



## Endemic Species Of Flora Kuhitang Ridge

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### ABSTRACT

The article says that of the 25 endemic species of the Kugitang flora, 18 species are found in the eastern part of the ridge, i.e. within Uzbekistan. All endemic to the Uzbek part are protected by the Surkhan reserve. This indicator indicates the great importance of the Surkhan reserve in the gene pool of the Kugitang plant diversity.

### KEYWORDS

Endemic, reserve, plants, perennials, rhizome plants.

### INTRODUCTION

An assessment of the floristic wealth of the Kugitang ridge was first given by S.A. Nevsky [1], who identified 675 species in the flora. 588 species he cited for his collections. At one time, this work was the standard of floristic analysis of mountain territories. But the work did not address the topic of endemic Kugitang plants. A detailed analysis of the flora of the Kugitang ridge was done by R.V. Kamelin [2].

According to the results of his calculations, at least 860 species are found only in Western Kugitang, while the total number of Kugitang flora species is estimated to be at least 1000 species. R.V. Kamelin highly appreciates the endemism of the flora, indicating a relict and at the same time young progressive character. Among the endemic species are species from various groups - *Astragalus bobrovii* B.

Fedtsch. (monotypic section *Astenolobium* Gontsch.), *A. plumbeus* (Nevski) Popov, *A. willisii* Popov, *Euphorbia spinidens* Bornm., *Zygophyllum bucharicum* B. Fedtsch., *Hymenocrater incisodentalis* Boriss., *Otostegia bucharica* B. Fedtsch., *Cii. C.leptoclada* Kult. and etc.

According to F.U. Khasanova [3] only in the tree-shrubby vegetation of the Kugitang ridge there are 578 species belonging to 269 genera and 55 families. The work indicates 13 endemic species - *Astragalus plumbeus* (Nevski) Gontsch, *A. rubri-galli* Popov, *A.willisi* Popov, *Oxytropis pseudoleptophysa* Boriss, *Seseli nevskii* (Korov.) M. Pimen. et Sdobn., *Acantholimon majevianum* Regel, *Lappula nevskii* Raenko, *Phlomis thapsoides* Bunge, *Neogaillonia botschantzevii* Lincz., *Cousinia spryginii* Kult., *C. dimoana* Popov, *Echinops multicaulis* Nevski, *Jurinea popovii* Iljin. Khasanova [3] only in the tree-shrubby vegetation of the Kugitang ridge there are 578 species belonging to 269 genera and 55 families. The work indicates 13 endemic species - *Astragalus plumbeus* (Nevski) Gontsch, *A. rubri-galli* Popov, *A.willisi* Popov, *Oxytropis pseudoleptophysa* Boriss, *Seseli nevskii* (Korov.) M. Pimen. et Sdobn., *Acantholimon majevianum* Regel, *Lappula nevskii* Raenko, *Phlomis thapsoides* Bunge, *Neogaillonia botschantzevii* Lincz., *Cousinia spryginii* Kult., *C. dimoana* Popov, *Echinops multicaulis* Nevski, *Jurinea popovii* Iljin.

In recent years, we have been studying the flora of the Surkhan reserve, located on the Uzbek part of the ridge. As a result of field studies and analysis of literature data [3, 4, 5, 8, 9, 10], 25 species of endemic plants are given for the entire Kugitang ridge. Most endemics are representatives of the leading families of the Central Asian flora. The following is a list of Kugitang endemic.

## MATERIALS AND METHODS

*Acantholimon majevianum* Regel (Limonaceae) is a common species of Kugitang flora. It grows on the territory of the Surkhan Reserve, where it is found in the northern part of Bagli-Dara and Tangi-Duval. It grows on gravel and rocky slopes and peaks of watersheds at an altitude of 1000-2100 m above sea level. It plays a significant role in the vegetation cover, is part of many phytocenoses of the upper foothills and mountains, (the abundance of sp1-sp2) in some places dominates the associations of upland xerophytes.

