GENETIC DIVERSITY AND DIGITAL DOCUMENTATION OF KAZAKHSTAN'S FLORA

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Kazakhstan, with its expansive and diverse climate zones, boasts a rich and varied flora, featuring around 6,000 vascular species, including approximately 10% that are endemic. Effective management and study of this diverse flora requires continuous monitoring and inventory using advanced botanical, molecular genetic and bioinformatics techniques. This research focuses on exploring the genetic diversity within Kazakhstan's flora and establishing a comprehensive information database. Under Program 0237/PTF (2015-2017), efforts began to assess the genetic diversity of endemic, rare, endangered, and economically significant plant species of Kazakhstan. As part of grant AP05131621, an open-access web resource was developed, offering botanical and genetic data on Kazakhstan's flora. This database includes detailed botanical information on around 500 species. Ongoing research into the genetic diversity of different genera such as *Juniperus, Tulipa*, *Allium, Iris, Salsola,* and etc. promises to provide valuable insights into their population structure, phylogenetic relationships, and conservation strategies. Notably, this research has also initiated the first comparative analysis of plastid genomes in Kazakhstan.

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