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DISTRIBUTION OF SPECIES OF THE *Gentiana* GENUS IN AZERBAIJAN

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РАСПРОСТРАНЕНИЕ ВИДОВ РОДА *Gentiana* В АЗЕРБАЙДЖАНЕ

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Abstract. Species of the *Gentiana* genus can be found in almost all regions of Azerbaijan. Basically, most species of gentians are distributed in the high mountain belt. During the research conducted in the Herbarium Fund of the Institute of Botany, the new habitats of two species belonging to the *Gentiana* genus was determined. *G. septemfida* Pall. is found in the territory of Bilgah village, Absheron district. New habitat for *G. asclepiadea* L. — is Lesser Caucasus (north), Gadabey area.

Аннотация. Виды рода *Gentiana* встречаются практически во всех регионах Азербайджана. В основном большинство видов горечавок распространено в высокогорном поясе. В ходе исследований, проведенных в Гербарном фонде Института ботаники, определены новые местообитания двух видов, принадлежащих к роду *Gentiana*. *G. septemfida* Pall., встречается на территории села Бильгах Апшеронского района. Новое местообитание *G. asclepiadea* L. — Малый Кавказ (север), Кедабекский район.

Keywords: gene pools, habitats, section.

Ключевые слова: генные пулы, местообитания, секция.

In modern times, the significant impoverishment of the plant gene pool leads to the disruption

of the normal functioning of natural ecosystems, reduces the potential of evolution, deprives humans of the opportunity to use their useful qualities. In recent years, intensive exploitation of forest land, plowing of meadows, increase of pasture and mowing areas, and other such anthropogenic factors prove the fact that the populations of species of *Gentiana* genus, like other species, are decreasing and that many species are in danger of disappearing.

The study of morphobiological traits of plants by modern methods is considered the main source of information for the development of their phylogenetic systems, the compilation of fundamental florogenetic concept and taxonomic classifications. In this regard, the systematic study of higher plants, their families, tribes and genera is a valuable floristic database. It is important to conduct fundamental complex bioecological studies of species (distribution, intraspecies variability, population biology and sustainability of natural populations) in order to develop scientifically based forms and methods of protection of the gentian family, which include both decorative and medicinal species, as well as their efficient use. In terms of importance, one of the higher plant groups is Gentianaceae and its various genera. The gentian family, which is rich in valuable plants, is of great importance in terms of decorative and medicinal properties. The geographical position, the complex geological structure of limestone rocks and wide distribution in Azerbaijan create conditions for the new formation, development of endemism and the creation of biodiversity. In some years, many leading scientists of the world studied the taxonomy of gentian family. As both a decorative and a medicinal plant, it has not been left out of the attention of Azerbaijani scientists [2, 8].

The genus *Gentiana* was developed by R. M. Sofiyeva in the flora of Azerbaijan and by A. A. Grossheim in the flora of the Caucasus, at the same time in the flora of the former USSR [1, 5, 8]. R. Sofiyeva showed that there are 14 species of the genus. For many years, the systematics of the genus was not investigated. Based on literature materials and the results of molecular analysis, as a result of changes in the taxonomic composition of the genus, the table below shows that the genus consists of 9 species and one subspecies [4] (Table 1).

GROUPING OF SPECIES OF GENUS *GENTIANA* BY SECTIONS

<i>Sections</i>	<i>Species</i>	<i>Subspecies</i>
<i>Pneumonanth</i>	1. <i>G. asclepiadea</i> 2. <i>G. gelida</i> 3. <i>G. septemfida</i> 4. <i>G. lagodechiana</i>	
<i>Chondrophylla</i>	5. <i>G. pyrenaica</i> 6. <i>G. aquatica</i>	
<i>Cyclostigma</i>	7. <i>G. nivalis</i> 8. <i>G. verna</i>	<i>G. verna subsp. pontica</i>
<i>Aptera</i>	9. <i>G. cruciata</i>	

Material and method

Herbarium samples collected from different areas of Azerbaijan were examined. Comparative-morphological, systematic, (A. A. Grossheim 1934, 1949, I. I. Karyagin 1952, 1961), geographical (N. N. Portenier) methods were used during the research (Figure 1) [5, 6].

Conclusion

In the flora of Azerbaijan, most species of gentians are distributed in the high mountain belt. Gentians are hemicryptophyte, they have shoots on the surface of the earth even in unfavorable times. When the weather gets cold, the above-ground parts are destroyed, and the underground

organs go to the deeper layers of the soil, are protected in the remains in earth. Species of the genus can be found in almost all areas of Azerbaijan [2, 3].

During the research conducted in the Herbarium Fund of the Institute of Botany, MSE, RA, the new distribution ranges of two species belonging to the genus *Gentiana* was determined. The first of them is *G. septemfida* Pall. species which is determined in the territory of Bilgah village, Absheron district [7].

Section: *Pneomananthes* Neck. 1791 El. 2: 12. Perennial. There are no basal rosette leaves. Lower leaves are small, scaly. The crown is clawless, parts- erect. The layers are well developed. The seeds are winged, sometimes wingless.

