

Regional distribution and ecological-phytocenotic description of dominant plants of Southern Uzbekistan

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Abstract. This article analyzes the results of the research conducted by scientists in the study of plants of the region. Taking into account the laws of the distribution of plants in the regions, the dominant plants of the desert, hill, mountain and pasture regions of South Uzbekistan are given an ecological and phytocenotic description. In particular, the results of the expedition conducted to study the plants distributed in each region, and the results of experimental research are highlighted. According to it, information on the Latin name of plants, ecological status, distribution according to soil types, dominance characteristics, communities is provided. The formation of vegetation cover specific to the climate of each region was analyzed. In particular, dryness (lack of moisture) and high temperature for the desert determine unfavorable climatic conditions for plant life. Here, the shortness of the growing season of plants, mainly due to the lack of precipitation, early drying of the soil, often determines the summer and winter dormancy of two dormant periods in the seasonal development of plants. Despite the fact that desert conditions are unfavorable for plants, it is possible to observe their diversity during the seasonal vegetation period. Adir is located between a barren desert and a mesothermal mountain, and according to the living conditions of the plants, the stage part is arid, and the upper part is close to the mountain.

Keywords. Landscape, dominant, subdominant, salinity, barren, halophytes, mesophytes, xerophytes.

1 Introduction

Ecological and dominant description of dominant plants in desert, hill, mountain, pasture regions is considered, taking into account the laws of distribution of plants in the regions. These regions are plain, foothills, mountains and highlands geomorphological system [1-3]. The main difference between these regions is the occurrence of a hydrothermal environment

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in these places, depending on the general scenery (landscape) and surface structure (relief), and the change of soil and vegetation cover that is integrally related to it [4-6].

The landscapes under scrutiny encompass a diverse spectrum, ranging from desert expanses to hilly terrains, mountainous zones, and expansive pastures, each constituting integral elements of the broader geomorphological system [7].

These regions are compartmentalized into the plains, foothills, mountains, and highlands, constituting a multifaceted landscape tapestry [8]. A defining feature that sets these regions apart is the hydrothermal environment they encapsulate, an environmental factor profoundly influenced by the prevailing geographical features, including the overall landscape and surface relief [9]. This interplay of features orchestrates the shift in soil composition and vegetation cover that is inherently intertwined with the broader ecological dynamics of the regions [10].

By dissecting the intricate connections between terrain, climate, hydrology, soil composition, and vegetation distribution, this study unveils the underlying ecological and dominant characteristics of these regions [11]. Such insights are pivotal for comprehending the interwoven ecological relationships that shape plant life within desert, hill, mountain, and pasture settings [12]. The knowledge gleaned from this exploration not only advances our understanding of regional ecosystems but also informs the development of targeted conservation and management strategies for these diverse landscapes [13].

Each region has its own climate-specific vegetation cover. In particular, the dryness and high temperature of the desert determine unfavorable climatic conditions for plant life [14]. Here, the shortness of the growing season of plants, mainly due to the lack of precipitation, early drying of the soil, often determines the summer and winter dormancy of two dormant periods in the seasonal development of plants. Despite the fact that desert conditions are unfavorable for plants, it is possible to observe their diversity during the seasonal vegetation period [15]. Adir is located between a barren desert and a mesothermal mountain, and according to the living conditions of the plants, the stage part is arid, and the upper part is close to the mountain [16-18]. With this, the hill zone is divided into two parts, that is, the lower hill with a rather gentle relief and the branched hill, where rocks protrude in some places.

The growth period of plants in the mountain region corresponds to spring, summer, and autumn, and in the lower mountains, that is, in the hills, together with ephemeral and ephemeroïd communities, dominant steppe types with a long period of mutation are also characteristic.

2 Materials and methods

Our research revolves around the exploration of regional plant species indigenous to the southern region of Uzbekistan. Within this context, we delve into the intricate ecological and phytocenotic attributes of these plant populations. To achieve a comprehensive understanding, we employed a multifaceted approach, integrating field research, experimental methodologies, statistical analyses, and advanced Geographic Information System (GIS) technologies.

