



UDC 58

## **DOMINANT AND SUBDOMINANT PLANT SPECIES IN THE VICINITY OF THE CITY OF NUKUS IN THE KYZYLKUM DESERT**

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### **ANNOTATION**

*The article deals with dominant and subdominant plant species in the vicinity of the city of Nukus in the Kyzylkum desert. Edificators, builders or dominants are recognized as significantly dominant species in the vegetation cover, i.e. dominants in the upper part of the biocenosis, and subdominants are considered as secondary dominants in the lower part of the biocenosis.*

**KEY WORDS:** *biocenosis, dominant, subdominant, edificator, Kyzylkum, desert, association, phytocenosis.*

Dominant species create significant biomass in biogeocenosis and play a very important role in the formation of landscape components, plant cover, and soil. Each phytocenosis consists of different types of plants, and common species are distinguished by their special importance in this association. Their differences are explained by the influence on the life cycle in biogeocenosis (or phytocenosis), dominance in all associations.

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When determining the dominant and subdominant species of plants, distributed in the vicinity of the city of Nukus, the works of A. Bykova [4; 3-462 p.] and "The establishment of the protection of Uzbekistan and the path of its rational use"[11; 5-404 p. ].

It should be noted that the plant cover of this region consists of halophilous and psammophilous representatives of Chenopodiaceae, Asteraceae, Brassicaceae, Poaceae, Fabaceae, and Polygonaceae families, which grow in various degrees of humus and sand.

The main part of the surroundings of the city of Nukus in the Kyzylkum desert is made up of xerophytic species characteristic of the desert zone. The vegetation cover was formed as a result of adaptation to the arid climate of the Kyzylkum over several million years.

In the course of the research, it was established that 20 important plant species dominate and subordinate in the vegetation cover of the vicinity of the city of Nukus in the Kyzylkum desert zone. Table 1 lists these plant species and their various phytocenotic properties.



**Table 1**

**Dominant and subdominant plant species distributed in the vicinity of the city of Nukus in the Kyzylkum desert**

No	Plant species	Ecomorphology	Growing conditions (the soil)	The degree of dominance in the vegetation cover
1	<i>Haloxylon aphyllum</i>	Haloxerophilous trees	Saline sand	5
2	<i>Haloxylon persicum</i>	Psammoxerophilous trees	Sand	4-5
3	<i>Calligonum aphyllum</i>	Psammomeso-xerophilous shrubs	Sand	4-5
4	<i>Halostachys belangeriana</i>	Halomesoxerophilous shrubs	Saline	3-4
5	<i>Tamarix hispida</i>	Halomesoxerophilous shrubs	Saline	3
6	<i>Ammodendron conollyi</i>	Psammomesoxerophilous shrub	Sand	3
7	<i>Salsola richteri</i>	Psammomesoxerophilous shrub	Sand	3
8	<i>Salsola arbuscula</i>	Haloxerophilous shrub	Saline sand	2-3
9	<i>Astragalus ammodendron</i>	Psammomesoxerophilous subshrub	Sand	2-3
10	<i>Salsola orientalis</i>	Haloxerophilous subshrub	Saline sand	2
11	<i>Halocnemum strobilaceum</i>	Halomesoxerophilous subshrub	Saline sand	2
12	<i>Artemisia terrae-albae</i>	Xerophilous subshrub	Sand	2
13	<i>Poa bulbosa</i>	Psammoxerophilous perennial herb	Sand	1
14	<i>Ferula assa-foetida</i>	Mesoxerophilous perennial grass	Sand	2
15	<i>Stipagostis pennata</i>	Psammomesoxerophilous perennial herb	Sand	2
16	<i>Convolvulus hamadae</i>	Psammomesoxerophilous perennial herb	Sand	2
17	<i>Heliotropium arguzioides</i>	Mesoxerophilous perennial grass	Sand	1
18	<i>Carex physodes</i>	Psammomesoxerophilous perennial herb	Sand	1
19	<i>Halimocnemis karelinii</i>	Halomesophilic annual herb	Saline sand	1
20	<i>Climacoptera lanata</i>	Halomesophilic annual herb	Saline sand	1

Among the dominant and subdominant species in the vegetation cover, there are 2 tree species, 6 shrubs, 2 semi-shrubs, 2 semi-shrubs, 6 perennial herbs and 2 annual herbs. As can be seen from the analysis, cereals and perennial grasses dry out more. However, individuals of related species, such as *Haloxylon*, *Calligonum*, *Ammodendron*, *Salsola*, *Astragalus*, *Salsola*, *Artemisia*, *Stipagostis*, predominate in the composition of populations.

Based on the above information, the species listed in Table 1 dominate the composition of plant communities, while the rest of the plant species participate as companion species.

The diversity of the plant world is largely due to the terrain, soil, and groundwater at different depths. Due to the severe lack of moisture and the balance of air and soil temperatures, plants continue to adapt to the local conditions and show a certain degree of resistance to the existing adverse ecological conditions [57; 277-283 p. ].

In the vicinity of the city of Nukus in the Kyzylkum desert, there are very few varieties of plants. They lengthen their growing season in harsh environmental conditions. It is distinguished by the speed of vegetation of plants (ephemera and ephemeroïds), resistance to drought (xerophytes), deep penetration of plant roots into the soil (phreatophytes), and the ability to continue vegetation even in saline soils (halophytes).



Among the plant species widely distributed in the desert, we can point out the types of wormwood (*Artemisia*), which grow together with the cherkiz (*Salsola*), dzhuzgun (*Calligonum*) and other plant species. White saxaul (*Haloxylon persicum*) are widespread only in compacted sands.

The range of black saxaul is limited compared to white saxaul, they are found mainly on plains, takyr and takyr-like soils. White saxaul together with feather grass (*Stipa*), moss (*Bryophyta*) occupy vast areas. Black saxaul is found together with buurgun (*Anabasis salsa*), boyalich (*Xylosalsola*), keyreuk (*Ferula*), annual grasses, sometimes found together with tamarix (*Tamarix*). Saxaul belongs to the category of pastures that can be used all year round. Shrubs are widespread on desert sandy plains. Shrubs and semi-shrubs include Circassian (*Salsola*), Yuzgun (*Calligonum*), Sand Locust (*Ammodendron*).

Wormwood (*Artemisia*) occupy large areas of the desert. Basically, they grow well on flat plains, in mountains and on mountain slopes, on desert-sandy soils. On the plains of the foothills there are teresken, buyurgun, dzhusan and black saxaul.

On brackish soils and typical brackish areas, halophytes and hydrohalophytes, i.e., groups of plants resistant to soil salinity, are scattered. Phytocenoses or associations of sarsazan (*Halocnemum*), karabarak (*Halostachus caspica*) are often found.

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