



Monocotyledonous Plants of the Lower Surkhan Natural Geographical Region Flora

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Aim: Determining the species composition of monocotyledonous plants distributed in the flora of Lower Surkhan region.

Place and Duration of Study: National University of Uzbekistan named after Mirzo Ulugbek. The research was carried out in March, April, May and June 2022 in 6 districts of Surkhandarya region.

Methodology: More than 1,500 herbarium specimens from all parts of the region were collected to identify the monocotyledonous plants of Lower Surkhan flora.

Results: Amaryllidaceae, Convolvulaceae, Iridaceae, Liliaceae, Poaceae are polymorphic monocot families in the Lower Surkhan flora. This list includes families with more than 5 species. In this list, Poaceae is only part of the polymorphic families of the general flora of Lower Surkhan. These families make up 49.5% of monocots in the Lower Surkhan flora. There are 8 families with 2, 3 and 4 types and 1 family with only one type. Polymorphic genera include *Allium* L., *Convolvulus* L., *Gagea* Salisb., *Bromus* L, *Iris* Tourn. etc. were introduced They make up 28.3% of all monocots. The first five categories alone have 32 species.

Conclusion: During our floristic research in the Lower Surkhan region, the species composition of monocotyledonous plants was determined. According to the obtained results, it was determined that the flora of Lower Surkhan consists of 12 families, 53 genera and 113 species of monocotyledonous plants.

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Keywords: Lower Surkhan natural geographical region; Amudarya valley; Sherabad river; composition of monocotyledonous plants; families; genera and species.

1. INTRODUCTION

Lower Surkhan natural geographical region is one of the main hotspots of Surkhan-Sherabad botanical-geographical region. This region is part of the floristically unexplored regions of Uzbekistan.

The Lower Surkhan natural geographical region includes the Amudarya valley, the lower part of the Surkhandarya valley (below the village Yangi qishloq) and the part of the Sherabad river bed at an absolute height of 300-450 m [1,2]. The district is rich in thermal resources (the sum of temperatures during the growing season is 5750-5950°), low annual rainfall (130-150 mm), dry autumn, dry and hot summer (average air temperature in July is +31.5°, +32 °), mild and warm winters (average temperature in January +3°, +3.5°), frequent and strong blowing of the "Afghan" wind, the abundance of vegetative winter (90-100%), the prevalence of barren and sandy soils. Based on the variety of geological, geomorphological, and soil conditions in the region, 5 types of land are distinguished [3].

The total area of lower Surkhan territory is 3520.15 sq. km. From the administrative geographical point of view, Termiz city, Termiz district, Angor district, Jarkurgan districts, Muzrabat district, the lower part of Kyzirik and

Sherabad districts [2,4]. The area of the territory K.Z. According to the classification proposed by Zokirov [5,6], it mainly corresponds to the desert region (400-450 m above sea level). Therefore, we used the natural atlas of the Surkhan Darya River to delimit the geographical area of the "Lower Surkhan Region". In addition, the "Google Earth ProWin" internet program was used to delimit the geographical area of the "Lower Surkhan region". The general view of the territory is given (Fig. 1).

2. MATERIALS AND METHODS

Floristic research was not carried out in this region, and the initial data on scientific research conducted in these regions belong to Capus and Bonvalo (Capus et Bonvalot). Since 1881, they have conducted research throughout Central Asia. From February 1881, they started scientific research in the direction of Tashkent-Samarkand. In March, April and May, Karshi-Kelif, (the low plains between Turkmenistan and Afghanistan, located on the banks of the Amu Darya, are called the Kelif-Sherabad low plains). The researches were carried out in the directions of Kelif-Sherabad, Sherabad-Guzar Sherabad-Angor. Specimens collected by scientists are currently stored in the National Herbarium of Paris (Herbier National de Paris) (R) fund [7].