The heart of our investigation lies in scrutinizing the distinctive characteristics exhibited by the flora native to the southern Uzbekistan region. This encompasses an in-depth examination of their interactions with the surrounding environment, their role within local ecosystems, and their responses to prevailing ecological conditions.

Field research allowed us to intimately engage with these regional plant communities in their natural habitats, enabling us to gather firsthand observations and data. Complementing this approach, we conducted experiments to unveil specific ecological interactions and adaptations, shedding light on the unique attributes of these plant species.

The employment of advanced statistical techniques facilitated the systematic analysis of gathered data, ensuring rigorous and accurate interpretations of our findings. Moreover, the integration of GIS technologies enabled us to overlay spatial data and generate comprehensive maps that visually illustrate the distribution patterns of these regional plants within their respective habitats.

Collectively, this multidimensional approach empowers our study to offer a nuanced exploration of regional plant species in South Uzbekistan. By intertwining empirical observations, experimental insights, statistical analyses, and GIS technology, our research aims to contribute substantively to the body of knowledge surrounding these critical ecological systems.

3 Results and discussion

For the desert, dryness (lack of moisture) and high temperature determine unfavorable climatic conditions for plant life. Here, the shortness of the growing season of plants, mainly due to the lack of precipitation, early drying of the soil, often determines the summer and winter dormancy of two dormant periods in the seasonal development of plants. Despite the fact that desert conditions are unfavorable for plants, it is possible to observe their diversity during the seasonal vegetation period. Among them, you can find species (belonging to the Ephedra family) that develop continuously throughout the year.

In South Uzbekistan, there are various types of soil, gray soil, sandy desert, barren, barren, shorkhok, typical shorkhok, meadow shorkhok and marshy shorkhok soils. In response to this, groups of psammophytes, halophytes, hypsophytes, petrophytes, mesophytes, forest plants (forests) are distinguished in the conditions of growing dominant plants.

The life forms of the dominant plants are also diverse. In communities, representatives of life forms such as trees, shrubs, shrubs, semi-shrubs and annual and perennial grass can be found, which are dominant and often belong to landscape plants [4].

includes *the white saxovull (Halaxulon persucum)*, which is very common in the desert. Its numerous plant communities are formed in compacted sandy, sandy-porous sands [1]. In the researched area, it forms a number of plant communities with white saxovol, chogon, yantak, ilok, and black saxovol [16].

In the vegetation cover, along with the white saxovolum, the species of calligonum (jazgun) occupy a much wider and more prominent place. They are found in almost all formations of sandy deserts and loose sand dunes. Calligonum microgarpum, cherkez (Salsola richtori) are also often found in grass saxowulzor, juzgunzor, and rabbit bone plants [6, 11]. But as a dominant, it is slightly less than the species named above. The main common areas of Circassian forests are oases, around wells, and land areas that are intensively used for grazing animals. Forms communities with Circassian, Ilok, Singren, White Jusans.

Semi-shrub dominants in the sand include *white wormwood (Artemisia diffusa)*. It is subdominant in the desert associations of white saxophones and warblers. White sorrel is dominantly found in the depressions between the more powdery sands, in the sand layers with small dust particles, and in the curved sand layers on the northern slopes, that is, on the side where soil formation is much earlier than on the southern slope. Turan wormwood, ilok, and astragalus are subdominant in the plant communities of white sage.

The widespread group of psammophyte grass dominants includes *Carex physodes*, which *occupies a special place in the community's life*. It is a rhizomatous ephemeroïd with a strong competitive character and a fairly wide ecological range, growing in thick-layered and thin-layered sandy loams, porous sands, sandy loams, saline sands. The most favorable conditions for its development are loam with medium porosity. It forms a number of plant communities with ilok, white wormwood, and turon wormwood. *Celine (Aristida pennata)*

is a common species in sand dunes, a permanent member of most communities, but in rare cases it forms plant communities as the main dominant in small areas [13, 14].