*Allium kugitangii* F.Khasanov (Alliaceae) is a rare species for the flora of the Surkhan reserve, we have recorded several small populations on the fine-grained, rocky-fine-grained slopes of Bagli-Dara. The abundance does not exceed 10-12 plants per 100 m<sup>2</sup> [6].

*Astragalus aemulans* (Nevski) Gontsch. (Fabaceae) - It is rare. It grows in western Kugitang, in the areas of Khojafilat and Markushi. It lives on rocky and gravelly slopes at an altitude of 1800-2200 m. at. m. *A. kahiricus* DC. - according to Nikitin and Geldikhanov [5] found in the southwestern Kugitang, between Kelif and Okuzbulak. Grows on the sandy hilly slopes of the foothills, at an altitude of 600-800 m above sea level. *A. plumbeus* (Nevski) Gontsch. et Popov. - is extremely rare, grows in the northern part of the Khuzhanka site, Surkhan reserve. It lives on limestone and gravelly slopes, at an altitude of 1100-1500 m. at. m., the abundance of sp1. *A. rubri-galli* Popov - rarely found, narrow endemic of the western Kugitang, noted near Kelif. It lives at the outputs of variegated rocks at an altitude of 850-1000

m above sea level. *A. subschachimardanus* Popov- populations are protected in the northern part of the Kizyl-alma section of the Surkhan reserve. It lives on stony, stony-

gravelly slopes, and gentle peaks of water sections at an altitude of 1800-2800 m above sea level, an abundance of sp2-sp3.

*Cousinia bobrovii* Juz. (Asteraceae) - it is found occasionally, grows on the Turkmen part of the Kugitang ridge. It lives on fine-grained, stony-fine-grained slopes at an altitude of 1000-1800 m above sea level. *C. glabriseta* Kult. - an extremely rare species, we noted only one habitat on the northern slope of the site of Kizyl alma, Surkhan reserve. Grows on fine-grained and fine-grained-gravelly soils in the middle zone of mountains, at an altitude of 1500-1800 m above sea level. The abundance does not exceed 10-12 plants per 100 m<sup>2</sup>. *C. leptoclada* Kult. - is rare. It grows only in the eastern part of the Surkhan reserve, in the northern part of the Kizyl alma site. It lives on rocky and gravelly slopes at an altitude of 1800-2500 m above sea level, an abundance of sol - sp1. *C. triceps* Kult. - Occurs occasionally. Marked only on the site of Kizyl alma, Surkhan reserve. It grows in solitary individuals, on stony and gravelly slopes and watersheds up to 2700 m above sea level, an abundance of sp1.

*Ferula nevskii* Korov. ex Nevski (Apiaceae) is a common species of Kugitang flora, found almost throughout its territory on fine-grained, stony, stony-gravelly slopes at an altitude of 1500-2000 m above sea level, the abundance of sol is sp1. *Haplophyllum vvedenskyi* Nevski (Rutaceae) - is rare. Grows in the southern part of the Bagli-Dara (Surkhan Reserve) and the western part, in the vicinity of the village of Kugitang. The populations are distributed on fine-grained, stony-fine-grained slopes. The altitude interval is narrow, all the noted populations are spread over 1100-1400 m above sea level, the abundance of sp1.

*Jurinea tapetodes* Iljin (Asteraceae) - is rare. In eastern Kugitang, it was recorded in several sections of the Surkhan reserve - Kampirtep, Sherjan and Vandop. Distributed on gravel and rocky slopes, on rocks from 2200 to 2800 m above sea level, an abundance of sp1.

*Lepidolopha fedtschenkoana* Knorr. (Asteraceae) is a rare species for the flora of the Surkhan Nature Reserve, we have recorded several small populations on rocky cliffs, rocky and gravelly slopes of Bagli-Dara and Tangi-Duval. The lower boundary of the distribution of populations passes at an altitude of 1000 m above sea level. It occurs singly, an abundance of sol.

