UO‘K 58.(006).581.9.(949).2

FARG‘ONA VODIYSIDA MUHOFAZAGA OLINGAN O‘SIMLIKLARNI XALQARO MEZONLAR (IUCN) ASOSIDA BAHOLASH NATIJALARI

R.K. G‘ulomov

Maqolada olingan natijalarga ko‘ra: Incarvillea olgae Regel CR – B1a,b(iii, iv)+B2a,b(iii, iv). Pomir-Oloydagi juda kamyob, yo‘qolib ketish arafasidagi relikt o‘simlik. Ferula korshinskyi Korovin CR – B2ab(ii,iii,iv). Shimoliy Pomir-Oloyga xos kamyob endemik o‘simlik. Restella alberti (Regel) Pobed EN – B1a,b(iii, iv). Pomir-Oloy va G‘arbiy Tiyon-Shon tog‘larida uchraydigan kamyob o‘simlik. Salvia margaritae Botsch. EN – B1a,b(i, iii, iv) + B2a,b(iii). Phlomoides kirghisorum EN – B1ab(ii,iii) + 2ab(ii,iii,iv); C1. Fag‘ona vodiysining shimoli-sharqiy hududidagi kamyob subendemik o‘simlik.

Kalit so‘zlar: *Farg‘ona vodiysi, IUCN, GeoCAT, Incarvillea olgae, Ferula korshinskyi, Restella alberti, Salvia margaritae, Phlomoides kirghisorum*.

По результатам, полученным в статье: Incarvillea olgae Regel CR – B1a,b(iii, iv)+B2a,b(iii, iv). Очень редкое, находящееся под угрозой исчезновения реликтовое растение Памиро-Олоя. Ферула коршинский Коровин CR – B2a,b(ii,iii,iv). Редкое эндемичное растение, типичное для Северного Памиро-Олоя. Restella alberti (Regel) Побед RU – B1a,b(iii, iv). Редкое растение, встречающееся в горах Памиро-Олоя и Западного Тион-Шаня. Сальвия Маргарита Боч. EN – B1a,b(i, iii, iv) + B2a,b(iii). Phlomoides kirghisorum EN – B1ab(ii,iii) + 2ab(ii,iii,iv); C1. Редкое субэндемичное растение из северо-восточного региона долины Фагана.

Ключевые слова: *Ферганская долина, МСОП, GeoCAT, Incarvillea olgae, Ferula korshinskyi, Restella alberti, Salvia margaritae, Phlomoides kirghisorum*.