Among the shrubs distributed in gypsum desert sand deposits is *sangren* (*Astragalus villosissimus*). The Sangren community forms plant communities with white sedges and sedges in layers of sandy or clayey soils. *White paint* (*Salsola arbuscula*) is a common halophyte shrub. It is found as a dominant in the plant community in places where the surface of gypsum soil is covered with a layer of sand in thin layers of sands and proluvial layers. Forms communities with wormwood, Circassians, sangrens.

Keyreuk (*Salsola orientalis*) is a galaphyte semi-shrub with a wide ecological range. It is dominantly found in sandy brown soils, barren soils of alluvial plains, including variously saline soils of anciently irrigated river deltas. The soil group of the place of residence of the Keyreuk community is characterized on the one hand by hard skeletal, with gypsum, on the other hand, by the presence of a soft soil layer in the surface layer [8]. It forms a team with dyeing, white wormwood.

The semi-shrub dominant group includes *gammada* (*Hammoda leptoclaga*). This is an endemic species typical of the adjacent regions of Southern Uzbekistan and Turkmenistan, and is not widespread. Gammada communities can be found in the gypsum soils of the highland plains. It forms communities with color, white, and Turan wormwood [12, 15].

Black saxowul (*Haloxylon aphyllum*) is a woody shrub belonging to the group of halophilic dominants. It is a unique representative of the desert flora and has a wide ecological range in relation to the soil. It grows on clay, sandy, gravelly soils with varying degrees of salinity. Important factors determining the distribution of the black saxophone are the relative proximity of sewage or is the constant moistening of the deep horizon layers. The natural black saxovulzor area is connected with ancient and modern river valleys. It forms a number of communities with kandim, aksaksovul, partek, ilok, shuvoks.

Gallophyte shrub dominants can be *white bush* (*Seidlitzia rosmarinus*) *with a narrow range*. Its area is limited only to the southern part of Central Asia. The northern line (border) of the range of the species passes in the Surkhandarya region of the southern part of Uzbekistan. White bush can be found in small community areas on saline, loamy, thin-layered sands, weak, moderately saline loamy soils. Yulgun forms a series of communities with rings.

Common halophilic dominants include *sarsazan* (*Halocnemum strobilaceum*). Its communities are associated with highly mineralized wastewater near the surface of the earth's moist saline lands. Sarzazanzors can be found in large areas, massifs, eroded, overgrown, hidden shores, around the desert.

An example of a dominant halophilic species with a herbaceous life form can be taken as *a salt marsh* (*Aluopus litoralis*). This species is common in the river alluvial deposits of the foothills. These rhizomatous sedges were formed in the sedimentary soils of river beds with rapid salinization and groundwater close to the surface. Saline sedge develops in moist and saline soils and forms a cover of saline and grassy plants. It forms a team with a reed, a reed, and a reed.

of annual halophilic dominant species are *cornflower* (*Gamanthus gamocarpus*) and *sedge* (*Halocharis hispida*), which are common in lowland brackish soils and saline and barren and barren emerging soils. Cereals depend on residual saline and saline soils of automorphic order. Rabbit farms are distributed in the lower parts of the highlands and plains. Therefore, this plant is widespread in the hills up to the border of the mountain zone.

Adir is located between a barren desert and a mesothermal mountain, and according to the living conditions of the plants, the stage part is arid, and the upper part is close to the mountain. With this, the hill zone is divided into two parts, that is, the lower hill with a rather gentle relief and the branched hill, where rocks protrude in some places. The amount of annual precipitation in the hills is approximately twice as much as in the desert (250-400

mm), and 2-3 times less than in the mountains. Here, rainless periods are reduced by 1-2 months (July, September) compared to the desert (May, October).

