



## Of the *Scutellaria Adenostegiya* Briq. Scattered in the Fergana Valley Phytosenotic and Ontogenetic Description

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## ABSTRACT

In this article *Scutellaria adenostegia* Briq. information about the phytosenotic and ontogenetic description of the plant in the Fergana Valley is given. For the first time in the course of research, S.the demographic indicators of adenostegia in the various cenopopulias distributed in the Fergana Valley have been studied.

## Keywords:

Cenopopulation, ontogenetic structure, Delta-Omega classification, polyvariance, cenotic, ontogenetic

Today, as a result of the development of the pharmaceutical industry in the world, the scale of research on the identification of new medicinal plants and the extraction of substances from them, the determination of their biological activity and their practical implementation is increasing. As a result of the increase in the population on Earth and the development of land areas, there is a decrease and loss of a variety of natural resources, including natural reserves of plants. At this point, an important indicator is the analysis of the natural reserves of plants of high medicinal and farm importance, as well as the assessment of its modern state. Accordingly, it is of urgent scientific and practical importance to transfer the natural reserves of medicinal plants scattered in a natural way, to establish their distribution and to assess their modern state. Research has not been carried out to determine the modern state, bioecological characteristics and species composition of the populations of the genus medicinal *Scutellaria*, especially since information on the trapping of their natural reserves and their cenopopulations is

not found in the literature. Therefore, it is of significant scientific and practical importance to determine the species composition of the genus species distributed in the Fergana Valley, create GAT maps reflecting the distribution, transfer natural reserves, assess the state of their cenopopulyasias on the basis of signs of organism and popularization, develop protection measures. For the phytosenotic description of the research object, field research was carried out between 2017 and 2020, in different areas of the Fergana Valley. For the first time during the studies, *Scutellaria adenostegia* Briq, distributed in the Fergana Valley. there are also existing cenopopulations of the species, and its also scattered areas of hada phytosenotic cases have been recorded. Studies were carried out on 5 cenopopulations of this species. These are the following:  
SP-1. The pop District of Namangan region was separated from the surroundings of the village of Culture (N 41o01'65.06"; E 70o92'19.08"). The soil of the area is rocky-gravel, and the degree of soil cover with plants is 35-40%. The Botanical composition of the area is relatively

rich, 43 plant species have been registered. As the Dominant species can be the *Oxytropis rosea* of *Scutellaria comosa*. Again, it turned out that *Scutellaria adenostegia* and *Scutellaria comosa* are found together in one populace. In the allocated area, the share of *Scutellaria adenostegia* is 2-3%.

SP-2. The pop District of Namangan region was separated from the surroundings of the village of Chodak. (N 41a01'65,06"; E 70a92 '19.08"). The soil of the area is rocky-gravel, and the degree of soil cover with plants is 35-40%. 36 species were registered in the area. The share of the species *Scutellaria adenostegia* in this team is 2-3%.

SP-3. The Yordon along the Aksu River was separated from the surroundings of the settlement (N 39° 96' 57.85"; E 71° 76' 00.03"; h = 1743 m). This region is owned by the Alay Ridge, the soil of which is rocky-gravel. The degree of coverage with plants in the area is 25%, the share of *Scutellaria adenostegia* is equal to 1-2%. There is much less variety of species due to the fact that livestock is heavily grazed.

SP-4. The village of shahimardon was separated from the surroundings of the settlement of the population (N 40° 18' 39.04"; E 71° 79' 73.27"; h=1134 m). The degree of coverage of the territory with plants is 10-15%. It has been added that livestock is heavily Fed due to the fact that the population is a yakin place, but the species diversity is only slightly higher in the areas surrounded by the population, while the species that are the object of our research are also growing well.

SP-5. The Isfayram River was separated from its surroundings (N 40o22'35.94"; E 72o03'58.54"; h = 878 m). The degree of coverage of the territory with plants is 15%. 19

species were registered in this area. As a result of the abundant grazing of cattle in this isolated area, the variety of species is quite low, surrounded by the population, that is, in protected areas, the plant is well preserved.

