

Influence of Unfavorable Factors to Biodiversity of Rare Geofits

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Aim of the study: Range and the number of rare species belonging to the genus *Tulipa* L. and *Iris* L. are gradually decreasing as a result of the degradation of natural landscapes under the anthropogenic influence. The use of places for agricultural purposes where geofit plants are historically inhabited, causes negative impact for sustainability of population. The study of ontogeny and bioecological characters of rare geofits is important in the the scientific substantiation of rehabilitation opportunities of plants. Reintroduction of the species *Tulipa* L. and *Iris* L. in the in depleted areas is one of the effective methods for protecting and restoring of biodiversity.

Material and Methods: The object of the research are species of *Tulipa eichleri* Regel, *T. biebersteiniana* Schul. et Schult, *T. julia* C.Koch, *Iris acutiloba* C.A.Mey., *I. reticulata* Bieb., *I. grossheimii* Woronow ex Grossh. what are widespread in the north-eastern part of Azerbaijan. These species can be found up to dry-grassy slopes of low and medium mountain zone of Great Caucasus, on wormwood-salinated, wormwood-ephemeral, turf-grain, dry steppe, various grainy-grassy steppe, subalpine vegetation formations. Rare plants are found on dry, stony, gravelly mountain slopes, among rocks, in forest glade, planting fields, 140-1500 m above sea level. Individual monitoring techniques in special test grounds and methods of geobotanical searches in the fields have been used in order to study natural resources of geofits. Morphometric parameters of vegetative and generative organs of plants in testing fields, age range and resistance to environmental conditions were studied. Assigning the species in the plant group, diversity and number composition of the populations in the natural areas and agricultural ecosystems are comparatively studied. Abundant variation and diversity of *Tulipa* L. and *Iris* L. species in small locality of natural areas were investigated by an individual monitoring method. Reintroduction possibilities were studied in order to recover the number of plants in the depleted areas.

Results: Observations show that, *Tulipa* L. and *Iris* L. species adapted to different ecological conditions and have a broad range of ecological plasticity. The rare geophytes species are distinguished by abundant form and biodiversity in untouched natural areas. Analysis of age spectrum of geofits indicates that populations represented by *latent*, *juvenile*, *Immatur*, *virginil* and *generative* age stages of ontogenesis are more durable, and capable of self-regeneration. The plants of *generative* ages restore, burgeon and form seeds every year in natural phytocenosis where is minimal human impact. Plants of *juvenile* and *immatur* age stage of rare species which spring up in agro-cenosis constantly expose to anthropogenic stress and get destroyed during cattle grazing, haymaking and agro-technical measures. Research shows that the loss of the age spectrum causes a sharp reduction of species diversity. Collection of *generative* plants growing around the edges of cultivated fields leads to a decrease in the plants population. Reintroduction of some geofit species in depleted areas is the main method for the rehabilitation of rare plants. It is recommended to create wildlife micro sanctuary, genetic bank of the plants and monitoring through GIS system in the areas with small plants localities in order to preserve rare geophytes species.

Keywords: rare geophytes, anthropotolerance, population, biodiversity, ontogeny.