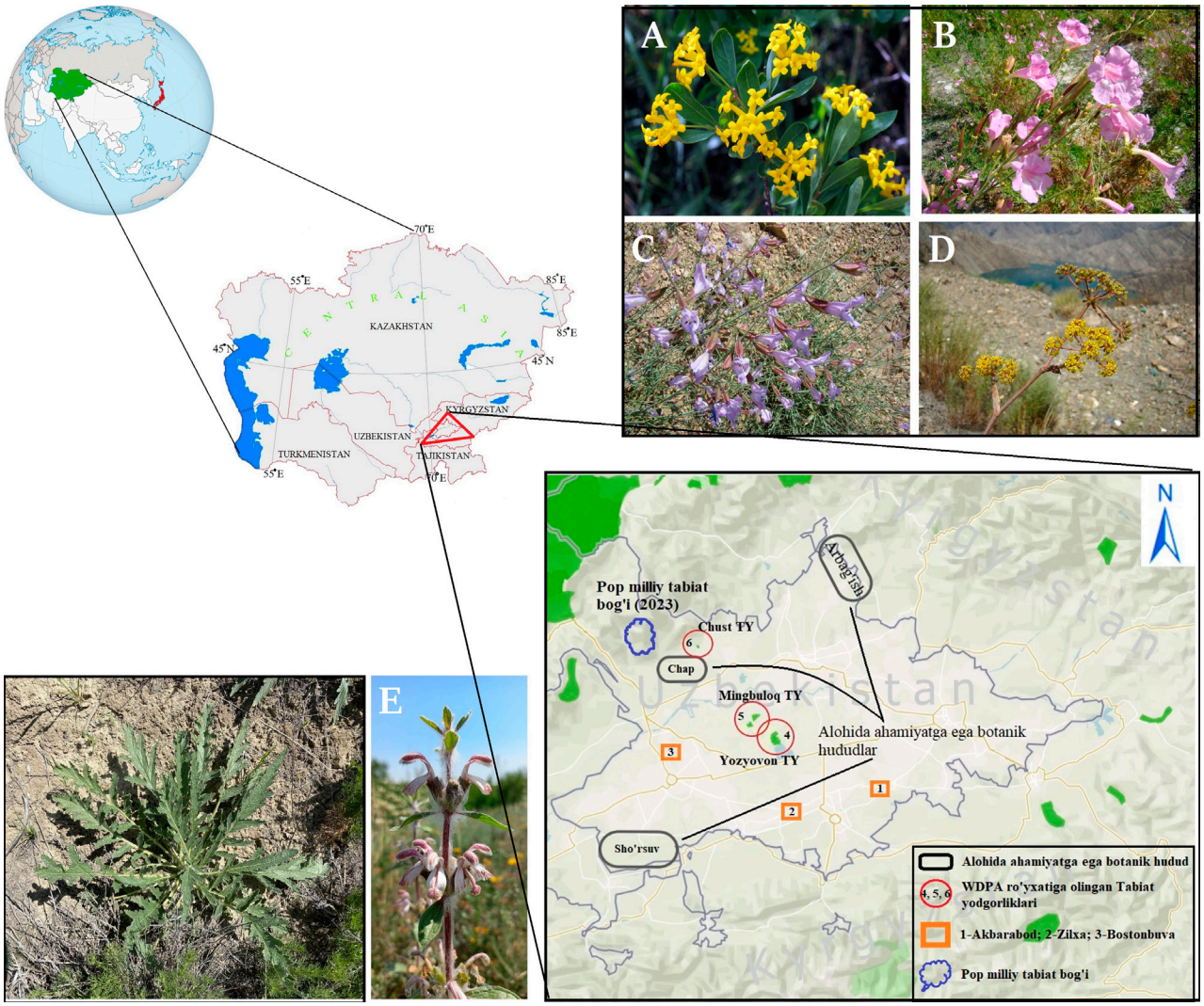
Kirish

Farg‘ona vodiysi bo‘ylab so‘nggi o‘n yillikda insonlarning atrof-muhitga ta’siri sezilarli darajada oshdi. Aholi punktlarining kengayishi, sanoat zonalarining ko‘payishi, yaylov maydonlarining qisqarishi va boshqa omillar Farg‘ona vodiysining kamyob va endem turlari populyatsiyasining zaiflashishiga olib keldi [1]. Vodiyning O‘zbekiston qismida muhofaza etiladigan tabiiy qo‘riqxonalarning yo‘qligi va tabiat yodgorliklariga (vodiy hududining 0,1% i) antropogen bosimning ortishi mavjud vaziyatni yanada murakkablashtirmoqda. O‘zbekiston “Qizil kitobi”-ning so‘nggi nashriga (2019) mazkur hududdan 57 tur ro‘yxatga olingan [33]. Bugungi kunda Farg‘ona vodiysida (O‘zbekiston qismi) muhofaza etiladigan davlat qo‘riqxonalarining yo‘qligi vodiy bo‘ylab muhofaza choralari bilan bog‘liq zamonaviy strategiyalarni amaliyotga tatbiq etish va muhofazaga muhtoj turlarni xalqaro mezonlar (IUCN) asosida baholashni talab etadi (1-rasm).

Talabdan kelib chiqqan holda, 1) Farg‘ona vodiysida tarqalgan ayrim muhozafaga muhtoj turlarning kamyoblik maqomini xalqaro IUCN tamoyillari asosida baholash, 2) GeoCAT (Geospatial Conservation Assessment) xaritalarini tayyorlash, 3) antropogen omillar ta’siri bilan bog‘liq masalalarni tahlil etish tadqiqot vazifasi sifatida belgilangan.

Material va usullar

Tadqiqotlar Namangan davlat universiteti AL–9224104319-sonli “Bioxilmaxilligi xavf ostidagi hudud sifatida Farg‘ona vodiysi florasining raqamli platformasini ishlab chiqish” (2025–2027) amaliy tadqiqot loyihasi doirasida amalga oshirildi.



1-rasm. Farg‘ona vodiysida muhofazaga olingan hududlar va o‘simlik vakillari; A) *Restella alberti;* B) *Incarvillea olgae;* C) *Salvia margaritae;* D) *Ferula korshinskyi;* E) *Phlomoides kirghisorum*.

Hudud bo‘ylab 2023–2025-yillar davomida (mart–iyul) maqsadli va marshrutli dala tadqiqotlari olib borildi. Turning joylashuv koordinatalari GPS navigator (Garmin Gpsmap 64s navigator) yordamida aniqlandi. Gerbariy ma’lumotlarini olish uchun TASH, LE, FRU MW (https://www.plant.depo.msu.ru) fondlaridan hamda Global bioxilmaxillik ma’lumotlar bazasidan (GBIF, https://www.gbif.org) foydalanildi. Taksonlarning nomenklaturasi Plants of the World Online (POWO, https://www. plantsoftheworldonline.org) xalqaro katalogi bo‘yicha keltirildi [4, 5, 6].

Kamyoblik maqomi IUCN [7, 8] metodologiyasining B (B2) va C (C2) mezonlari (EOO, AOO) asosida baholandi. Turning GeoCAT xaritasi Bachman metodik tavsiyalari asosida tayyorlandi [9]. Qo‘riqlanadigan hududlarni o‘rganishda WDPA (https://www.protectedplanet.net/en) xalqaro bazasidan foydalanildi [10].

Natijalar va muhokama

Olingan natijalarga ko‘ra, quyida keltirilgan o‘simliklarni O‘zbekiston “Qizil kitobi”ning navbatdagi nashri uchun yangi formatda baholash amalga oshirildi.

1. *Incarvillea olgae* Regel. Olga inkarvilliyasi, Инкарвиллея Ольги (2-rasm).



2-rasm. *Incarvillea olgae* Regelning tabiatdagi ko‘rinishi.

1. *Maqomi 1*. CR – B1a,b(iii, iv)+B2a,b(iii, iv). Pomir-Oloydagi juda kamyob, yo‘qolib ketish arafasidagi relikt o‘simlik.