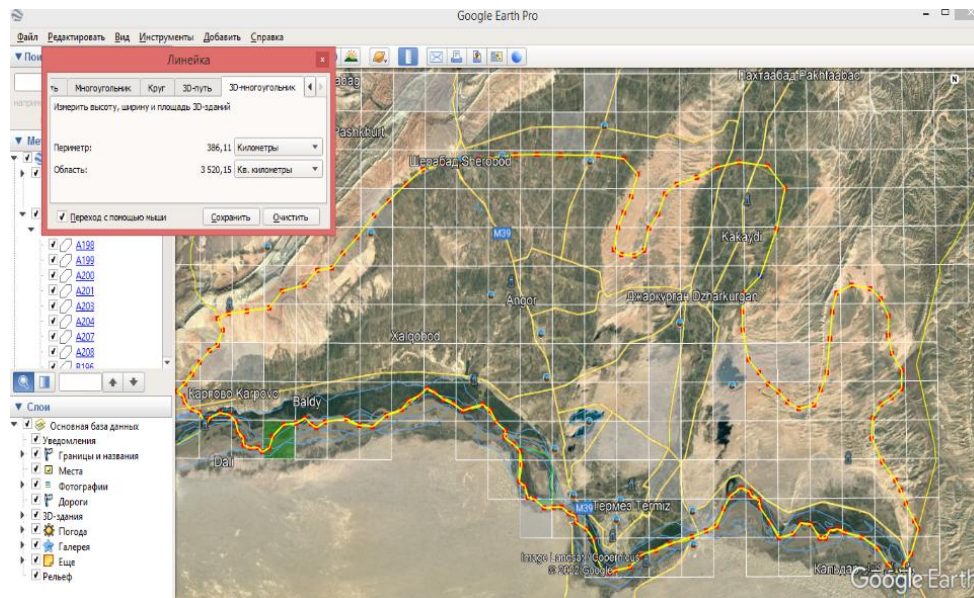


Fig. 1. General view of the territory

V.I. Using herbarium specimens collected by Lipsky, Capu and Bonvalo, *Astragalus kelif* Lipsky (Kelif, 16 (28) III 1881, n0342, Capus 14(P.)) introduced the species to science [8]. Later, in order to perpetuate the names of scientists, *Gagea capusii* A. Terracc., *Oxytropis capusii* Franch., *Bunium capusii* (Franch.) Korovin and similar species are named.

According to further information, Albert Eduardovich Regel is a scientist who has conducted extensive research in Central Asia. The scientist led large-scale expeditions to Central Asia from 1876 to 1885, during these years he collected more than 100,000 herbarium specimens [7].

According to the information of Achilova Nargiza Tukhtanazarovna, the modern composition of the flora of the Surkhan-Sherabad botanical-geographic region, including 802 species belonging to 66 families and 362 genera, was determined [9].

3. RESULTS AND DISCUSSION

During our floristic research in the Lower Surkhan region, the species composition of monocotyledonous plants was determined. According to the obtained results, it was determined that the flora of Lower Surkhan consists of 12 families, 53 genera and 113 species of monocots (Table 1).

Table 1. Floristic composition of monocotyledonous plants in the flora of lower Surkhan

T/p	Family	Species	Number
1	Amaryllidaceae J.St.-Hil.	Allium L.	7
2	Araceae Juss.	Arum L.	1
		Eminium Schott	2
3	Asphodelaceae Juss.	Eremurus M.Bieb.	3
4	Convolvulaceae Juss.	Convolvulus L.	7
		Cuscuta L.	1
5	Cyperaceae Juss.	Bolboschoenus (Asch.) Palla	1
		Carex L.	4
		Cyperus L.	4
		Juncellus (Griseb.) Clarke	1
		Schoenoplectus (Rchb.) Palla	1
6	Iridaceae Juss.	Iris Tourn. ex L.	5
7	Ixioliriaceae Nakai	Ixiolirion Fisch. ex Herb.	1
8	Juncaceae Juss.	Juncus L.	2
9	Liliaceae Juss.	Gagea Salisb.	7
		Fritillaria Tourn. ex L.	1
		Tulipa L.	3
10		Aegilops L.	3
		Aeluropus Trin.	2
		Agrostis L.	1
		Aristida L.	1
	Poaceae Barnhart	Avena L.	1
		Bromus L.	6
		Calamagrostis Adans.	1
		Centropodia Rchb.	1
		Cynodon Rich.	1
		Eragrostis Wolf	1
		Eremopyrum (Ledeb.) Jaub. & Spach	3
		Festuca Tourn. ex L.	2
		Heteranthelium Hochst. ex Jaub. & Spach	1
		Hordeum L.	3
		Imperata Cirillo	1
		Leymus Hochst.	1
		Lolium L.	1