Adir is an area with gray (light, medium, dark) soil types. It is the main rock-gypsum particles that make up the soil. However, in the southern part of the republic, the gray soil is the leader in the alluvial deposits of the mountains and mountains. Tertiary rocks rich in gypsum and gypsum-gray soil formed from its erosion have developed in the border between the hills and the desert. In the Adir region, ephemerals and ephemerooids are common dominants and are characteristic of vast foothills. Ephemeral vegetation cover is a type of biological characteristic, which consists of annual and perennial plants in the ephemeral development cycle [2].

The ephemerooid dominants in the lower hill belt are *carex* (*Carex pachystylis*) and sedge (*Poa bulbosa*), which cover the soil surface with a thick green carpet in the typical habitat. Color is an ephemerooid with a long rhizome that reproduces vegetatively, it has high plasticity in relation to the temperature factor, stability of the tissue of vegetative organs. This species is well adapted to desert conditions. The below-ground biomass of the color is higher than the above-ground productivity. It forms communities with mint, carrack, aquray, ilok, shagalak and sugdi wormwood [2].

The second dominant is the bulbous bulbous *brownhead* (*Poa bulbosa*), an ephemerooid with small hairy roots, a geophyte with a wide ecological range, and it has the characteristics of wide ecological and biological plasticity. It can be found from the desert zone to the high mountain zone. Blackberry grows vegetatively and from seeds. The color forms communities with sugdi suvoga and white.

The ephemeral group is formed when the dominant species and their communities are always brown, when a disturbance occurs in the cover of the color community. The ephemeral dominant group includes *aegilops* - *Aegilops squarossa*, *sedge* - *Ansantha tectorum*, *sedge* - *Taeniatherum crinitum*. Egilops appear en masse as a result of a change in the cover of black-headed - black-headed - black-headed. Their sometimes thick growth does not allow other species to grow well. In this regard, sorghums form secondary communities on less-utilized land with more dryland farming. Egilopsors are often found in nature on soft soil and gravelly slopes.

Kiltiq is found in all the hills of the republic. Many grasslands are infested with this weed, and it begins to dominate the vegetation cover in areas that have been continuously used as grassland for a long time. Yaltirbosh and Mortuk lead teams occupy large areas like Egelops and Kiltikt teams. They are also found in over-utilized grasslands and lowlands.

Almond (*Amugdalus spinosissima*) is common among the arid shrub dominants . Almonds are mainly distributed in the foothills and submountain areas with stony, gravelly or stony soft soil. In addition, they are found both in the mountains and sometimes singly in the foothills. However, it does not form a vegetation cover in plains and mountains. Almond occupies a large area in the lower regions, forming diverse communities with ephemerooids, wormwood, semi-shrubs, sedges, various herbaceous steppe plants.

Pista (*Pistacia vera*) is one of the tree dominant species and is one of the valuable species for agricultural use. It forms small groves in the foothills and foothills, including pistachio groves in Bobotog. Favorable conditions for the growth of the pistachio tree are thick soil layers, light sands or sandy loams with a calcareous content, and porous rock soils with stone gravel. Pistachio ephemerooid, wormwood and various grasses form a series of plant communities at an altitude of 800-1500 meters.

Among the dominant semi-shrubs, *Artemisia sogdiana* (*Artemisia sogdiana*) is scattered in the lower part of the hill. Its communities are found at an altitude of 500-800 (thousand meters). The soil layer is a light and typical gray soil, stony-gravel or fine-grained-gravel soil, which is more or less saline. Sugdi ash forms a community with shrubs, halophiles, and double-leaved plants.

In the mountain region, the altitude rises from 1200-1500 m to 2700-2800 m, the rainless days are from July to October. The growth period of these plants corresponds to spring, summer, autumn, in the lower mountains, that is, in the hills (heights from 1200-1400 m to 1800-2100 m above sea level), in this place, together with ephemeral and ephemeroïd communities, dominant steppe types with a long period of mutation are characteristic. Tree-shrub plant communities are not noticeable (this is mainly due to the atropogenic effect). Here, the temperature is short, but the amount of rain is significantly more. There are almost no ephemeral plants in the upper part. Plant communities of tree-shrub life forms are well developed, and the number of species of mesophilic plants is included.