2. *Tahdidlar*. Chorva mollarining haddan ziyod ko‘p boqilishi tufayli tur populyatsiyalari keskin qisqarib ketgan [29, 30, 31, 32].

3. *Qisqacha tavsifi*. Ko‘pyillik o‘tsimon o‘simlik, bo‘yi 1,5 *m* ga yetadi. Poyasi uncha ko‘p emas, tik o‘sadi. Barglari oddiy, uzunligi 6–10 *sm*, patsimon qirqilgan. Gullari ro‘vaksimon. Kosachasi tuksiz, uzunligi 3–4 *sm*, keng uchburchak tishli. Gultoji voronkasimon, yirik besh bo‘lmali, pushti-to‘q qizil rangli, uzunligi 4 *sm*, tashqi tomoni tuksiz, ichki tomoni siyrak tukli. Changchilarining iplari tuksiz, changdoni ikki qanotchali, siyrak tukli. Mevasi ko‘p urug‘li, cho‘zinchoq, po‘sti qalin, uzunligi 5–10 *sm*, yarim pardasimon, oq qanotchali. Iyun–avgust oylarida gullab, avgust–sentyabrda meva tugadi [11, 12].

4. *Tarqalishi*. Farg‘ona viloyati: Pomir-Oloy (Oloy tizmasi)ning So‘x va Shohimardon daryolari havzasida tarqalgan. Qirg‘iziston, Tojikiston, Afg‘oniston hududlarida ham uchraydi. Turning tarqalish areali (EOO) – 5,3 km^2, egallagan maydoni (AOO) 8 km^2 ni tashkil etadi (3-rasm).

5. *O‘sish muhiti*. Adir va tog‘larning mayda chag‘ir toshli yonbag‘irlarida hamda shag‘alli daryo o‘zanlarida o‘sadi (1500-2500 m).

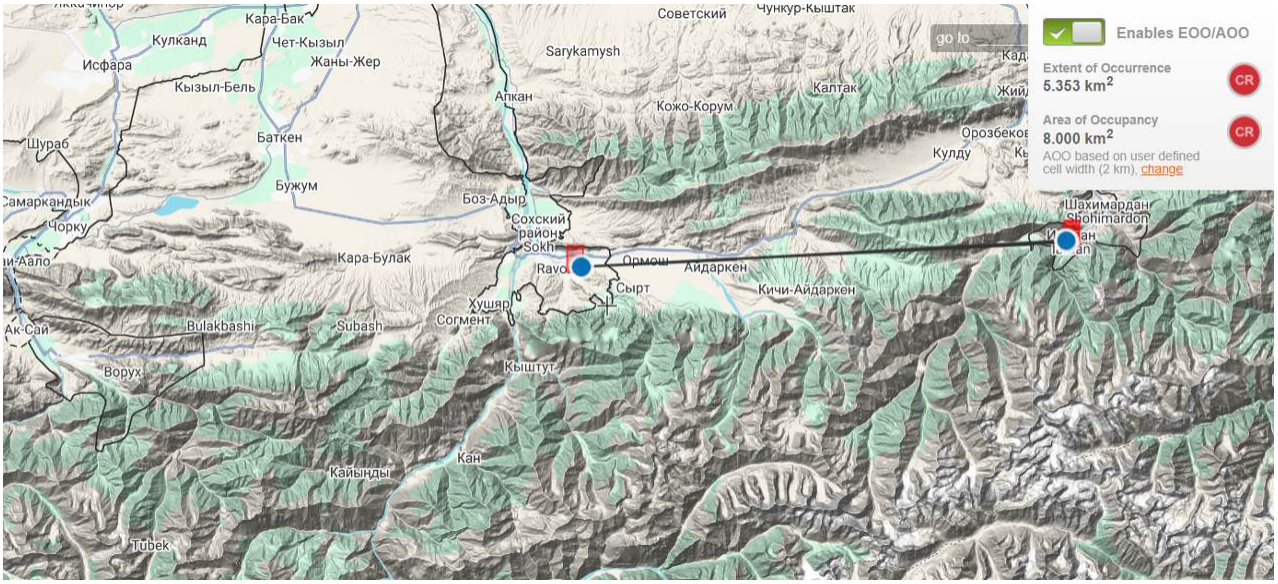
6. *Soni*. 2024-yilda So‘x va Shohimardon hududlarida amalga oshirilgan dala tadqiqotlari natijasiz yakunlangan.

7. *Foydalanilishi*. Foydalanilmaydi.

8. *Madaniylashtirilishi*. 1961-yillarda O‘zR FAning Botanika bog‘ida muvaffaqiyatli o‘stirilgan.

9. *Muhofaza choralari*. Maxsus muhofaza choralari ishlab chiqilmagan. Tur tarqalgan maydonlarda Milliy tabiat bog‘larini tashkil etish tavsiya etiladi.

10. *Tuzuvchi*: R.K.G‘ulomov.



3-rasm. *Incarvillea olgae* Regel tarqalishining GeoCAT xaritasi.

2. *Ferula korshinskyi* Korovin. Korjinskiy kovragi.
Ферула коржинского (4-rasm)



4-rasm. *Ferula korshinskyi* Korovinning tabiatdagi ko‘rinishi.

1. *Maqomi 1*. CR – B2ab(ii,iii,iv). Shimoliy Pomir-Oloyga xos kamyob endemik o‘simlik.