*Neogaillonia trichophylla* (Popov ex Tschern.) Lincz. (Rubiaceae) - It is rare. It lives on the dry gravel and gravel-clay slopes of the southern part of the Surkhan reserve, in the area of the Vandop site. The interval is from 800 to 1200 m above sea level, an abundance of sol.

*Onobrychus nikitinii* Orazmuchommedov (Fabaceae) - is very rare. In eastern Kugitang, it grows in the territory of the Surkhan reserve (Bagli-Dara). It is possible to be in the Turkmen part of the ridge, in the vicinity of Khojafilat. Throughout the reserve, all noted local populations grow on stony-fine-grained slopes of the upper mountain belt, at an altitude of 2100-2400 m above sea level. The abundance reaches 10-15 individuals per 100 m<sup>2</sup>.

*Oxytropis megalorrhyncha* Nevski (Fabaceae) - is rare. Distributed in separate areas of both Kugitang macroscopes. In the Uzbek part, we recorded in the northern part of the Kizyl alma site (the territory of the reserve) and several localities are given in the literature [5] for Khojafilat. It lives on rocky and gravelly slopes

at an altitude of 1800-2300 m above sea level, the abundance does not exceed the level of sol. *O. pseudoleptophysa* Boriss. - a rare species of flora of the Surkhan reserve. Only two small populations are known. We noted the first on the stony slope of the upper part of Kampirtep (2500-2700 m above sea level) and the second on the stony and gravelly slope of the northern part of Kizyl alma (2100-2600 m above sea level).

*Scutellaria nevskii* Juz. Et Vved. (Lamiaceae) - grows on western Kugitang. It occurs on fine-grained and stony-gravelly slopes at an altitude of 2000-2500 m above sea level. [5]. *S. heterotricha* Juz. Et Vved. - is given for the northern part of the Khuzhanka site, possibly in the vicinity of Sayat. It lives on rocky outcrops and along gorges at an altitude of 1500-2000 m above sea level, an abundance of sol-sp1.

*Seseli nevski* (Korovin) M. Pimenov et Sdobnnina (Apiaceae) - all over Kugitang met B.M. evenly, especially in the eastern part. Small populations are given for Khojafilat, Naich, the village of Kugitang, the Turkmen part of the ridge and the upper part of Kampirtepe, Surkhan reserve. Grows on stony, stony-gravelly slopes at an altitude of 1500-2100 m. at. m., the abundance of sol-sp1.

*Taraxacum gnezdilloi* Kovalevsk. (Asteraceae) - is found in the southern part of the sites of Sherjan and Kampirtepe, Surkhan reserve. Individuals are confined to fine-grained and stony slopes (1200-1800 m above sea level), the abundance of sp1.

In addition to the “faithful” endemic, 5 subendemic species grow in the Kugitang ridge: *Astragalus bobrovii* — given for the Gissar ridge: to the south and east of the Yakkabag settlement, a lesson. Khan-ottoman *A. willisii* Popov – southern part of the Katta-Kurchuk mountain; *Salvia lilacinocoerulea* Nevski and *Euphorbia densiuscula* Popov. *Phlomis spinidens* Nevski - reaches the

southern part of the Baysun-tau ridge. Of the 25 endemic species of the Kugitang flora, 18 species are found in the eastern part of the ridge, i.e. within Uzbekistan. All endemic to the Uzbek part are protected by the Surkhan reserve.

## CONCLUSION

This indicator indicates the enormous importance of the Surkhan Reserve in preserving the gene pool of the Kugitang plant diversity. Five species from the Kugitang endemic (*Astragalus plumbeus* (Nevski) Gontsch. Et Popov, *A. subschachimardanus* Popov, *Cousinia glabriseta* Kult., *Lepidolopha fedtschenkoana* Knorr., *Oxytropis pseudoleptophysa* Boriss.) are listed in the Red Book of Uzbekistan [7]. For all these species, the reasons for the change in the number and range have not been established, and protection measures have not been developed, which indicates the need to study the state of natural populations and the bioecological characteristics of the endemic Kugitang species.

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