Bukhara almond (*Amugdalu bucharika*) is a tree-like shrub, but in many cases it is found in the form of a multi-stemmed shrub. Mainly distributed in the Pamir-Aloy mountain ranges. It rises to 2200-2300 above sea level in the Hisar mountains. The border of the lower mountain zone passes 800-900 m. It is found dominantly in stony gravel soils of all exposures on slopes, rock avalanches and hills. Grows well in calcareous soils. Bukhara almond usually does not form a thick cover, only ephemeroïds participate in the formation of a number of communities with thin-leaved wormwood, wheat, various grasses.

Bukhara marble (*Salvia bucharika*) - semi-bush, **Halimiphyllum** (*Halimiphyllum atriplicoides*) bushes are conditionally dominant in the sparse vegetation cover in the exposed rock layers.

The dominant tree growth form in the mountain zone is **the Turkestan maple** (*Acer turkestanicum*). It is found in Pamir-Aloy and Western Tyanshan. It grows on various rock exposures at altitudes of 1,800 to 2,400 m in southwestern Hisar, and is very well preserved on the northern cliffs. This species forms mixed trees with other deciduous communities. Fir trees are always considered the main component in this, and they participate in the formation of the second layer. It hardly makes trees by itself. Turkestan maple forms communities with various herbaceous plants (andiz, shashir).

Another species of this family is **soft maple** (*Acer pubescens*), which is found only in the Pamir-Aloy mountains. This species is more xerophilic than the above species. It is mainly found in different directions of dry fine-grained, stony and gravelly rocks in the hilly zone at 800-1800 m altitude. It forms low sparse groves mixed with other trees such as hawthorn, walnut, almond. This dominant group of trees includes two types of hawthorn - **yellow hawthorn** (*Crataegus pontica*) and **Turkestan hawthorn** (*Crataegus turkestanicum*), which are found in almost all mountains of the republic.

Yellow hawthorn is one of the drought-resistant trees. In the south-west of the Hisar ridge, on dry, stony, stony-gravel and rarely fine-grained rocks, wheat is found in sparse tree-shrub plant cover - various steppe grasses, among rocks. In the south, south-west and south-east of the rocks, it always grows sparsely. Single or small groups, rarely nuts, occur as a second layer component in fruit forests. Alternatively, a mixed tree can be found in shrublands, forming an upper layer.

One of the dominant species among shrubs, **rose** (*Rosa*) occupies a significant place in the vegetation of the mountain zone. Nematokas - mixed thickets consist of various bushes, in which the Nematokas type is the leader. Triples, irgay, and zirks are rare. A number of authors (Ovchinnikov, Zokirov, Kamelin) define the secondary shrublands of rosaries and determine the limits of their distribution as altitudes from 900 m to 3500 m above sea level.

In the mountains of South Uzbekistan, rosaries are often found in all mountain regions, but do not form large areas. *Rosa kokanica*, *R. canina*, *R. maracandea*, *R. fedtschenkoana* are more common among species of the *Rosa* family. In Western Hisar, the namatak forms communities with lamb, color, cherry, various herbs. It is characteristic that blackberry, abelia, and cypresses participate in some communities.

juniper (*Juniperus*), which is widespread as a dominant, is the main forest-forming species. In all mountain ranges of Central Asia, juniper occupies a special place [5]. It is

always found in sparse woodlands alternating with steppe and grassland communities. It grows at an altitude of 1900-2300 (2800-3200) m in the Pamir-Aloy mountain system. Of the juniper forests, **black juniper** (*Juniperus seravshantica*) occupies much lower hypsometric heights in the mountain profile, scattered junipers are always dominant in the upper mountain borders. Spruce can be found on various soils, but favorable conditions for their growth: from soil layers developed on gentle slopes, i.e. brown, high-humus, strong carbonaceous soils.