G. septemfida Pall. 1788, Fl. Ross. 1: (2) 101; A. Grossheim, Fl. USSR, 18:550; Sofiyeva, 1957, Fl. Azerb. 7: 87; A. Grossheim, 1967, Fl. Cauc. 7: 209; A. Asgarov, 2016, The plant world of Azerbaijan: 312. *Crested gentian*.

This species grows in forest clearings, meadows, stony-gravel forest slopes in areas from the middle mountain belt to the alpine.

Described from the Eastern Caucasus (Figure 2).

In Azerbaijan, this species is distributed in GC (Guba), GC east, GC west (Zagatala), LC north, LC center, in the mountainous areas of Nakhchivan and Lankaran. The new distribution range is Absheron [1, 8] (Figure 2).

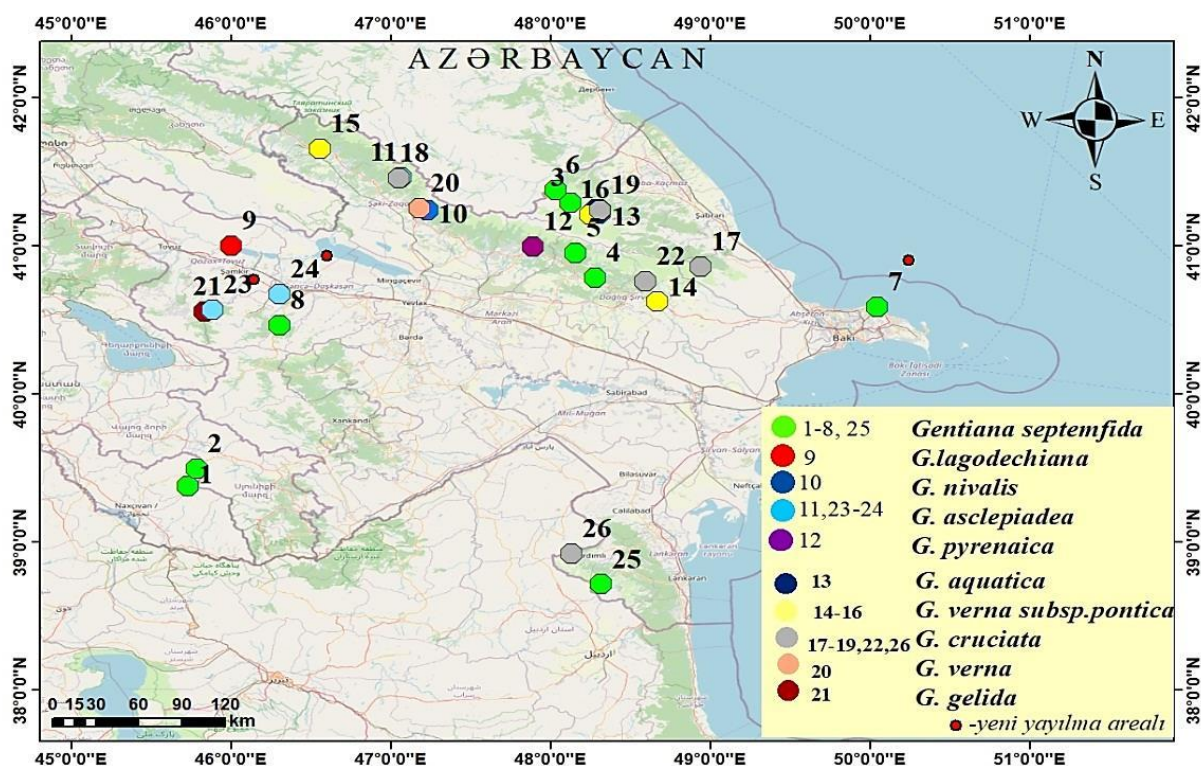


Figure 1. Map-scheme 1. Distribution of *Gentiana* L. genus species in Azerbaijan

G. asclepiadea L. 1753, Sp. Pl.: 227.; 1753, Sp. Pl.: 227; A. Grossheim, 1952, Fl. USSR, 18:543; A. Grossheim, 1932, Fl. Cauc. 1:229. — *G. schistocalyx* (C. Koch) C. Koch, 1850, in Linnaea, 23: 585; A. Grossheim, 1952, Fl. USSR, 18:543; A. Grossheim, 1967, Fl. Cauc. 7: 208; Sofiyeva, 1957, Fl. Azerb. 7: 87; A. Asgarov, 2016, The plant world of Azerbaijan: 312. *Willow gentian*.

It is distributed in forest, forest edge, planting and meadow, mountain slope from plain to subalpine zone.

Described from Switzerland.

In Azerbaijan, it is distributed in GC (Guba), GC east, GC west, and other areas. Its new distribution range was found in the LC north, Gadabey area (Figure 3).



Figure 2. *Gentiana septemfida* Pall.



Figure 3. *Gentiana asclepiadea* L.

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