

Specific Range and Their Current Status of Artemisia Formations in Karshi Desert Plants

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Abstract: This article provides a comprehensive study of desert pastures and vegetation cover, scientific assessment of the current state of desert pastures and information on the range of species and their current status of the Karshi steppe-specific swamp formation. The data collected in the section of formations were collected in 2020 and 2021

Keywords: association, formation, *Artemisia diffusa*, *Haloxylon persicum*, *Carex physodes*, *Poa bulbosa*, *Arnebia decumbent*, *Erodium sicutarium*, *Ceratocephalus orthaceras*, *Lallemantia royteana*, *Hordeum leporinum*, *Taraxacum Sp.*

INTRODUCTION

The Karshi desert is part of the Sandukli natural-geographical region of the Lower Zarafshan district and is located at 39°, --- north and, 65°, --- south latitudes. Physically and geographically, it consists of plains at an altitude of 300-350 m above sea level. The area is 13 thousand km², of which 11.7 thousand km². It belongs to the territory of Uzbekistan. [1]

The Karshi desert includes the plateaus of Setalitepa, Jargok, Korovulbozor, Dengizkul as the main part of the Sandukli natural-geographical region. [1]

One of the urgent tasks is to conduct a comprehensive study of desert pastures and vegetation mapping, scientific assessment of the current state of desert pastures and comprehensive research on the rehabilitation of crisis areas.

Based on these tasks, it is important to determine the phytocenotic structure and composition of the Karshi desert vegetation, assess the level of transformation, determine the prospects for rational use of the cover, create an inventory map and implement it in practice.

The vegetation cover of the Karshi desert, which is the source of our research, is uniquely formed as a result of long evolutionary development, under the influence of various factors.

In particular, little is known about the formation of artemisia in the Karshi desert. The monograph "Natural conditions and land resources of Southern Uzbekistan" (1965) reiterates the existence of calligonum, artemisia and other which are typical for sands, and these lands are used as natural pastures.

Research Methods: In the article, we want to reflect on the species spectrum of the wormwood formation specific to the study area. On the basis of generally accepted traditional geobotanical methods for the analysis of the species spectrum of this formation; route and semi-stationary methods were used (Polevaya geobotany, 1964; Shennikov, 1964; Chibrik et al., 2014).

Selection of study area and route: The study of the Karshi desert sedimentary formation on the basis of ArcGIS program revealed that it is distributed at a latitude of 39° 05' north and 64° 56' east longitude.

The plant species in the formation are based on the data of the "Flora of Uzbekistan" (1941-1966, 6 volume) and SK Cherepanov (Cherepanov, 1995). Life forms of the species are given on the basis of the "Opredelitel rasteniy Sredney Azii" (1982-1993, 13 volume), the range "Flora SSSR" (1934-1984). [2;5]

Object of research: During the expedition, along with the formation of wormwoods in the vegetation cover, it was observed that there are such formations as *salsola*, *haloxylon*, *astragalus*, *alhagi*, *ferulla*, *chenopodium*, *calligonum*

Researches have shown that the increasing scale of various adverse effects on desert ecosystems in desert areas now requires more and more attention to the problem of maintaining their fertility. Because natural grasslands are crucial to creating a solid fodder base.

Our observations showed that the formation of the swamps consisted of several associations. These are: association of wormwood with *alhagi*, association of wormwood with *alhagi* and mixed grass, association of ephemeral-wormwood, association of ephemeral-ephemeroïd-wormwood, association of wormwood with annual *chenopodium*, association of

wormwood with some astragalus, association of wormwood with, peganum harmala, association of wormwood with saxaul, association of wormwood with ephemeroïd and calligonum. [4]

The formation of *Artemisia* is mainly *Artemisia diffusa* type. In desert conditions it is semi-shrub-shaped, 30-50 cm tall, perennial branches are woody, annual branches are white-green, very hairy, the leaves are small, trimmed, fragrant. The formation of the root system depends on the soil environment, it was observed that in sandy desert conditions it is more than 1 meter, in gypsum desert soils at a depth of 30-60 cm. [4; 5]

In the literature, *Artemisia diffusa* is noted as a common species in the deserts of Central Asia. Gray, brown-gray soils of various mechanical composition are dense and widespread in the ecological environment. There are reports of sparse growth in the Kyzylkum, Karakul, Ustyurt, Muyunkum deserts and Mirzachul hills. [2]

Results: According to our observations, other species, such as *Peganum harmala*, *Calligonum aphyllum*, *Ammodendron conolle*, *Alhagi sparsifolia*, *Coisimia registonik*, *Salsola orientalis*, *Salsola arbuscula*, *Astragalus villasissimus*, *Ferula foetida* L. *Aellenia subaphylla*, *Roa bulbosa*, *Carex pachystylis*, *Stipa sp.*, *Eremopyrum buonapartii*, *Bromus scoparius*, are rarely found in some parts of the sorghum formation.