Zarafshon juniper has a highly plastic ecological character and occupies a wide range of landscapes as a determinant of the formation of diversity in the community. In the south of Hisar-Boysun mountain ranges, F.Kh. According to Jangurazov [7], the distribution of this species in the lower mountain borders is characterized by ephemeral wheat and wormwood forests. As the height increases (1600-2000 m), representatives of large grasses appear in communities. Here, with the participation of namataks, all kinds of grassy wheat arbors dominate. Then, at an altitude of 1800-2400 m, juniper forests are combined with trees, and above (2400-2500 m) betaga, high mountain dominates in various groups of grasses.

Shashir (*Prangos pabularia*) (up to 1.5-2 m) is a perennial dominant grass with a wide ecological range. This species has a wide altitude range (900-3000 m) and is a strong coenosis producer.

Shashir communities are adapted to different soils (dark, gray, yellowish brown, brown mountain forest, light brown), and these soils differ in their mechanical composition. In mountain sparse forests, they are the main components of the grass layer in the tree and shrub community. But the independent shashiris community forms only the lower part of the highland region. Shashir community is made up of its sub-edifiers - *Polugonum coriarium*, *Ferula kuhistanica*, *Artemisia dracuncutus*, *Ligutaria thomsonii*, *Dactulis giomerata* and others.

Buttercup (*Ranunculus rufosepalus*) is one of the characteristic dominants of the low meadows of the high mountain region. It dominates well-drained, well-saturated fine-grained-gravel soils, near melting snow tracks or on the banks of streams; also grows on stony soils. Bear communities are found on the slopes of the Hisar Mountains and in its western parts at 3000 m above sea level, close to the snow. **Anjobar** forms communities with arenaria (*Geranium chariesii*), **peschanka** (*Arenaria rotundiflora*).

Another representative of the low-dominant meadows in the high mountain region is **the lagotis** (*Lagotis korolkovii*), which is almost stemless and rarely goes beyond the limits of the conditions of the alpine meadow region. In such a place, the soil in the second half of the summer will easily survive the drought. Rarely it is part of subalpine meadows. His teams are always polydominant. Anjobar forms a series of communities with arenaria.

Aspartset exidna (*Onobrychis exidna*) is characteristic of the dominant bushes with a cushion growth form, and it occupies the only place in the mountain xerophilic vegetation cover in terms of the role of dominance. Esparsetes are adapted to exposure on rocky south and south-western slopes, where the light falls well and is generally not too low, in watersheds, on high level surfaces, that is, in places where the rocks are exposed. In the western part of the mountains of Hisar and Turkestan, thorny espartocarps are quite abundant at 2300-3000 m above sea level, where they form a number of communities with acantholimon, betaga, and astragal species.

The alpine xerophilic mountain vegetation belonging to the carrack family, which dominates the high mountains, belongs to the group of thorny grasses. These **carracks** (*Cousinia verticillaris*, *C. machilenta*) are perennial herbs, an endemic species for Pamir-Aloy. Thorny grasses are mainly adapted to subalpine soil conditions with a reduced layer and a soft layer. They are the main landscape of fine-grained areas on flatter slopes, saddles or flat plateaus, where they always form fairly thick covers. On steep stony-gravel slopes, it forms a series of communities with sedges, akontolimon, and sedges.

One of the most common wetland dominant grasses is *sedge* (*Carex orbicularis*). Moss vegetation is a characteristic element of a high mountain, which is formed under special conditions of abundant moisture. The peat layer is usually not large. This plant forms a series of communities with the dominant (*Kobresia persica*) bearberry.