2. *Tahdidlar*. Chorvachilik va rekreatsion omillar (dam olish maskanlari, sanatoriy va boshqalar) o‘sish maydonlari uchun asosiy tahdidlar hisoblanadi. O‘zbekiston “Qizil kitobi”ning avvalgi nashrlariga (2009, 2019) tur 2-maqom bilan kiritilgan [31, 32].

3. *Qisqacha tavsifi*. Poyasi 80–200 *sm* keladigan ko‘pyillik, poyasi tuksiz, polikarp o‘simlik. Ildizi shol-g‘omsimon yo‘g‘onlashgan. Poyasi odatda bir nechta

ingichka novdadan iborat, novdalarining rangi ko‘kimtir, uzunligi 2 *m* gacha yetadi, yaproqlarsiz, yuqoriga qarab ikki yoki uch tarmoqqa ajralib ketgan. Barglari uch-to‘rt karra uchga bo‘lingan. Uchidagi bo‘laklari nashtarsimon-cho‘ziq yoki uzunchoq, uzunligi 1,5–6 *sm*, eni 6–15 *mm*, chetlari bir tekis, butun. Uchidagi soyabonchalari 5–11 shu’lali bo‘lib, diametri 6–8 *sm*. Kosacha kalta tishchalardan iborat. Bargchalari mayda, cho‘zinchoq, sariq tusda. Mevalari ko‘kimtir, pastki tarafi kichrayib ketgan, cho‘ziqroq shaklda, uzunligi 6–7 *mm*. Iyul oyida gullab, avgustda meva beradi [14, 15, 16].

4. *Tarqalishi*. Farg‘ona viloyati: Oloy tizmasida (Shohimardon) tarqalgan. Tojikiston va Qirg‘iziston hududida ham o‘sadi. Tarqalish maydoni (EOO) – 4.00 km^2. Turning populyatsiyalari egallagan maydon (AOO) – 4.00 km^2. Farg‘ona vodiysi uchun endem (5-rasm).

5. *O‘sish muhiti*. Tog‘ etaklaridagi toshloqlarda, gipsli tub jinslarda va boshqa tog‘ jinslarida dengiz sathidan 1100–2200 *m* balandlikda o‘sadi.

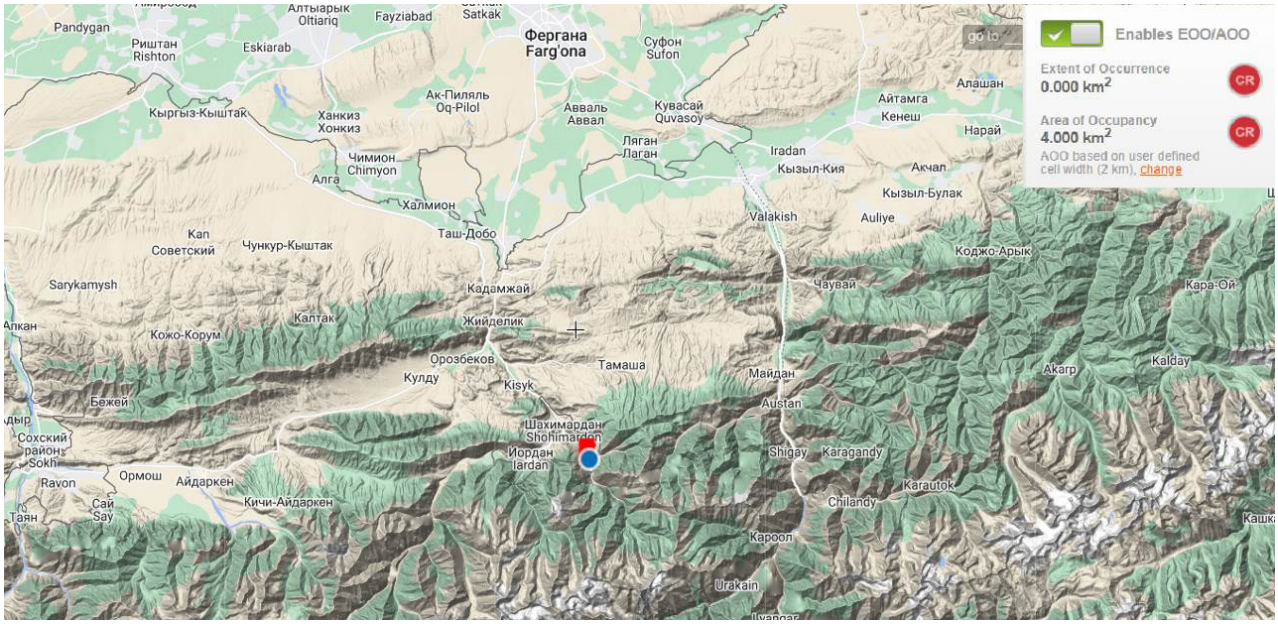
6. *Soni*. Aniqlanmagan.

7. *Foydalanilishi*. Dorivor o‘simlik sifatida xalq tabobatida foydalaniladi.

8. *Madaniylashtirilishi*. Madaniylashtirilmagan.

9. *Muhofaza choralari*. Maxsus muhofaza choratadbirlari ishlab chiqilmagan.

10. *Tuzuvchi*: R.K.G‘ulomov.



