

**RIDGE DISTRIBUTION OF SPECIES OF THE GENUS SCUTELLARIA L.
(LAMIACEAE) OF THE FERGANA VALLEY**

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Annotation.

*The article is devoted to the geography of Scutellaria L. (Lamiaceae) species distributed in the Ferghana Valley. This article presents information on the distribution of species of the valley genus in mountain ranges, given in the guide to plants of Central Asia. Geographical analysis of the species was carried out, according to which *S.picta* Juz., *S.nepetoides* Popov ex Juz. in the flora of Uzbekistan, *S.kamelinii* Abdullaeva in the flora of Kyrgyzstan and *S.ramosissima* Popov in the flora of Tajikistan were found for the first time, these species are not found in scientific sources in these republics. The data were obtained from direct field studies, samples stored in herbarium funds, and information resources on the Internet.*

The scientific significance of the research results lies in the fact that for the first time with a specific purpose, the species composition of the genus Scutellaria L., common in the flora of the Ferghana Valley, was studied and the species were specified. In the flora of the Fergana Valley, 23 species of Scutellaria L. were found, of which 15 species are in the valley part of the Republic of Uzbekistan, 8 species are in the regions of the Republic of Tajikistan and Kyrgyzstan.

Determination of the species composition of the genus distributed in the Ferghana Valley, the creation of maps of GAT reflecting their distribution, the examination of their natural reserves, the study of their phytocenotic and ontogenetic structures, the development of protection measures are of great scientific and practical importance.

Key words.

Flora of the Ferghana Valley, genus Scutellaria, TASH collection, mountain ranges, geographical analysis, herbarium specimens, area, region, floristic finds.

INTRODUCTION

The transformation processes taking place in ecosystems as a result of the influence of biotic, abiotic and anthropogenic factors on nature require greater attention to local biodiversity, in particular, to the study of determining the composition of the species and biogeasing objects of the plant world. In recent

years, the scale of targeted research on the comprehensive study of local flora in Uzbekistan has been increasing, as a result of which the species composition of the regions, the state of the population of plants belonging to a particular group in it, natural reserves and so on are being studied.

LITERATURE ANALYSIS AND METHODS

In the formation of a general list of species found in the flora of the Fergana Valley, field studies carried out so far, a monograph of Labiatae in flora of Kyrgyzstan, existing dissertations and herbarium specimens kept in foundations were used. The list includes data on the total distribution of all 23 species distributed in the valley, along with herbarium specimens collected from the Valley. At the same time, in our research, a large-scale study on the types of categories was also carried out. Geography of species Plants of the world online www.plantsoftheworldonline.org, based on the flora of Labiatae in flora of Kyrgyzstan as well as other states.

RESULTS AND DISCUSSION

In the formation of a list of species found in the flora of the territory, directly

T.X.Khudoyberdiyev by “Губоцветные в растительном покрове Ферганской долины” the research work carried out on the topic serves as an important main resource. Some *Scutellaria oligodonta* Juz, which by the scientist brought 27 species of the genus in the Fergana Valley., *S. microphysa* Juz., *S. glabrata* Vved., *Scutellaria adsurgens* Popov, *S. microdasys* Juz., *S. leptosiphon* Nevski, *S. przewalskii* Juz. as well as *S. paulsenii* Briq. species such as Fergana occur in regions other than the Valley region have been recorded in the literature. At the same time it turned out that even among the specimens held by the herbarium funds MW, TASH, LE, FR, TAK, there are no copies of these species collected from areas close to the Valley.

23 species of the genus have been identified as occurring in the flora of the Fergana Valley (Akbarova, 2020), of which 15 species are found in the part of Uzbekistan, the rest species in the parts of Kyrgyzstan and Tajikistan.

The main purpose of carrying out a geographical analysis of the species is to determine the overall distribution ranges of the species, which are surrounded by the flora of the territory. Below is the occurrence of species distributed in the research area in mountain ranges, in which the species occurs in ridges and specimens collected from collectors and by the time of their collection.

1. *Scutellaria adenostegia* Briq. 1907, Bot. Tidsskr. 28: 233.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458099-1>

General distribution: Surkhandarya River Basin, Tiyon-Shon (Susamir, Uzun Akhmad, Fergana, Chotqol, Qurama), Pamir Oloy (Turkestan, Oloy, Pyotr 1, Zarafshan, Khisor, Karategin, Darvoz, Boboz' and mountains in southern Tajikistan) ridges. An analysis of specimens held in the herbarium revealed that the species was also distributed in the Ugom and Pskom ranges of Western Tiyonshon. The literature and the research work carried out (Tojibayev, 2010) also did not cite data on the distribution of the species in these ridges.

