ORIGINS OF POLYPLOID *ARABIDOPSIS* SPECIES ASSOCIATE WITH RECENT GLACIATION MAXIMA

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Polyploidy may provide adaptive advantages and is considered to be important in evolution and speciation [1]. Polyploidy events are found throughout the evolutionary history of plants, however they are not uniformly distributed along the time axis. For example, many of the detected ancient whole-genome duplications (WGDs) tend to cluster around K/Pg boundary (~ 65 Mya) [2], which corresponds to a drastic climate change event and a mass extinction. Here we discuss recent polyploidy events using *Arabidopsis* as the most developed plant model on the level of the entire genus [3]. I will review the history of origin and potential adaptive advantages of allotetraploid species *A. suecica*, *A. kamchatica* and tetraploid lineages of *A. lyrata*, *A. arenosa* and *A. thaliana* species. There is a striking association between recent glacial maxima and estimated times of origins of polyploidy in *Arabidopsis*. This association further supports the link between polyploidy and environmental challenges, which now has been observed on different time-scales: for ancient and recent polyploids. I will also talk about future perspectives of whole-genome sequencing of Eastern Russia Arabidopsis herbaria samples (plant.depo.msu.ru), including *A. lyrata ssp. septentrionalis* [4] - most probably independently originated *Arabidopsis lyrata* tetraploid distributed around Lena river in Siberia.

References.

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