait often requires the accumulation of many modifications to finely tune its underpinning molecular components to novel environmental requirements. The investigation of cis-acting regulatory modifications can help pinpoint molecular systems partaking in such complex adaptations. With the help of an interspecific crossing scheme designed to distinguish modifications derived in each of the two sister species, Arabidopsis halleri and A. lyrata, we examined the relative rate of accumulation of cis-regulatory modifications in these two lineages. Allele-specific expression levels were assessed in environmental conditions chosen to reflect interspecific ecological differences, and their accumulation in specific functions points to the action of polygenic selection. I will detail these results and present novel experimental data investigating whether the pattern of cis-acting variation can help us understand the evolutionary forces that reshaped the plastic response to drought stress in these species.

07.01.2020, 16 Uhr s.t., W04 1-162

Gastgebend:
Prof. Dr. Michael Kleyer (AG Landschaftsökologie), IBU

Gäste aller Institute sind herzlich willkommen