The average value of the ontogenetic structure of the cenopopulyas studied in the course of research was studied. S.the results of the middle value of the ontogenetic structure of *adenostegia* cenopopulations show that the studied cenopopulsions were noted to be typical of the centralized type. It was observed that the share of tubers in the middle age generative stage at the average value of the recorded cenopopulyas corresponds to the highest indicator (24.05%), which in turn reflects the characteristic spectrum of the species itself. The middle value of cenopopulyasias is full-member. In the next place was the tubers in the virginil stage (20.98%). The low incidence of tubers in the Immatur stage is directly related to the polyvariance property of the plant. In plants, the polyvariance property manifests the stages of ontogenesis in several ways. In particular, the transition from the juvenile stage to the virginil stage is considered one of the characteristic features for semi-shrub plants. In addition, insufficient air temperature as well as low annual precipitation can also lead to the fact that plants do not switch to the generative phase in some years. The next lower indicator corresponds to the share of tubers in the senile stage. This in turn is also related to plant biology. According to information in the literature, the old generative stage of representatives of the category (g3) lasts 1-2 years. This in turn has its effect on the share of tubers at this stage in cenopopulyasias

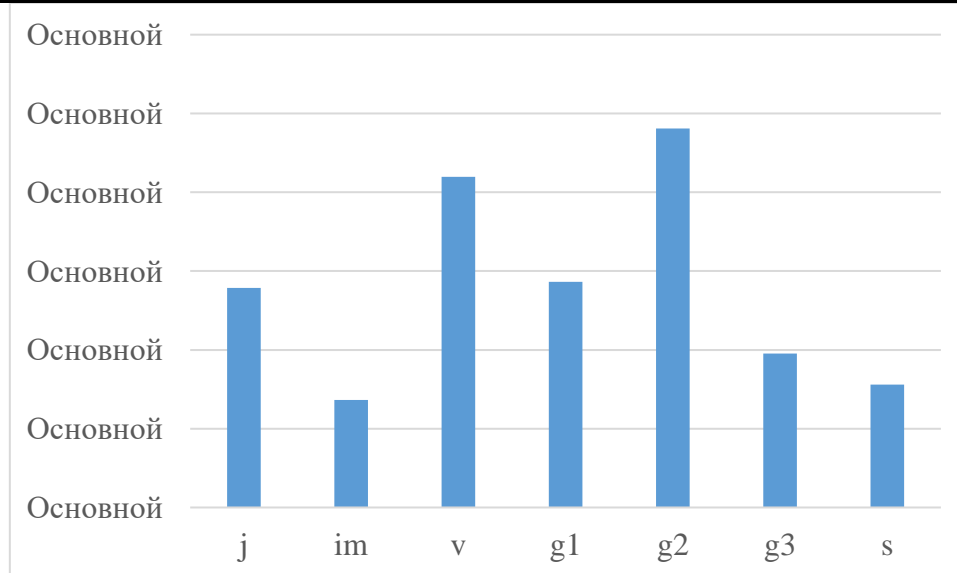


Figure 1. S. Adenostegia the average value of the ontogenetic structure of adenostegia cenopopulations

S . Adenostegia spread in Fergana Valley.the demographic indicators of the species in various cenopopulations were studied. When the number of tubers was analyzed using the transect throwing method (20x1), it was noted that their number ranges from 23 to 44. Through these indicators, it is possible to determine the exact number of the species in a particular area. This method is one of the most important signs in the formation of plants in the modern state cadastre.

In an area of 1m2, the density and ecological density of the bushes was determined. While the density of tubers was 1.15-2.2 in an area of 1m2, it was observed that their ecological density was 1.35-2.58. Separately, it should be noted that the ecological density of plants that reproduce in seed production does not always have a high indicator. They will be closer to the indicator of the density of the tubers. The increased ecological density is due to the fact that the species adapts to different

environmental conditions. Under the analysis of environmental density, it is possible to introduce a species into perspective. That is, the characteristics characteristic of the species are manifested in the indicators of environmental density. The index of recovery and aging of tubers is one of the important criteria in the future prediction of cenopopulations. In these cenopopulations, it was observed that the recovery index of the species was around 0.54-1.62. Their aging index is around 0.04-0.27, and in most cenopopulations this figure is equal to the value of Zero (0). This is due to the fact that in these cenopopulations, senile stage tubers were not recorded (SP 2, 3). An increased aging index leads to a decrease in survival in cenopopulations with the participation of the species (Table 1).

