

Source of financing	Grant funding of young scientists under the "Zhas Galym" project for 2023-2025 (Ministry of Science and Higher Education of the Republic of Kazakhstan)
Priority directions	Life and Health Science
Specialized scientific areas	Study, conservation and rational use of genetic resources of Kazakhstan. Innovative approaches to environmental monitoring and protection. The influence of environmental factors on human health
IRN of the project:	AP19177914
Name of the project:	«Study of genetic polymorphism of endemic representatives of Prunus subgenus. Amygdalus (L.) Focke on different mountain ranges of Kazakhstan»
Project Manager	Orazov Aidyn, PhD, acting Associate Professor
Implementation deadlines	2023-2025
Relevance	Kazakhstan is rich in rare and endemic plant species, the density of which is concentrated in the territories of the Karatau of the western Tien Shan, low mountains in Central Kazakhstan, on a number of mountain shrub and steppe belts of Altai and Tarbagatai, and on the ridges of the Mugodzhzar Urals. One of these species are poorly studied representatives of the subgenus Prunus subgenus. Amygdalus (L.) Focke of the Rosaceae Juss. Kazakhstan: Prunus ledebouriana (Schltdl.) Y.Y. Yao, Prunus tenella Batsch, Prunus petunnikowii (Litv.) Rehder and Prunus spinosissima (Bunge) Franch. This is a group of low, highly decorative shrubby forms that have similar characteristics that make it difficult to identify species, thereby actualizing this research topic.
Purpose	Aim it's study the level of genetic diversity, polymorphism of population P. ledebouriana, P. tenella, P. petunnikowii, P. spinosissima on the Tarbagatai, Altai, Karatau, Mugodzhzar ridges with molecular genetic methods of studying samples, connections with species anatomical, morphological features for further information, digital recognition of area, uploading to international databases.
Expected Result	The main result, indicating the achievement of the project goal, is the study of endemic plant species listed in the Red Book of Kazakhstan at the world level (publication of floristic materials on taxa in the form of electronic data (observation) corresponding to international databases on biological diversity (iNaturalist, GBIF, The Plant List, Plantarium, GenBank, etc.). Genetic study of polymorphism of P. ledebouriana, P. tenella, P. petunnikowii, P. spinosissima on different mountain ranges. Preparation of scientific publications. The results of scientific research are planned to be published in peer-reviewed scientific publications in the scientific direction of the project, included in Q1, Q2, Q3 in the Web of Science database and (or) having a CiteScore percentile in the Scopus database of at least 50 (fifty) - 2 articles. The first publication on the obtained data of polymorphism of SSR loci, the second publication on the obtained data of ITS, s6pdh, trnLF, trnSG DNA markers. Creation of herbarium collections of endemic plants of mountainous regions and submission of an application for the Herbarium index (Index Herbariorum) for the Astana International University.
Target consumers of the results obtained	Environmental institutions of Kazakhstan, students and teachers of higher educational institutions, scientific community