

HIGH ALTITUDE DISTRIBUTION OF ENDEMIC SPECIES OF THE GENUS SCUTELLARIA L. IN THE FLORA OF UZBEKISTAN

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Annotation:

Endemic species of the *Scutellaria* L. family, widespread in Uzbekistan, are found mainly in mountainous regions. Depending on their occurrence in the mountainous region, they were divided into 3 zones: low-mountain (2 species), mid-mountain (6 species), high-mountain (3 species).

Keywords:

Uzbekistan, high-altitude zones low mountain middle mountain high mountain endemic, genus, species.

Much of Central Asia is covered by the Tien Shan and Pamir-Alai mountain ranges, which also differ sharply in their geographic location, altitude, climate, soil geology, origin, flora, and steep slope distribution.

A number of botanists studied the flora and phytocenology of the mountains of Central Asia (M.V. Kultyasev, A.N. Krasnov, K.Z. Zakirov) and carried out many studies on their division into steep regions. Analysis of the vertical zones of the species of the genus *Scutellaria* L. in the flora of Uzbekistan was carried out on the basis of the classification proposed by Zakirov in the monograph "Flora and Vegetation of the Zarafshan River Basin". Academician K.Z. Zakirov divided Central Asia into steep regions (desert, hill, mountain, pasture) in accordance with geomorphology, climate, soil, and flora distribution [2, 3]. Naturally, as it rises above sea level, its temperature, climate, soil, and plant diversity change. Each region has its own climatic factors. The analysis of the distribution of plants by vertical regions was carried out using a 10-volume plant identifier from Central Asia [1].

Endemic species of the *Scutellaria* L. family, widespread in Uzbekistan, are found mainly in mountainous regions, in 3 zones of the mountainous region (low-mountain, mid-mountain, and high-mountain) [1]. The mountainous region covers an area of 1200-1500 meters above sea level and 2700-2800 meters above sea level.

Low mountain. The lower mountain region is higher than the hill and belongs to the regions at an altitude of 1200 meters above sea level. The soil is rich in humus.

Category *Scutellaria botschantzevii* M.N. Abdull. and *Scutellaria colpodea* Nevski species are found in the lower part of the mountain. In some cases, it also occurs in the midlands. Middle Mountain This region includes the territory located at an altitude of 1200-2800 meters above sea level. It is known that with an increase in the absolute height of the Earth, the temperature decreases, the amount of precipitation and humidity increases. The average temperature in summer is $+8 + 12^{\circ}\text{C}$, in July it can be higher. Winter is very harsh, cold days last 3-4 months, and a lot of snowfalls. Snow and ice do not melt until summer. The average annual rainfall can be 500-900 mm or more. Precipitation occurs mainly in spring, and in some years even in summer. Excessive precipitation in the region increases humidity; absolute humidity in summer can reach 70-80 percent. 4 species in the Middle Mountain: *Scutellaria angrenica* Juz. & Vved., *Scutellaria fedtschenkoi* Bornm., *Scutellaria guttata* Nevski ex Juz., *Scutellaria bucharica* Juz., These species can be found in the limestone rocks of the mountains [4].

Alpine region. This area includes pastures at an altitude of 2600-3800 meters above sea level. The area of used meadows in the region is small. The region is characterized by subalpine and alpine meadows in the highlands. Subalpine meadows are low-mountainous mountains with a more temperate climate, with higher temperatures, higher humidity, and more rainfall. Alpine meadows are high mountains, temperatures are much lower, many cloudy days, cool weather and rain in summer. These species inhabit open rocky areas of the highlands. 3 species in the highlands: *Scutellaria holosericea* Gontsch. ex Juz., *Scutellaria lipskyi* Juz., *Scutellaria villosissima* Gontsch. ex Juz. going on. These species grow on granite rocks at the top of the mountains. [4].



Fig. 1. *Scutellaria botschantzevii* M.N. Abdull.



Fig. 2. *Scutellaria colpodea* Nevski



Fig.3. *Scutellaria fedtschenkoi* Bornm.



Fig.4. *Scutellaria guttata* Nevski ex Juz.

Table 1

Distribution of endemic species of the genus *Scutellaria* L. in vertical regions in the flora of Uzbekistan

#	Species name	Grief Height Zone (OPRS., 1938-1993)		
		Low mountain (1000-1200m.)	Middle mountain (1200-2600m.)	High mountain (2600-3000m.)
1	<i>Scutellaria angrenica</i> Juz. & Vved.	–	1500 – 2000 m.	–
2	<i>Scutellaria botschantzevii</i> M.N. Abdull.	1000–1200 m.	1500–2000 m.	–
3	<i>Scutellaria bucharica</i> Juz.	–	1200–1600 m.	–
4	<i>Scutellaria colpodea</i> Nevski	1000-1200 m.	1500–2000 m.	–
5	<i>Scutellaria fedtschenkoi</i> Bornm.	–	1200 m.	–
6	<i>Scutellaria guttata</i> Nevski ex Juz.	–	1500–2300 m.	–
7	<i>Scutellaria holosericea</i> Gontsch. Ex Juz.	–	–	2800-3000 m.
8	<i>Scutellaria lipskyi</i> Juz.	–	–	2700-3000 m.
9	<i>Scutellaria villosissima</i> Gontsch. Ex Juz.	–	–	2700-3000 m.

Thus, the altitude distribution of endemic species of the genus *Scutellaria* L. was studied on the basis of literature data. 6 species: *S. angrenica* Juz. & Vved., *S. botschantzevii* M.N. Abdull., *S. bucharica* Juz., *S. colpodea* Nevski, *S. fedtschenkoi* Bornm., *S. guttata* Nevski ex Juz. 3 species are also found in the middle mountains: *S. holosericea* Gontsch. Ex Juz., *S. lipskyi* Juz., *S. villosissima* Gontsch. ex Juz. common in the highlands. *S. botschantzevii* M.N. Abdullah. and *S. colpodea* Nevsky are common in the lower and middle parts of the mountain. This indicates a gradual expansion of the species range.

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