In the formation of ditches *Artemisia diffusa* was observed the presence of an average of 12-20 bushes per 20 square meters. This is a good condition of the formation.

It was studied that each association within the formation is spread over a certain latitude. For example, associations with ephemeral-ephemeroïd and *salsola* are located at latitude 39° 21' north and 64° 46' east longitude.

Each association differs in species composition and abundance. In all associations, *Artemisia diffusa* accounts for more than 45% of the species composition in terms of surface coverage. In addition to *Artemisia diffusa*, plants such as *Peganum harmala*, *Salsola pestifer* A. Nelson., *Convolvulus sp.*, *Poa bulbosa*, *Bromus tectorum* L., *Nonea caspica*, *Artemisia turanica* Krasch, *Cousiniasp.*, *Taraxacum Sp.*, *Koelpinia linearis* Pall., *Ixiolirion tataricum* Pall., *Arnebia decumbent* (Vent), *Trifolium pratense* L., *Ziziphora tenuior*, *Ferula assa-foetida* L., *Astragalus unifoliolatus* Bge., *Astragalus filicaulus* F. et M., *Merendera robusta* Bge., *Hordeum leporinum*, *Alyssum desertorum* Starf., *Sollena ofuole* have been observed to grow together in the association, creating a unique landscape.

It was observed that the spectrum consists mainly of the following species. *Artemisia diffusa*, *Haloxylon persicum*, *Carex physodes*, *Poa bulbosa*, *Arnebia decumbent*, *Erodium sicutarium*, *Ceratocephalus orthaceras*, *Lallelantia royteana*, *Hordeum leporinum*, *Taraxacum Sp*, *Astragalus Sp*, *Lipskyilli onix*, *Cousinia resinosa*, *Koelpinia linearis* Pall., *Climacoptera brachiata* Pall.

The associations with *chenopodium-artemisia* are mainly located at an altitude of 394 meters above sea level, in the massif known as Khudjum, in the northern 38° 50' latitude and 65° 27' eastern longitude. The dominant species in the area is *Artemisia diffusa*, an annual plant of the genus *Artemisia*. Along with these dominant species in the region, *Peganum harmala*, *Carex pachystylis* Gay., *Hordeum leporinum*, *Strigosella grandiflora*, *Capsella bursa-pastoris* (L.), *Causiniare sinosa*, *Taraxacum sp.*, *Astragalus campylorrhynchus*, *Hypocoumarviflorum*, *Roemeria refractata* DC., *Astragalus filicaulus* F. et M., *Alhagi pseudalhagi*, *Strigosella africana* L., *Poa bulbosa* and others are among them.

The associations in the Devkhana Massif are located at 288 meters above sea level, 38° 51' latitude north and 65° 19' east longitude. In the existing pastures, the plants cover 55-65% of the earth's surface. In these pastures, the degree of weeding of wormwood is not high. This can be explained by the number of wormwood bushes and the abundance of different ages. It has also been observed that the process of species regeneration is progressing.

It was found that the diversity of the species spectrum in the formation of sediments depended on the location relief of the associations in the formation and the amount of spring precipitation. The range of species is high (25-26) in areas covered with sand dunes. This is a much higher figure for the desert region.

In some associations, the range of species is much lower (from 12 to 15) due to the fact that cattle are fed several times more than normal, due to the inconvenience of relief factors. This, in turn, indicates that the worms have become overgrown and in crisis. As a result, *peganum harmala* was formed instead of wormwood. It has also been found that *Tulipa sagdiana* has also increased in crisis-affected shrubs. Such formations are found in small associations in the Mubarek and Alat districts of the desert.

Conclusion: In conclusion, the species composition and spectrum of the Karshi desert vegetation cover formation has its own appearance in each association, and their seasonal and annual variation depends on several factors.

First to the relief of the earth, instead of the location of the associations within the formation.

Second to the amount of annual precipitation and its seasonal distribution

Thirdly, it depends on the level of degradation of the region under the influence of external factors - such as the grazing of livestock, the preparation of fodder.

Fourth, it depends on anthropogenic factors such as geological surveys in very large areas in the desert, drilling to identify gas and oil fields, and the digging of large-scale quarries.

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