2. *Scutellaria galericulata* L. 1753, Sp. Pl. 599.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458280-1>

General distribution: Zaysan Basin, Kazakh little Sapochnigi, Balkhasholdi steppe, Turgay lowland, Island steppe, big Barsuq, Mouyunqum, Chu and Sarisu river valleys, Syrdarya River Valley, Amudarya River Valley, Fergana Valley, Zarafshan River Valley, Kashkadarya River Valley, Tarbagatay, Jungor Olatau, Tiyon-Shon (Ilioldi-Olatau, Kungey Olatau, Terskey Olatau, Kirgiz Olatau, Talas Olatau, Talas Olatau the mountains adjacent to the middle course of the Norin river, karatov, Qarjantov, Chotkal, Qurama), pomir-oloy (low mountains in southern Turkestan, Molguzar, Zarafshan, Hisor, Tajikistan). The Mediterranean Sea, The Atlantic Ocean, Central and Eastern Europe, Scandinavia, the Caucasus, Western and eastern Siberia, Central Asia, China, Mongolia, Japan, North America.

3. *Scutellaria ramosissima* Popov 1924, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 5:155.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458608-1>

General distribution: Tiyonshan (ridges adjacent to the middle course of the Norin river, Qorjantog', Ugom, Chotqol, Qurama, Mogoltog', Fergana), Pomir-Oloy (Turkestan). Uzbekistan, Kyrgyzstan.

Turkestan Ridge: Zap. Gurash.Sukhoi say v blizi sliyaniya Tyuya. Tash-saya s Kul-sayem, 31.07.1940, Pyatayeva 179 (TASH069674).

Hisor Ridge: Gissarsky khrebet. Gissarsky gosudarstvenny zapovednik, okrestnost kishl. Gilon, 29.08.2018, Turginov, Khujamov, Tuxtayev, Mukhammadiyev, Jumayev 32 (TASH069728).

Kopetdog range: Zap. Kopet.Dag, po doroge mejdu Kara-Kala I Khodja-Kala, 01.06.1974, Ashirova (TASH069731).

Nurota Ridge: Nuratan ridge, Nuratau Nature reserve, Hayat valley, 16.06.2019, Beshko (TASH069764).

According to information provided in the literature and other sources, there is no data on whether this species occurs in the flora of Tajikistan and Turkmenistan. Among the specimens held in the funds, the species was collected from the territory

of Tajikistan: Kuraminsky khrebet, Gori Altin-topkan, 18.06.1953, Vernik, Nabiyeu, Sukervanik n0360 (TASH), as well as from the territory of Turkmenistan: Zap. Kopet.Dag, po doroge mejdu Kara-Kala i Khodja-Kala, 01.06.1974, Ashirova (TASH069731) specimens are native, and the herbarium specimens identified indicate that the species also occurs in the flora of Tajikistan and Turkmenistan, which is assessed as a scientific novelty. In 2019, O.T. It has been found by Turginov et al to be diffuse in the Hisor Ridge [2].

4. *Scutellaria intermedia* Popov 1926, Bull. Sred.-Aziat. Gosud. Univ. 12:16.
<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458363-1>

General distribution: Tiyonshan (Fergana, Qurama, Mogoltog'); Pamir Oloy (Turkestan, Nurota, Zarafshan). Uzbekistan, Kyrgyzstan and Tajikistan.

Chotqol range: Pravober.r. Sir-Dari V predelax Ferganskogo dolini I Chatkalskogo xr. Dolina reki Koson-saya, 14.07.1936, Skorokhadov I Azatyan (TASH068963);

Hisor Ridge: Gissarsky khr., Suvtshar, vodopad, h=2000, 17.08.1996, Malsev (TASH068962); pool r. Kashka-Darya, Dolina R. Ak-su. 700 m. 861, 16.07.1959, Lee I P.Zakirov (TASH068967); Gissarsky khrebet mejdu sel. Derbent I Sorab. 06.07.08.1921, Murodov (TASH068973) (Turginov et al 2019).

The relative kenability of the species ' areal was determined by the way we taxilize specimens held in the TASH Foundation. The species is also known to occur in the Chotqol range of West Tionshan.