5-rasm. *Ferula korshinskyi* tarqalishining GeoCAT xariitasi.

3. *Restella alberti* (Regel) Pobed. Albert qisroni,
Рестелла альберта (6-rasm)

1. *Maqomi 2*. EN – B1a,b(iii, iv). Pomir-Oloy va G‘arbiy Tyan-Shan tog‘larida uchraydigan kamyob o‘simlik.

2. *Tahdidlar*. Chorva mollarining betartib boqilishi tur populyatsiyasining qisqarishiga sabab bo‘lgan [31, 32, 33].

3. *Qisqacha tavsifi*. Bo‘yi 1,5 *m* ga yetadigan buta. Eskirgan shoxlari qo‘ng‘ir, kulrang, yosh novdalari yotiq tukli. Barglari nashtarsimon, 1,5–3 *sm* uzunlikda, eni esa 0,5–1,5 *sm*, asosan ponasimon, uchi to‘mtoq, har ikki tomoni tukli, pastdagilari bandsiz. Gullari 5–13 tadan soyabonsimon boshcha to‘pgul hosil qiladi. Gulbandi 1,5 *sm,* yashil, yotiq tukli. Tojbarglari sariq. Yong‘oq mevali, qurigan gulqo‘rg‘on bo‘laklari bilan o‘ralgan. Iyun–iyul oyida gullab, mevasi iyul–avgust oyida yetiladi.



6-rasm. *Restella alberti* (Regel) Pobedning tabiatdagi ko‘rinishi.

4. *Tarqalishi*. Toshkent, Namangan va Surxondaryo viloyatlari: G‘arbiy Tyan-Shan (Chotqol, Qurama, Piskom) va Pomir-Oloy (Hisor tizmasining janubiy qismi va Boysun tog‘lari)da tarqalgan. Tojikiston va Qirg‘iziston hududlarida ham qayd etilgan. Turning tarqalish areali (EOO) – 23,842.975 *km*^{2}, egallagan maydoni (AOO) 52,000 *km*^{2} ni tashkil etadi (7-rasm).



7-rasm. *Restella alberti* (Regel) Pobed. tarqalishining GeoCAT xaritasi.

5. *O‘sish muhiti*. Tog‘larning pastki va o‘rta qismidagi archazorlarda, 1200–2200 *m* balandlikda o‘sadi.

6. *Soni*. 2024-yilda Namangan viloyatining Qamchiq dovonida olib borilgan dala tadqiqotlari davomida 20 tupi qayd etildi.

7. *Foydalanilishi*. Foydalanilmaydi.

8. *Madaniylashtirilishi*. Madaniylashtirilmagan.

9. *Muhofaza choralari*. Ugom-Chotqol milliy tabiat bog‘ida muhofaza qilinadi.

10. *Tuzuvchi*: R.K.G‘ulomov.

4. *Salvia margaritae* Botsch. Margarita marmaragi.
Шалфей Маргариты (8-rasm)



8-rasm. *Salvia margaritae* Botsch.ning tabiatdagi ko‘rinishi.

1. *Maqomi*. EN – B1a,b(i, iii, iv) + B2a,b(iii). Oloy tizmasining tog‘oldi hududlarida tarqalgan kamyob o‘simlik.

2. *Tahdidlar*. Urug‘ hosildorligining pastligi, chorva mollarining tartibsiz boqilishi, dam olish maskanlarining qurilishi tur populyatsiyasi qiqarishiga sabab bo‘lmoqda. Tur O‘zbekiston Respublikasi “Qizil kitobi”ning avvalgi nashrlariga 2-kamyoblik darajasi maqomi bilan kiritilgan [30].

3. *Qisqacha tavsifi*. Bo‘yi 50 *sm* ga yetadigan yarim buta. Poyalari ko‘p, asosidan shoxlangan. Barglari mayda, nashtarsimon, bandsiz. Kosacha barglarining uzunligi 18 *mm*, binafsha rangli, bezchasimon tukli. Tojbarglari to‘q binafsha rangli bezchasimon tukli, uzunligi 30–40 *mm*. Iyunda gullab, mevasi iyul oyida yetiladi [17, 18, 19].

4. *Tarqalishi*. Tur Shohimardon va So‘x hududlarida tarqalgan (Farg‘ona viloyati). Qirg‘iziston hududida ham uchraydi. Turning tarqalish areali (EOO) – 170 km^2 va egallagan maydoni (AOO) 28 km^2 ni tashkil etadi.

5. *O‘sish muhiti*. Tog‘larning o‘rta qismidagi toshli-shag‘alli ochiq yonbag‘irlarda, 1600–2200 *m* balandlikda o‘sadi.