T/p	Family	Species	Number
		Paspalum L.	3
		Phalaris L.	1
		Phragmites Adans.	1
		Poa L.	2
		Polypogon Desf.	2
		Puccinellia Parl.	2
		Rostraria Trin.	1
		Saccharum L.	1
		Schismus P.Beauv.	1
		Secale L.	1
		Setaria P. Beauv.	2
		Sorghum Moench	1
		Stipa L.	2
		Stipagrostis Nees	3
		Taeniatherum Nevski	1
		Trisetaria Forssk.	1
		Vulpia C.C. Gmel.	1
11	Potamogetonaceae Bercht. & J.Presl	Potamogeton L.	2
12	Typhaceae Juss.	Typha L.	4
Total	12	53	113

Table 2. Flora of lower Surkhan monocotyledonous plants Polymorphic families and groups

No	Families	Number		Polymorphic groups	Number of species
		Genus	Species		
1	Poaceae	34	56	Allium L.	7
2	Cyperaceae	5	11	Convolvulus L.	7
3	Liliaceae	3	11	Gagea Salisb.	7
4	Convolvulaceae	2	8	Bromus L.	6
5	Amaryllidaceae	1	7	Iris Tourn. ex L.	5
6	Iridaceae	1	5		
	Total:	46	98		32

Amaryllidaceae, *Convolvulaceae*, *Iridaceae*, *Liliaceae*, *Poaceae* are polymorphic monocot families in the Lower Surkhan flora. This list includes families with more than 5 species. In this list, *Poaceae* is only part of the polymorphic families of the general flora of Lower Surkhan. These families make up 49.5% of monocots in the Lower Surkhan flora. There are 8 families with 2, 3 and 4 types and 1 family with only one type. Polymorphic genera include *Allium L.*, *Convolvulus L.*, *Gagea Salisb.*, *Bromus L.*, *Iris Tourn.* etc. were introduced (Table 2). They make up 28.3% of all monocots. The first five categories alone have 32 species.

4. CONCLUSION

In summary, the flora of lower Surkhan includes 113 species of monocotyledonous plants. Their

preliminary analysis shows that this flora is similar to the taxonomic spectrum of monocotyledons in the flora of the Turonian lowlands. Due to the fact that the flora of Lower Surkhan is located in the plains and is a desert zone, many plant species that grow in hilly, mountain and pasture regions are very rare in this area. Due to the fact that targeted scientific researches have been carried out very little in Lower Surkhan area and the flora of the area has been little studied, this indicates that it is necessary to carry out large-scale research on the study of the flora of the area.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Soliev A. "Uzbekiston geographysi" (Uzbekiston iqtisodiy va ijtimoiy geographysi) "KPXI-NUR" bosmakhonasi (darslik). Toshkent. 2014;283-298.
2. Flora of Uzbekistan. B 6 t. - Tashkent: ed. AN UzSSR; 1941-1963.
3. "Natural Geography of Uzbekistan" by Hasanov IA, Gulomov PN, Kayumov AA. (part 2) Recommended as a guide for geography, biology-geography, history-geography specialists of universities and pedagogical institutes. Toshkent. 2010; 105-106.
4. Flora of the USSR. B 30 t. ML: ed. AN USSR; 1934-1960.
5. Zakirov K.Z. The problem of zonation and terminology of botanical geography in Central Asia. Tashkent, Blyuten SAGU. 1947;25.S.25-30.
6. Zakirov KZ. Flora and vegetation of the basin. Zarafshan- Tashkent: AN UzSSR. 195. - 207.
7. Lipsky VI. Flora of Central Asia. Russian Turkestan Khanate of Bukhara and Khiva. Part III. Botanical collection from Central Asia. - St. Petersburg, Gorold. 1905; 3:S.342-840.
8. Vasilchenko IT, Vasil'eva LI. Endemic and rare plant Western Hissar. Plants of Central Asia. - L.: Nauka. 1985;42-121.
9. Achilova Nargiza Tukhtanazarovna. Flora of Surkhon-Sherobod botanical-geographical region. Dissertation - Opposite; 2021.

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