5. *Scutellaria comosa* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 381.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458214-1>

General distribution: Fergana Valley, Mirzachol, Tiyonshan (Chotqol, Fergana, Mogoltog' ranges), Pomir-Oloy (Oloy Valley, Turkestan, Nurota, Oloy, Zarafshan ranges). Uzbekistan, Kyrgyzstan and Tajikistan.

Chotqol range: Namangan, okr. Gova, 12.06.2019, Akbarova (TASH).

Qurama Ridge: Papsky r-n., sever. Pap na 19 km po doroge na Djarkatane, 12.05.1950, Bondarenko, Mailun 105(TASH066678

Regiment Ridge: AGR. Damkolskiye Adiri, 24.05.2019, Akbarova (TASH); okr. Chimyon, zilolskiye sanatorium, 19.05.2019, Akbarova (TASH); Khojaobodskiye r-n, Imamatinskiye Gori, 15.06.2019, Akbarova (TASH).

Grandfather Ridge: Surkhandarinskaya oblast, khrebet Babatag, okr.sela. Amachit, 23.05.2020, Pulatov, Juramuradov, Jabbarov, Rakhmatov., Makhmudzhanov., Madaminov, Khabibullayev (TASH066633).

Among the regions in which the species is distributed, there are no data on its occurrence in the Bobothog and Qurama ranges. Analysis of specimens held at the Foundation found that they were distributed in both areas, which is assessed as Floristic findings.

6. *Scutellaria oxystegia* Juz.1939, Bot. Zhurn. S.S.S.R. 24: 431.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458526-1>

General distribution: Tiyonshon (Chotqol, Fergana) Pomir-Oloy (Turkestan, Nurota, Oloy), Uzbekistan, Kyrgyzstan and Tajikistan.

7. *Scutellaria chaematochlora* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 408.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458191-1>

General distribution: Tiyonshan (Chotqol, Qurama, Ugom, Pskom, Qorzantog' ranges), Uzbekistan, Kyrgyzstan and Kazakhstan.

8. *Scutellaria pycnoclada* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 411.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458600-1>

General distribution: Tiyonshan (Chotqol, Qurama, Fergana, Sandalash, Qorjantog'), Uzbekistan, Kyrgyzstan.

Kungey Olatog' tizmasi: Cholpanata ploto br. Vershina vodarazdela, 08.07.1939, Uspenskaya 29-32 (TASH069612).

Ugom tizmasi: r. Maydantal niyn. techeniye, 12.07.1990, Malsev (TASH 069618).

Specimens held at the TASH Foundation were found to include the species ' Kungey penis as well as specimens collected from the Ugom range. This is also evaluated as a Floristic finding.

9. *Scutellaria cordifrons* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 363.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458218-1>

General distribution: Tiyonshan (Chotqol, Qurama, Fergana, Karatog, Talas-Olatog, Qorjantog, Ugom, Pskom, Sandalash), Pomir-Oloy (Turkestan), Uzbekistan, Kyrgyzstan.

10. *Scutellaria filicaulis* Regel 1882, Izv. Imp. Obsc. Ljubit. Estesv. Moskovsk. Univ. 34(2): 69.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458265-1>

General distribution: Tiyonshan: (Qurama, Fergana, Talas-Olatog' ranges), Pamir-Oloy (Oloy, Oloyoldi, Turkestan, Zarafshan, Hisor, Petr I ranges), Tajikistan, Kyrgyzstan.

11. *Scutellaria ocellata* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 376.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458507-1>

General distribution: Pamir-Oloy (Oloy, Turkestan, Zarafshan, Petr I ridges), Uzbekistan, Tajikistan, Kyrgyzstan.

Hisor Ridge: pereval na Tashkurgan, 23.06.1988, Xasanov 150 (TASH069270); b. r. КЫЗЫЛ-darya. Per. Chekmen-кууды, 17.06.1990, Xasanov 630 (TASH069269).

Specimens held at the TASH Foundation were found to include specimens of the species picked from the Hisor Ridge. This is also evaluated as a Floristic finding.

12. *Scutellaria immaculata* Nevski ex Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 428.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458350-1>

General distribution: Tiyonshan (Talas Olatog, Karatog, Qorjantog, Ugom, Pskom, Chotqol, Qurama, Fergana, Mogoltog), Pomir Oloy (Oloy, Turkestan, Molguzar, Nurota ranges), Uzbekistan, Kyrgyzstan, Kazakhstan, Tajikistan.