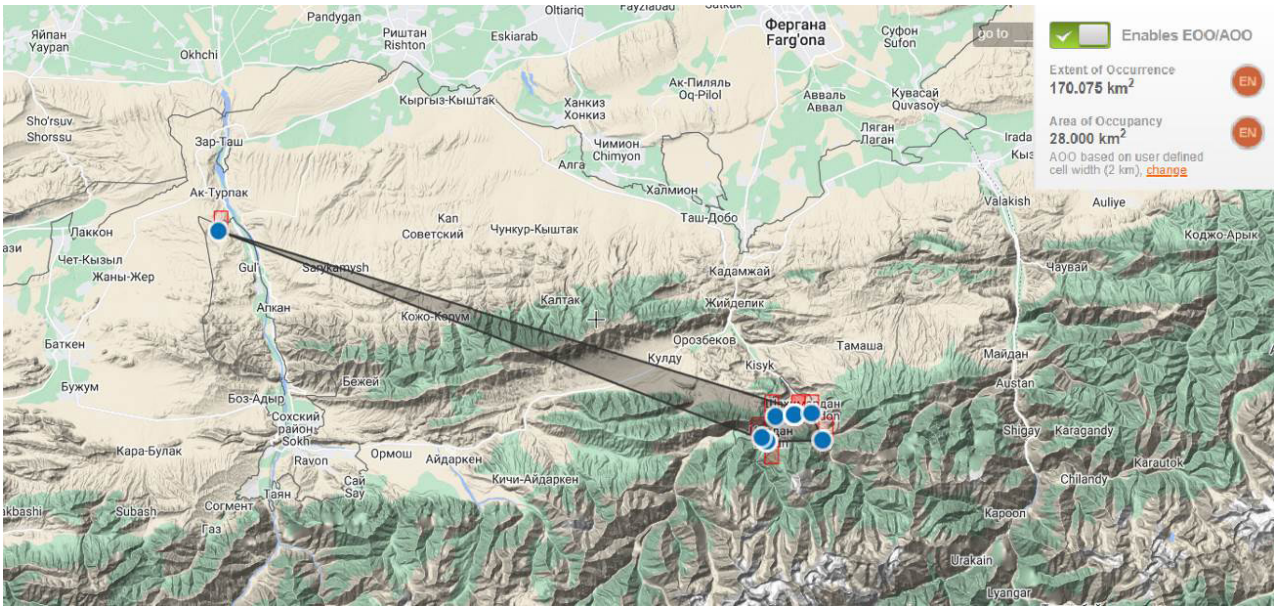
6. *Soni*. 2024-yilda olib borilgan dala tadqiqotlari natijasida Shohimardon daryo havzasida 2 ta populyatsiya qayd etildi. Tuplarning soni 50 tadan oshmaydi. Turning sinil holatdagi tuplarida o‘rtacha 50 dona guldan 3-4 tasida yetuk urug‘lar borligi va ularning ham 1-2 tasiga hasharotlar zarar yetkazganligi aniqlandi. Yetilgan urug‘lar asosan o‘rta yoshdagi tuplarda qayd etilgan (9-rasm).

7. *Foydalanilishi*. Dorivor o‘simlik sifatida foydalaniladi.

8. *Madaniylashtirilishi*. Madaniylashtirilmagan.

9. *Muhofaza choralari*. Alohida muhofaza choralari ishlab chiqilmagan. Maxsus chora-tadbirlar sifatida laboratoriya sharoitida urug‘larining unuvchanligini o‘rganish va botanika bog‘larida ekib o‘stirishni yo‘lga qo‘yish tavsiya etiladi.

10. *Tuzuvchilar:* R.K.G‘ulomov, X.R.Hoshimov.



9-rasm. *Salvia margaritae* Botsch. tarqalishining GeoCAT xaritasi.

O‘zbekiston Respublikasi “Qizil kitobi”ning navbatdagi nashriga tavsiya etilayotgan tur

Farg‘ona vodiysida cheklangan yashash joylarini hisobga olmaganda, intensiv chorvachilik, o‘sish maydonlarining yo‘qolishi va degradasiya eng xavfli omillar bo‘lib, turlar o‘ziga xos ekologik xususiyatlari kichik populyatsiyalar shakllanishining asosiy omilidir. Shu nuqtayi nazardan, Farg‘ona vodiysida tarqalgan ayrim o‘simliklarni O‘zbekiston “Qizil kitobi”ning navbatdagi nashriga kiritish orqali muhofaza qilish dolzarb hisoblanadi. Quyida muhofazaga muhtoj bo‘lgan turlardan vakil sifatida *Phlomoides kirghisorum* turi keltirib o‘tilgan.

5. *Phlomoides kirghisorum* Adylov, Kamelin & Makhm. Qirg‘iz flomoidesi, Фломоидес киргизский (10-rasm)



10-rasm. *Phlomoides kirghisorum*ning tabiatdagi ko‘rinishi.

1. *Maqomi 2*. EN – B1ab(ii,iii) + 2ab(ii,iii,iv); S1. Fag‘ona vodiysini shimoli-sharqiy hududidagi kamyob subendemik o‘simlik.

2. *Tahdidlar*. Chorvachilik, bog‘dorchilik, sanoat zonalari va rekreatsion omillar (dam olish maskanlari, sanatoriy va boshqalar) o‘sish maydonlari uchun asosiy tahdidlar hisoblanadi**.** 2020–2025 yillarda tur qayd etilgan o‘sish maydonlarning (O‘zbekiston qismi) 90%i odamlar tomonidan sanoat zonalari (sement zavodi) va agrotsenozlarga (mevali bog‘lar) aylantirilgani aniqlandi. Bundan tashqari, hasharotlar tomonidan o‘simlik urug’larining zararlanishi kuzatilgan.

