

Some Aspects About *Allium Majus* Vved. Growing On The Slopes Of Gissar Mountain Range

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Abstract

The paper involves the data about Gissar mountain ranges territory, climate-soil characteristics and field expedition's results, such as the cenotic population of *Allium majus*, which it was studied in Tashkurgon pass (Yakkabog district, Kashkadarya region). The cenopopulation grows as part of a diverse grassy-sermy-aspen community. The total projected grassland cover is about 52%. The species composition of the group consists of 31 flowering plants, most of which are perennial plants.

Keywords. Cenotic population, *Allium majus*, grassland, phytomeliorants, reproduction, seed, grazing, flora, phytocenotic structure, ecology.

Introduction. Kashkadarya - (area 28.4 thousand km/sq.) is one of the largest basins in the south-western regions of Uzbekistan. The province includes the Karshi basin in the southern part of the territory of Uzbekistan. It is surrounded by the mountains of Karatepa, Zirabulok, and Ziyavuddin in the north, and the lower foothills of the southwestern part of the Gissar ridge in the east. The state border of Uzbekistan with Turkmenistan passes through the south of Kashkadarya district. In the west, the district borders with Lower Zarafshan district. Jargoq and Dengizkol plateaus separate these two districts [1]

Botanically and geographically, the territory of Kashkadarya region is typical of Urgut district of Kuhitang district, Kashkadarya and Tarqopchigai districts of West-Gissar district of Mountain Central Asia province, and Karshi-Karnobchul districts of Bukhara district of Turan province. At the border of Kashkadarya region, the West-Gissar district is divided into two botanical-geographical districts - Kashkadarya and Tarqopchigay districts [3].

The climate of Kashkadarya district is continental, with hot, dry and long summers, and mild winters. The winter of the district is warm (average January temperature is 0°+2°C). and plants grow almost all year round. But sometimes, when the Arctic air mass gets stronger, it passes over the mountains and lowers the temperature of the district. As a result, the lowest temperature sometimes drops to -22°-29°C. Summer is hot (average July temperature +28° +29°C) and long, with the highest temperature.

It reaches 43°-47°C. The temperature in the district is below 0-9° C for 0-24 days, and above +5 for 284-298 days. In Kashkadarya district, the average duration of the last spring frost falls on March 16-25, and the average duration of the first autumn frost falls on October 21-November 14, therefore, the average duration of frost-free days [7,8,9,10].

It is around 209-242 days, and the sum of the useful temperature during that period is 2564°-2864°C, and the sum of the temperature during the growing season reaches 4900°-5300°C [1].

According to the cadastral list of the flora of Kashkadarya region, there are 2022 species of plants, which belong to 613 genera and 97 families (as aboriginal and as naturalized adventives [3].

Large areas of Kashkadarya consist of arid lands, the vegetation cover of which is ephemeral-ephemeroid, tuberous-ephemeroid, and wormwood-ephemeroid communities, which have been degraded due to intensive cattle grazing. In addition, the active development of oil and gas reserves in the highlands of the Gissar mountain range is also the reason. In addition, various herbaceous dry steppes and shrubs (from 800-900 m to 1800 m above sea level), which are dominated by wheat (*Agropyron trichophorum* (Link) K. Richt.), onion barley (*Hordeum bulbosum* L.), Wormwood (*Artemisia tenuisecta* Nevsky), thorny almond (*Amygdalus spinosissima* Bunge) and Bukhara almond (*A. bucharica* Korsh.) participate. From the height of 1300-1500 m above sea level, Zarafshan spruce begins to appear in the vegetation cover, from 1800 m to 2500-2800 m above sea level, dense areas of spruce begin. Deciduous plant species grow as subordinates to this species (*Lonicera*, *Rosa*, *Cotoneaster*, *Acer* and *Crataegus* species) [11,12,13,14]. Water ridges and dry gravel slopes of the subalpine zone (from 2400-2500 m above sea level to 3000 m above sea level) are covered with a group of high mountain xerophytes (*Astragalus lasiosemius*, *A. leiosemius*, *Onobrychis echidna*, *Acantholimon*, *Cousinia* species), as well as coniferous steppes, juniper. There are also participating fields. In the high mountain vegetation, overgrazing has increased the abundance of non-carnivorous plants such as *Adonis turkestanica*, *Ligularia thomsonii* and *Eremurus kaufmannii* Regel. At an altitude of 3000 m above sea level, the vegetation cover is covered with low herbaceous alpine meadows (*Lagotis korolkowii*, *Carex melanantha*, *Kobresia persica*) and pillow-like cryophilic plants.