13. *Scutellaria kamelinii* M.N. Abdul. 1994, Dokl. Akad. Nauk Resp. Uzbeksk. 1994(9): 48.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:984350-1>

General distribution: the ridge of the flame. Kyrgyzstan. Regiment Ridge: dolina r. Pashsha-Ata, 14.08.1936 Skoroxodov, Azatyan 213 (TASH).

This tour M.N. 1994 in science by Abdullayeva. The type specimen of the species is currently held by the National Herbarium of Uzbekistan. A.G. Not cited in the monograph "Labiatae in flora of Kyrgyzstan" by Lazkov (Lazkov 2016). It is advisable to include this species as a new species for the flora of Kyrgyzstan.

14. *Scutellaria iskanderi* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 410.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458366-1>

General distribution: Tiyonshan: (Qurama, Fergana), Pamir Oloy (Turkestan, Zarafshan), Kyrgyzstan, Tajikistan.

15. *Scutellaria picta* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 393.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458557-1>

General distribution: Pamir Oloy (Oloy, Turkestan, Zarafshan), Kyrgyzstan, Tajikistan.

Regiment Ridge: ozero Kurban-kul, 14.06.1967, Xudayberdiyev (TASH069469); okr. sel. Yardan, 17.07.1967, Xudayberdiyev (TASH069473).

Turkestan Ridge: горы Сарытау, 24.06.1920, Попов 631 (TASH069468).

M.N. Abdullayeva (1987) did not mention the occurrence of this species in the flora of Uzbekistan and Kyrgyzstan. Later, G.A. Lazkov and B.A. Sultanova [171; 166 P.] Which Checklist of vascular plants of Kyrgyzstan cites in his monograph. Based on specimens kept in the funds, it was revealed that this species was also distributed in the flora of Uzbekistan.

16. *Scutellaria knorringiae* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14:366.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458385-1>

General distribution: Tiyonshon (Chotqol, At-Aşaq, Fergana, mountains adjacent to the middle course of the river Norin, Toguz-Torou, Qildou), Kyrgyzstan.

17. *Scutellaria xanthosiphon* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14:367.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458776-1>

General distribution: Tiyonshon (Fergana), Pamir-Oloy (Mountain Range), Kyrgyzstan.

Turkestan Ridge: Zamin sanatorium. The area around the waterfall, 05.2006, Botirova (TASH069965).

Specimens held at the TASH Foundation were found to include specimens of the species collected from the Turkestan Ridge. This is also evaluated as a Floristic finding.

18. *Scutellaria nepetoides* Popov ex Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 395.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458485-1>

General distribution: Pamir Olai (Mountain Range). Kyrgyzstan.

Regiment Ridge: Shahimardan river basin, Kichkine riv. 03.08.1915, Drobov (LE); bass. r. Shaximardan, dolina r. Kok-su, Okr. ozer Kurban-kul i Kongurkul, 19.07.1962, Pyatayeva, Arifxanova 136 (TASH069258); Po krayam Golubogo ozera, 19.08.1949, Shafeyev (TASH069256).

19. *Scutellaria physocalyx* Regel & Schmalh. 1882, Izv. Imp. Obsc. Ljubit. Estesv. Moskovsk. Univ. 34(2):68.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458554-1>

General distribution: Pomir Oloy (Turkestan, Oloy River Valley, Zarafshan, Oloyoldi, Petr I, Hisor, Karategin, Vakhsh, Pomir). Kyrgyzstan, Uzbekistan.

Regiment Ridge: na vershine perevala Talдык, 22.08.1923, Raykova 161 (TASH069467).

Aleksandr (Qirg'iz) tizmasi: verxovya r. Choldavar, 30.07.1924, Popov, Mokeyeva 1225, 1226 (TASH069456, TASH069457).

Specimens held at the TASH Foundation were found to include specimens of the species picked from the Alexander (Kyrgyz) Ridge. This is also assessed as a Floristic finding.

20. *Scutellaria andrachnoides* Vved. 1954, Fl. URSS 20: 514.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458127-1>

General distribution: Tiyonshan (Eastern Fergana), Kyrgyzstan. Fergana Ridge: Djalalabadsкая obl., bass. r. Narin, Karasu, 22.06.2000, Pimenov, Klyuykov, Lazьkov 43 (MW0870557); КЫЗЫЛ-Djarskiy rayon, r. Нарын, ur. Ishsay, 10.09.1927, Abolin 686 (TASH)).