S. adenostegia demographic indicators of cenopopulations

№SP	Density of tubers, 1m <sup>2</sup>	R <sub>ekol</sub> , 1m <sup>2</sup>	Total number of tubers, PCs	I <sub>r</sub>	I <sub>q</sub>
1	2,2	2,58	44	1,62	0,04
2	1,85	2,31	37	0,54	0
3	1,65	1,83	33	0,73	0
4	1,15	1,35	23	1,22	0,14
5	1,4	1,55	28	0,83	0,27

Note: R Ecol-environmental density, I<sub>r</sub>-recovery index, I<sub>q</sub>-aging index

In the course of research to this day, it is known that S.data on the types of adenostegia cenopopulations are not recorded in the

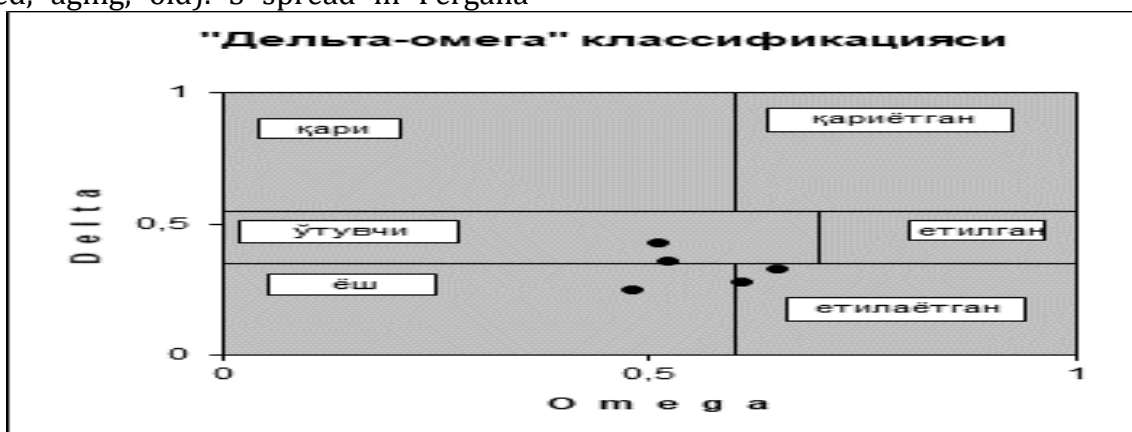
literature. In the course of the studies, the types of cenopopulations were determined using the Delta-Omega (Zhivotovsky, 2001) classification

Table 2  
*S.adenostegia type of cenopopulations*

Nº SP	Delta ( $\Delta$ )	Omega ( $\omega$ )	type of cenopopulations
1	0,39	0,74	Young
2	0,33	0,56	Real estate
3	0,22	0,44	<b>Real estate</b>
4	0,28	0,69	Passer-by
5	0,47	0,74	<b>Passer-by</b>

Note:  $\Delta$  - the coefficient indicating the age State, the coefficient indicating the effectiveness of the form. According to the classification proposed by Zhivotovsky (2001), cenopopulyasias are divided into 6 Types (young, real, transitive, committed, aging, old). S spread in Fergana

Valley. adenostegia cenopopulations have been found to be typical of age (SP-1), Real Estate (SP-2, 3) and transitory (SP - 4, 5) type.



Picture – 2 *S.adenostegia* type of cenopopulations

For the first time in the course of research, S. adenostegia distributed in the Fergana Valley. 5 cenopopulations were studied, in which the adenostegia type was involved. When the age composition of the recorded cenopopulations is analyzed, it is found that 60 % of them are full-member (SP 1, 4, 5) and 40% are incomplete-member (SP 2, 3 aniqlandi. To ' encounter of senile stage tubers in cenopopulyasias with non-membership kuzatilmadi. To in cenopopulyasias, which are members of the league, it was found that the share of tubers in the senile stage is in the range of 4.54-21.42%. According to information in the literature, the indicator of arrival of representatives of the genus up to this stage is considered low.

**References:**

1. Акбарова М. Х. и др. ЭКОСИСТЕМА РАСТИТЕЛЬНОГО МИРА ЯЗЬЯВАНСКОГО ГОСУДАРСТВЕННОГО СТЕПНОГО ПРИРОДНОГО ПАМЯТНИКА //Известия ВУЗов Кыргызстана. – 2018. – №. 5. – С. 35-40.
2. Акбарова М., Махмудова М. и Караматова Г. (2018). РАСТИТЕЛЬНАЯ ЭКОСИСТЕМА ЯЗЬВОНСКОГО ПАМЯТНИКА ПРИРОДЫ. Вестник Гулистанского государственного университета, 2018 (4), 20-24.