Fescue (*Festuca valesiaca*) is dominant. Most of the Betagali steppes are found in subalpine and alpine high mountain regions. Beta also occurs in the lower mountain and upper hill regions, but usually it is subdominant in the community, and the sedge, wormwood, wheatgrass and ephemerals together form mixed communities. The steppes in the southwestern part of the Hisar mountain ranges are characterized by arid vegetation. Here they can be seen in the mountain xerophilous vegetation cover, sometimes in tens of numbers. According to observations of V.P. Dropov, betaga is found at altitudes of 3400-4000 m above sea level. According to B.N. Demurina, grassy steppes develop at altitudes from 2100 to 2500-3000 m above sea level. Betaga mountain forms a number of plant communities with xerophilous carrack, acanthalimon, astragal species.

Southern Uzbekistan is characterized by a variety of plants [3] (Table 1).

Table 1. Leading families and genera in the flora of South Uzbekistan.

Families	Number		%	Categories	Number	%
	Categories	Varieties				
Asteraceae	91	401	16.7	Astragalus	141	5.9
Fabaceae	26	254	10.6	Cousinia	83	3.4
Lamiaceae	39	154	6.4	Allium	47	1.9
Brassicaceae	68	144	6.02	Oxytropis	32	1.3
Apiaceae	50	109	4.5	Artemisia	30	1.2
Poaceae	59	137	5.7	Scutellaria	27	1.1
Chenopodiaceae	26	98	4.1	Salsola	26	1.08
Rosaceae	23	94	3.9	Potentilla	26	1.08
Boraginaceae	17	82	3.4	Euphorbia	24	1.04
Liliaceae	14	72	3.01	Gadea	24	1.04
Alliaceae	1	47	1.96	Ferula	23	0.96

Of the 2389 plant species of the region, 401 (23 dominant) belong to the Asteraceae family, of which 237 (9) are perennial grasses. 7 of the 171 perennial grasses belonging to the second-ranked Fabaceae family are dominant plants. Dominance characteristics are given in the following table (Table 2).

Table 2. Leading families and genera of dominant plants of Southern Uzbekistan.

Families	Number		%	Categories	Number	%
	Categories	Varieties				
Asteraceae	6	23	13.6	Artemisia	13	7.7
Rosaceae	10	18	10.7	Astragalus	9	5.3
Poaceae	15	16	9.5	Tamarix	7	4.1
Fabaceae	10	20	11.9	Rosa	6	3.5
Chenopodiaceae	10	16	9.5	Cousina	6	3.5

Interregional location of dominant plants of South Uzbekistan is given in Table 3.

Table 3. Interregional distribution of dominant plants of Southern Uzbekistan.

Altitude regions	Number of species	%
Desert	10	5.95
Adir	4	2.38
mountain	23	13.6
Meadow	1	0.59
Desert hill	18	10.7
hill	54	32.4
Mountain pasture	13	7.7
desert-hill-mountain	42	25
Hill-mountain-pasture	5	2.97
Desert-hill-mountain-pasture	2	1.19

As can be seen from the table, most of the dominant plant species are ecologically friendly to mountain areas. But the number of real species unique to the mountain is 23 (17.8%). Next comes hill plants (124). Pure hill vegetation consists of 4 (2.38%) species which is very less compared to mountain. Of the 65 species that can be found in the desert region, 10 (15.6%) are unique to this region. Only 1 species out of 24 is unique to this region [9, 10].

4 Conclusions

In short, plant communities and dominant plant species that form them have a special place among natural resources. 168 of the 2389 species distributed in the southern regions are dominant, they form unique diverse communities, and these are the main ones, besides, they protect the entire surface of the earth from water and soil erosion by maintaining the water regime of the place where it grows.

As a result of the influence of large-scale environmental factors (grazing, desertification), the area of vegetation in the territory of South Uzbekistan is decreasing. This causes an increase in the number of plants included in the "Red Book" [16]. 148 of the 2389 species of plants found in the regions of South Uzbekistan are included in the "Red Book" of the Republic of Uzbekistan, they make up 6.2% of the flora of this region. Therefore, most of the plant species are in difficult ecological conditions, they need special protection. It is urgent to develop measures for their protection and conduct practical activities.

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