21. *Scutellaria urticifolia* Juz. & Vved. 1954, Fl. URSS 20: 510.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458738-1>

General distribution: Tiyonshon (Fergana), Kyrgyzstan.

Chotqel Ridge: Tashkentskaya obl., okr. k. Yangikurgan, 11.07.1969, Pimenov, Boryayev, Trusov, Saprunova 1121 (MW0870874).

Specimens held at the TASH Foundation were found to include specimens of the species picked from the Chotqol range. This is also evaluated as a Floristic finding.

22. *Scutellaria kugarti* Juz. 1951, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 14: 371.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:458391-1>

General distribution: Tiyonshon (Fergana), Kyrgyzstan.

Fergana Ridge: per. Kaldama, alt. 2800 m. n.u.m, 01.08.1962, Pryaxin, Muminova (TASH069040).

23. *Scutellaria orbicularis* Bunge 1851, Мém Sav. Étr.Acad.Petersb.7: 436.

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:928022-1>

General distribution: Pamir Oloy (Oloy, Turkestan, Zarafshan, Hisor), Tajikistan.

Talas Olatog Ridge: Zapovednik Aksu-Djabagli, kanyon Aksu, 14.07.1961, Barabanov, Kurchenko (MW0870762).

Hisor tizmasi: Okr. Samarkand, gory Kyrtau, mejdu Karatyube i Amankutan, 28.08.1930, Ilin 679 (MW0870753); bliz g. Urgut, 21.06.1933, Gordiyenko, Chilikina 38 (MW0870752).

Specimens held at the TASH Foundation were found to include specimens of the species picked from the Hisor and Thalass Olatog Ridge. This is also assessed as a Floristic finding.

CONCLUSION

On the basis of the collected data, it was also known that some species were distributed in large mountain ranges, while the literature as well as the research carried out did not cite data on their distribution in these tuisms, which is a scientific novelty and is assessed as Floristic findings.

S.adenostegia is found in the Ugom and Pskom ranges of Western Tionshon, *S.* among the specimens kept in the funds, *ramosissima* was collected from the territory of Tajikistan: Kuraminskiy xrebet, gory Altin-topkan, 18.06.1953, Vernik, Nabiyeu, Sukervanik n0360 (TASH) also from the territory of Turkmenistan: Zap. Kopet.Dag, po doroge mejdu Kara-Kala i Xodja-Kala, 01.06.1974, Ashirova (TASH069731) there are specimens, and identifiable herbarium specimens indicate that the species also occurs in the flora of Tajikistan and Turkmenistan. In addition, in 2019, O.T. It has been found by Turginov et al to be diffuse in the Hisor Ridge. It is rated as a scientific innovation for the flora of General Tajikistan and Turkmenistan and for the Hisor range. *S.intermedia* is located in the Chotqol range of West Tionshan, *S.* In babatog and Qurama ranges, *S.Pycnoclada* Kungey's penis as well as Ugom ridges *S.* it turned out that *ocellata* is scattered in the hissor Ridge.

S.kamelinii M.N. 1994 in science by Abdullayeva. The type specimen of the species is currently held by the National Herbarium of Uzbekistan. A.G. The monograph "Labiatae in flora of Kyrgyzstan" by Lazkov is not cited (Lazkov 2016). It is advisable to include this species as a new species for the flora of Kyrgyzstan. *S.picta* M.N. The information provided by Abdullayeva (1987) does not mention the occurrence of this species in the flora of Uzbekistan and Kyrgyzstan [2]. Later, G.A. Lazkov and B.A. Sultanova [2] cited in the Checklist of vascular plants of Kyrgyzstan monograph. Based on specimens kept in the funds, it became known that this species is also distributed in the flora of Uzbekistan (ozero Kurban-kul, 14.06.1967, Khudayberdiyev (TASH069469); okr. sel. Yardan, 17.07.1967, Khudayberdiyev (TASH069473). *S. knorringiae* on the Turkestan Ridge, *S.physocalyx* Regel & Schmalh on Alexander (Kyrgyz) Ridge, *S.andrachnoides* chotqol Ridge, *S.kugarti* has become known to spread in the Olatogic ranges of Hisor and Talas. This information serves to some extent to increase knowledge about the distribution of category types.

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Scutellaria L., distributed in the Fergana Valley. Distribution of (Lamiaceae) species by Ridge