3. Акбарова М. Х., Асадова М. Е. J. SCUTELLARIA L. ТУРКУМИ ТУРЛАРИНИНГ ДОРИВОРЛИК ХУСУСИЯТЛАРИ //Журнал естественных наук. – 2021. – Т. 2. – №. 1.
4. Акбарова М. Х., Асадова М. Қ., Жўраев З. Н. Ў. SCUTELLARIA COMOSA JUZ.(LAMIACEAE) НИНГ ФАРФОНА ВОДИЙСИДАГИ ТАБИИЙ ЗАХИРАЛАРИ //Academic research in educational sciences. – 2021. – Т. 2. – №. 3. – С. 461-471.
5. Акбарова М. Х. СОСТОЯНИЕ ЦЕНОПОПУЛЯЦИЙ SCUTELLARIA ADENOSTEGIA BRIQ.(LAMIACEAE) В ФЕРГАНСКОЙ ДОЛИНЕ //SCIENTIFIC JOURNAL. – 2020.
6. Акбарова М. Х., Ёкубов А. А., Махмудов М. У. Состояние ценопопуляций Scutellaria adenostegia (Lamiaceae) Ферганской долины //Advances in Science and Technology. – 2020. – С. 21-22.
7. Тургинов О. Т., Акбарова М. Х. Распространение видовой флоры рода Scutellaria L.(Lamiaceae) Ферганской долины //American Journal of Plant Sciences. – 2020. – Т. 11. – С. 1533-1544.
8. Акбарова М. Х., Бекчонова М. Ф. К вопросу о таксономическом ранге эндемичных среднеазиатских групп рода Scutellaria L //ББК.–2020.– Т.1. – С. 18.
9. Khusanovna, Akbarova Mukhayo. "Distribution of Species of the Genus Scutellaria L.(Lamiaceae) in the Flora of the Fergana Valley." *JournalNX*: 73-78.
10. Akbarova M. X. et al. The Medicinal Types Of Scutella (Lamiaceous) Group Spread Over Fergana Valley //The American Journal of Applied sciences. – 2021. – Т. 3. – №. 04. – С. 105-110.
11. Akbarova M.X., Juraev Z.N. «Распространение видов рода Scutellaria L. (Lamiaceae) во флоре Ферганской долины». *JournalNX*, 2020, str. 73-78.
12. X., Акбарова М. "Обидов М.В. Доривор Scutellaria comosa Juz.(Lamiaceae) ning Farg'ona vodiysidagi sенопопуляция холати." *НамДУ илмий ахборотномаси-Наманган* 8 (2020): 78-87.
13. Акбарова М. Х., Набижонова Г. Ф., Жураев З. Н. Распространение Scutellaria comosa Juz.(Lamiaceae) в ботанических и географических районах Узбекистана //ББК. – 2020. – Т. 1. – С. 15.
14. Акбарова М. Х. Обидов МВ Dorivor Scutellaria comosa Juz.(Lamiaceae) ning Farg'ona vodiysidagi sеноpopulyatsiya holati //НамДУ илмий ахборотномаси-Наманган-2020. – Т. 8. – С. 78-87.
15. Akbarova M. X., Turdibekov M. M. O. G. L. Shoximardonsoy havzasida tarqalgan shifobaxsh o'simliklar //Science and Education. – 2021. – Т. 2. – №. 12. – С. 102-108.
16. Акбарова М. Х., Тургинов О. Т. ОБЗОР ГЕРБАРИЕВ РОДА SCUTELLARIA L //Вестник Ошского государственного университета. – 2020. – №. 1-2. – С. 14-19.
17. Akbarova, Muhayo Xusanovna, Dadajonova, Sevara O'Ktamjon Qizi KO'KAMARON SCUTELLARIA L. (LAMIACEAE) TURKUMINING AYRIM DORIVOR VAKILLARI // ORIENSS. 2022. №10-2.
18. Akbarova, Muhayo Xusanovna, & Dadajonova, Sevara O'Ktamjon Qizi (2022). KO'KAMARON SCUTELLARIA L. (LAMIACEAE) TURKUMINING AYRIM DORIVOR VAKILLARI. *Oriental renaissance: Innovative, educational, natural and social sciences*, 2 (10-2), 622-629.
19. Акбарова М. Х. и др. Обзор гербарии рода Scutellaria l //Science and Education. – 2020. – Т. 1. – №. 1. – С. 18-24.
20. Акбарова М. Х., Жураев З. Н. Распространение видов рода Scutellaria L.(Lamiaceae) во флоре Ферганской долины //Биологический журнал. – 2020. – №. 11. – С. 4-6.