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Short- and long-term challenges and opportunities of polyploidy in evolution

Similar to all organismal phenomena, also polyploidy, the possession of more than one complete chromosome set, undergoes a life span; polyploidy does not have the same effect on a polyploid evolutionary lineage while this lineage is aging. First, meiosis and cellular regulation need to adapt to whole genome duplication. Once a polyploid lineage is established, pervasive population genetic effects, such as masking of deleterious mutations, may provide a fitness advantage over the diploid progenitors, for example in form of beneficial morphological and physiological changes between cytotypes. In an aging polyploid lineage, however, genetic load accumulates and the lineage might eventually become extinct, or diploidization proceeds, which is discussed as a motor for further diversification. In my talk, I will summarize new insights into adaptation to whole genome duplication, using Arabidopsis as a model group, and the long-term fate of polyploids, using radiating southern African Oxalis as the study system.

28.01.2020, 16 Uhr s.t., W04 1-162

Gastgebend:
Prof. Dr. Dirk Albach (AG Biodiversität und Evolution der Pflanzen), IBU

Gäste aller Institute sind herzlich willkommen