Information about the components of the mountain and sub-mountain landscape of the Gissar mountain range, including the Kashkadarya basin, including its soil, flora, phytocenotic structure, ecology, can be found in the work of the following authors: V.A. Komarov (1891-1893), B.A. Fedchenko (1913), M.G. Popov (1925), S.N. Kudryashyev (1941), E.P. Korovin (1934, 1956, 1962), S.N. Kudryashyev (1941, 1950), K.Z. Zakirov (1955), I.I. Granitov, A.D. Pyatayeva (1956, 1959), I.F. Momotov, A.D. Lee (1965), A.N. Babushkin (1964), E.M. Demurina (1975), S.M. Mustafayev (1966), U. Allanazarova (1969), A.Z. Genusov (1972), O.Kh. Khasanov (1972), N.I. Akzhigitova (1976), R.V. Kamelin (1979), E. Ashurov (1988), T. Norbobayeva (1990), T.V. Ovchinnikova (1995), F.Kh. Dzhangurazov (1965), B.E. Khujamkulov (1998), F. Khasanov (2013, 2014) and the works of U.E. Khujanazarov (2010-2016) can be cited [15,16,17,18].

In the 50s of the 20th century, active research on the improvement of pastures was carried out at the expense of planting valuable fodder plants. The results of this research were carried out in various natural regions of Central Asia and South Kazakhstan, and these researches were carried out by N.T. Nechaeva (1958, 1962), Z.Sh. Shamsutdinov (2015), V.A. Burygin, L.E. Markova (1975), I.F. Momotov (1962) and L.P. Sinkovsky (1959). In these researches, the scientific basis for creating high-yielding agrophytocenoses was created and applied in practice. In this case, the main focus is on biological properties of phytomeliorants and soil factors.

The influence of climate factors and processes related to weather indicators on the formation of natural vegetation cover in Kazakhstan A.P. Fedoseyev (1969, 1981, 1975), G.I. Gringof (1967) in Kyzylkum, N.T. in Karakum. Nechayev (1958, 1962), M. Nurberdiyev (1978), K.Artikov (1975, 1987) analyzed the natural vegetation in the foothills of Turkmenistan. These scientific studies were carried out in the abroad by J. Tomlinson, P. Bolstad, W.Cohen (1999) and R.Corlett (1997).

One of the important components of biological diversity, belonging to the Amaryllidaceae family, including the onion species *Allium majus*, is of particular interest to determine the current status and biological ecological characteristics. In addition, the pharmacological properties of *Allium majus* species, as well as its role as a medicine, are of great economic importance.

Research methods. "Flora of Uzbekistan" (1951-1962) and "Key to Plants of Central Asia" (1969-1993) identifiers were used to determine the floristic composition of the studied area. Taxa and their systematic composition were collected based on the classification of A.L. Takhtadjian (1966, 1987) and A.I. Tolmachev (1986). In the monitoring areas (form 1 is filled in), the composition of the current state of plants, structure density, above-ground productivity were determined in transects (10x2 m); the Drude scale was used to determine the density of vegetation [1907].

Results and discussion. During the field expeditions, the cenotic population of *Allium majus* was studied in Tashkurgon pass (Yakkabog district, Kashkadarya region). The cenopopulation grows as part of a diverse grassy-sermy-aspen community. The total projected grassland cover is about 52%. The species composition of the group consists of 31 flowering plants, most of which are perennial plants.

V.A. Cheremushkina noted, the characteristic spectrum of the cenopopulation for the majority of onion species is left-sided reproduction with the highest point of uvinil bushes. This is the presence of abundant yield and vegetative reproduction. Self-management in xenopopulations occurs through seed and vegetative reproduction.

Botanical description. We should describe the *Allium majus* Vved., a representative of the Amaryllidaceae family, as follows.

Status 1. Highly ornamental endemic of Western Pamir-Alai. Bulb 3-5 cm wide with blackish, papery shells. Arrow 60–180 cm high, smooth. Leaves 4–5, belt-shaped, 4–8 cm wide, smooth. Umbrella many-flowered, almost spherical, 5-10 cm in diameter. Pedicels almost equal without bracts 3–5 cm long. The tepals are light purple, 6–7 mm long, linear, obtuse, later bent down. Filaments of stamens 4–5 mm long, subulate. Capsule spherical, 5–6 mm in diameter. Flowering in May, fruiting in June [2].



Figures 1-2. *Allium majus* Vved.

Spreading. Kashkadarya region: an endemic Uzbek species of onion growing on the rocky slopes of the Zarafshan and Gissar ranges. Habitats. Stony and variegated slopes in the lower and middle belts of mountains. Number. About 30 plants grow near the Kitab geological reserve and about 100 plants in the Gissar state reserve. Reproduction. Seed. Causes of changes in numbers and range. Harvesting of bulbs by the population and grazing [4,5,6].

Cultivation. Cultivated in the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan.

Security measures. It is protected in the Kitab and Gissar reserves. Highly decorative endemic species of the western Pamir-Alay. It is spread at the stony slopes of the Zarafshan and Gissar ranges (Kashkadarya region). Inhabits stony slopes and red sands. In the Kitab state reserve, there are about 30 plants and in the Gissar state reserve about 100 plants. Limiting factors: digging of bulbs by local population and pasturing. Measures of protection: protected in the Kitab (Geological) and Gissar state reserves.

Conclusion. For the onion species of *Allium majus* L., the characteristic spectrum of the cenopopulation is a left-sided reproduction with a peak in the umbilical bushes. This is the presence of abundant yield and vegetative reproduction. Self-management in xenopopulations occurs through seed and vegetative reproduction.

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