3. *Qisqacha tavsifi*. Poyasi 40–60 *sm* keladigan, yon ildizlari tugunaksimon ko‘pyillik o‘simlik. Poyasi tik, bir yoki bir nechta, yuqori qismi odatda shoxlangan. Poya bo‘g‘inlari oddiy turklar bilan zich qoplangan. Ildiz oldi barglari 10–20 *sm*, cho‘zinchoq-tuxumsimon yoki teskari lansetsimon, barg plastinkasi patsimon bo‘lingan yoki qirqilgan, segmentlarining bo‘laklanishi tartibsiz, o‘tkir yoki to‘mtoq tishli. Poyada joylashgan barglari patsimon bo‘lingan, kamdan-kam hollarda butun. To‘pgullari barg qo‘ltig‘ida to‘p (6–10 ta) bo‘lib joylashgan. Gulkosacha naysimon (ba’zan qo‘ng‘iroqsimon). Gulkosacha barglari ingichka-bigizsimon. Gultoji 20–25 (32) *mm*, oq, pushti-binafsha rangda, gultoj naychasi 10–13 *mm*, 2 qismga bo‘lingan; yuqorigi lab 10 *mm*, ichki qismi zich tukli, pastki lab 10–15 *mm*, uch bo‘lakli: o‘rta bo‘lagi yumaloq, oq-pushti (och-binafsha rang dog‘lari bor), yon bo‘laklari keng tuxumsimon. Changchi iplari 4 ta, changdonda taroqsimon o‘simtalari bor. Urug‘chisi 1 ta, 2,0 *sm*. Aprel–may oyida gullaydi, mevasi may–iyun oyida yetiladi.

4. *Tarqalishi.* Janubiy Chotqol, Farg‘ona va Sharqiy Oloy (O‘zbekiston, Qirg‘iziston)ning toshloq-shag‘alli va qizil qumtoshli yonbag‘irlaridagi tuproqlarda o‘sadi. Tarqalish maydoni (EOO) – 2,996 km^2. Turning populyatsiyalari egallagan maydon (AOO) – 40 km^2. Farg‘ona vodiysi uchun endem (11-rasm).

5. *O‘sish muhiti*. Adir va tog‘larning quyi qismidagi toshli-shag‘alli, ola jinsli yonbag‘irlarda o‘sadi (dengiz sathidan 600–1600 *m* balandlikda).

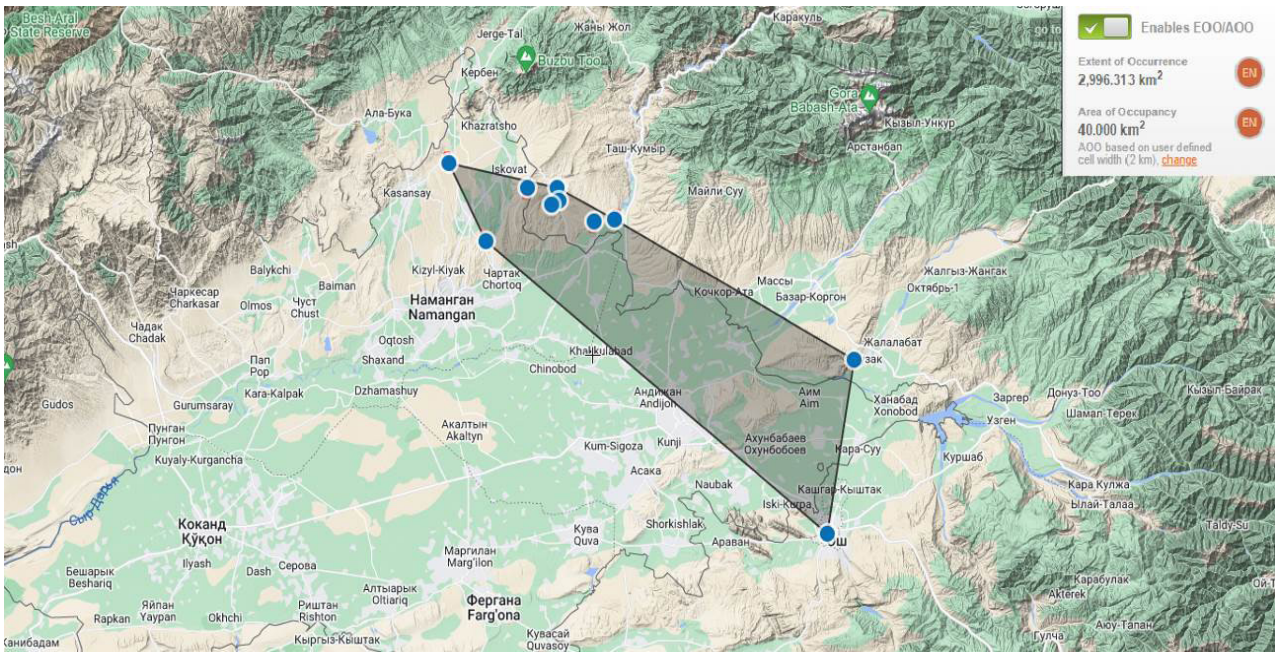
6. *Soni*. 2020–2025-yillarda olib borilgan maqsadli dala tadqiqotlari natijasida 1000–1200 tupi borligi aniqlangan. O‘zbekistonda 120 *km*^{2} (Namangan viloyati: Iskavot, Gulshan va Arbag‘ish qishloqlari) maydonda ushbu turning atigi 3 ta subpopulyatsiyasi saqlanib qolgan. Subpopulyatsiyada taxminan 400–450 individ mavjud. Reproduktiv ko‘rsatkichga ega individlar 150–200 tani tashkil qiladi.

7. *Foydalanilishi*. Ilmiy tadqiqot markazlari tomonidan farmakologik va dorivor oziq-ovqat qo‘shimchalarini olish uchun to‘planadi.

8. *Madaniylashtirilishi*. Madaniylashtirilmagan.

9. *Muhofaza choralari*. Alohida muhofaza chora-tadbirlari ishlab chiqilmagan.

10. *Tuzuvchi*: R.K.G‘ulomov [1, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33].



11-rasm. *Phlomoides kirghisorum* tarqalishining GeoCAT xaritasi.

Xulosa

Marshrutli dala tadqiqotlari va amalga oshirilgan tahlillarda Farg‘ona vodiysida tarqalgan turlar IUCN ro‘yxatiga olinmaganligi va Farg‘ona vodiysi Markaziy Osiyo mintaqasidagi tabiiy qo‘riqxonalardan deyarli ajralgan holda joylashganligi aniqlandi.

Olingan natijalar O‘zbekiston “Qizil kitobi”ning 2025-yilda chop etilishi rejalashtirilgan yangi nashrini tayyorlash, O‘zbekiston Respublikasi Vazirlar Mahkamasining 2018-yil 1034-sonli “O‘zbekiston Respublikasi Qizil Kitobini tayyorlash, nashr etish va yuritishni tashkil qilish chora-tadbirlari to‘g‘risida”gi qarori hamda Namangan davlat universitetida olib borilayotgan AL–9224104319-sonli “Bioxilmaxilligi xavf ostidagi hudud sifatida Farg‘ona vodiysi florasining raqamli platformasini ishlab chiqish” (2025–2027) mavzusidagi amaliy tadqiqot loyihasida belgilangan vazifalarni amalga oshirish uchun xizmat qiladi.

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THE RESULTS OF ASSESSMENT OF CERTAIN PLANT SPECIES PROTECTED IN FERGANA VALLEY ON THE BASIS OF *IUCN* CRITERIA

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Key words: Ferghana Valley, IUCN, GeoCAT, *Incarvillea olgae*, *Ferula korshinskyi*, *Restella alberti*, *Salvia margaritae*, *Phlomoides kirghisorum*.

Over the past decade, human impact on the environment in the Fergana Valley has increased significantly. The expansion of settlements, the growth of industrial zones, the reduction of pasturelands, and other anthropogenic factors have led to the decline of populations of rare and endemic species in the valley. In the Uzbek part of the Fergana Valley, the absence of protected nature reserves and the extremely limited coverage of natural monuments—accounting for only 0.1%

of the valley's territory–have further aggravated the situation due to increasing anthropogenic pressure. According to the most recent edition (2019) of the Red Data Book of Uzbekistan, approximately 57 species from this region have been listed as rare or endangered. Currently, the lack of state nature reserves in the Uzbek section of the Fergana Valley underscores the urgent need to implement modern conservation strategies and assess species in need of protection based on international (IUCN) criteria. Ensuring ecological sustainability in the valley now requires immediate and effective conservation measures supported by scientifically grounded approaches.

Ferula korshinskyi Korovin. CR – B2a,b(ii,iii,iv). A rare endemic species characteristic of the Northern Pamir-Alay region. Livestock grazing and recreational development (e.g., resorts, sanatoriums) are the main threats to its habitat. Distributed in the Alay Range (Shahimardan area) of Fergana region. Also occurs in parts of Tajikistan and Kyrgyzstan. EOO and AOO are both estimated at 4.00 km². It is endemic to the Fergana Valley.

Rostellaria alberti (Regel) Pobed. EN – B1a,b(i-ii,iv). A rare species found in the Pamir-Alay and Western Tien Shan mountain ranges. Uncontrolled livestock grazing has contributed to the population's decline. In Uzbekistan, it is found in the Tashkent, Namangan, and Surkhandarya regions: in the Western Tien Shan (Chatkal, Kurama, Pskem ranges) and the Pamir-Alay (southern Hissar Range and Baysun Mountains). The EOO is 23,842.975 km² and the AOO is 52.000 km². In 2024, a field survey conducted at the Qamchiq Pass in Namangan region identified 20 individual plants.

Salvia margaritae Botsch. EN – B1a,b(i,iii,iv) + B2a,b(iii). A rare species distributed in the foothills of the Alay Range. Low seed productivity, uncontrolled grazing, and the construction of recreational facilities are the main threats to this species. Field research in 2024 identified two populations in the Shahimardan river basin, totaling fewer than 50 individuals. On average, each senescent plant had 50 flowers, with 3–4 mature seeds, of which 1–2 were found to be damaged by insects. Viable seeds were mostly found in mid-aged plants.

The results obtained will serve to prepare a new edition of the "Red Book" of Uzbekistan, scheduled for publication in 2025, and to implement the tasks set out in the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 1034 of 2018 "On measures to organize the preparation, publication and maintenance of the Red Book of the Republic of Uzbekistan" and the practical research project of Namangan State University No. AL-9224104319 "Development of a digital platform for the flora of the Fergana Valley as a biodiversity-endangered area" (2025-2027).

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