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Alyussum L. Of Kattakum Massiv Biomorphology of Category Species

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Abstract: *Scientific research is being carried out to study the species composition and life forms of plants in the Kattakum massif, located in the territory of Termez district of Surkhandarya region. Some of the ephemeral plants distributed in the area and Alyussum campeste L. and Alyussum desertorum Stopf belonging to the genus Alyussum L. information on the biomorphology of plants.*

Keywords: ephemeral, therophyte, mesophyte, xerophyte, Alyussum campeste, Alyussum desertorum Stopf.

Introduction

The study of the ecological properties of plants is one of the main tasks of botanical science. The manifestation of the ecological state affects the life forms of the plant, long-term adaptation to the external environment characterizes a certain direction of evolution [1].

Annual plants ("therophytes" according to Raunkier) are characterized by a life cycle of up to one year. After fruiting, the plant dies due to lack of vegetative growth and development. This group of plants is abundant in nature and is widespread in the plains, mainly in sandy deserts.

Annuals, i.e. therophytes, are important in plant cover. More annuals are observed to coexist with other life forms. Sometimes it can also be dominant in plant cover. In Uzbekistan, about 250 species can be included in ephemeral groups. In terms of the number of ephemerals, the first place belongs to the families Brassicaceae, Fabaceae, Gramineae. Ephemerals are also common in the families Papaveraceae, Scrophulariaceae, Rubiaceae, Valerianaceae. In general, most ephemeral annuals are listed in 20 families of flora of Uzbekistan [2].

In the literature, ephemerals are written under different names, i.e. there is no consensus on this plant cover of nature. The term was first used in the works of De Candol (1844). Further information about ephemerals is provided by M.G. Observed in the works of Popov (1925; 1927). He considered ephemerals to be one of the types of desert plants that overwinter. Later, ephemeral cover was considered to be a meadow (Shennikov, 1935; Prozorovsky, 1940), savannas (Lipchevskiy, 1935) or semi-savannas (Ovchinnikov, 1947), "subtropical low-lying steppes" (Korovin, Korotkova, 1946). "Rang" type (Zakirov, 1955). On the concept of ephemerals, A.D. Pyataeva, I.I. Granitov (1962), I.I. Granitov, L.E. Markova (1967) argued that ephemerals are ephemeral plants with an ontogenetic range of autumn-winter-spring vegetation that grow in the fall or early spring, arguing that spring is a very short ontogenetic plant.

Evolutionary adaptation in arid conditions goes in 2 directions: through special structural and special rhythmogenesis (Krylov, Belyanin, 1988; Butnik et al., 2001). Adaptation of ephemerals to arid conditions is aimed at the use of sufficient humidity (intensive) during short temperate climates. Accordingly, it is questionable which ecological group they belong to, whether they are mesophytes or xerophytes. According to proponents of the "mesophilic" nature of ephemerals, the vegetation of ephemerals is adapted to wet periods (Morozova, 1941; Nechaeva, Vasilevskaya, 1945). According to other theories, ephemerals are arid plants that can grow even in arid conditions (Stoker, 1928; Markova, 1966). Some scientists have included a group of ephemerals in the middle, i.e., xerophytes and mesophytes or xeromesophytes [3].

The biological nature of ephemerals is divided into winter, autumn, spring ephemerals according to the germination period of grass. However, according to V.V. Nikitin (1960) the name of wintering or spring is not constant, depending on the natural conditions and regardless of the germination period of grasses in natural conditions, but in certain conditions it is necessary to adopt the name of interspecific wintering and tier. Depending on the germination period of the grass, annual plants are divided into winter and non-winter groups.

P.A. Genkel (1946) argues that ephemeral pseudo-xerophytes fight drought by shortening their vegetative cycles. VV Nikitin and A.Ya. Polkovnichenko (1962) distinguished ephemerals as heat-resistant and heat-resistant [1].

L.E. Markova (1966) dwells on the xerophilicity of ephemerals, opposes their entry into mesophytes, and writes that in relation to mesophytes they reduce water evaporation. Mac Dougall, Penfound (1928) and Weaver, Clements (1929) believe that the main feature of xeromorphic leaves is their reduced size. Due to the reduction of the outer surface: cell size decreases, cell

walls thicken, vascularization thickens, the number of pores increases, the structure of the leaf changes as a result of increasing the volume of polysaccharide tissue due to shrinking porous tissue (Schimper, 1903; Maximov, 1929; Weaver, Clements 1929; Shields, 1950).

A.U. Ubaydullaev (1959) divided ephemeral and ephemeroid leaves into 6 types according to their structure: dorzoventral, isolateral-polysad, mesophyll, forming. These types differ from each other in the degree of xeromorphism. In early spring ephemeral and ephemeroids, the leaves were found to have a dorzoventral structure, the mesophyll was porous, and the mouthparts were deficient. In long-vegetated ephemeral and ephemoroids, the leaves have an isopolisade structure, the mesophyll is surrounded by a fine-celled, thin-walled epidermis, and the mouth is numerous. Some ephemerals and ephemeroids differ from each other in the presence of water-retaining special devices, such as idioblasts, water-retaining tracheids, mesophyll-retaining parenchyma, and water-retaining epidermis. Ephemerals in the arid conditions of Central Asia complete their vegetation not only by avoiding drought, but also by increasing xerosorphic traits in the wet family. For example, early spring ephemerals complete the vegetation without feeling the lack of moisture and dryness of the air, while maintaining the mesomorphic structure of the leaf and at the same time maintaining the thickening of the leaf cell walls, elongation of polysaccharide cells. A.U. Ubaydullaev (1959) links this to the intensity of insolation. The xeromorphic property of evening ephemeral and ephemeroids is strongly expressed. Based on these findings, it can be concluded that ephemeral leaves are in most cases close to the mesomorphic structure, while the leaf structure of most ephemeroids is close to xerophytes. Ephemerals are nutritious fodder for livestock. The yield of ephemerals is not large and is not stable. However, their early growth coincides with a critical period for the animals, when forage plants have not yet developed. The productivity of ephemerals and the biomass they produce varies seasonally. In the spring they are vitamin, the stems are thin and very well nourished. In the second half of spring, due to the increase in plant mass, it is a nutritious fodder that does not lag behind meadow and pasture plants.

Main part

Preliminary studies have revealed the growth of ephemerals belonging to the families *Eremopyrum*, *Alyussum*, *Carexpachstylis, Papaver Pavonium Schrenk, Gagea, Strigosella*, *Viola*, *Delphinium, Ferula* in the Kattakum massif. Of these, the morphology of 2 species *Alyussum campeste* and *Alyussum desertorum Stopf* belonging to the genus *Alyussum* of the family *Brassicaceae* was studied.

Alyussum campeste L. - annual grass height 5-25 cm. Stems erect, simple or branched. The length of the primary branch is 10-15 cm (25 cm). Stems grow erect, basically formed second and third branches 5–15 cm in length, the joints are located alternately, branching bositon up to 3 branches. The whole part of the plant is covered with 4-8 pointed hairs. The petals are yellow. The cocoon is broadly ovoid, simple and covered with star-like feathers, chatnab opens; petals bubbly, reticulate. Fruits 1–2 seeds, flowering seeds in April-July. Grows on rocky soils, hills, roadsides, sometimes between crops.

Alyussum campeste L

Alyussum desertorum Stopf. - An annual herb, branched at the base of the stem, 3-30 cm tall. The primary branch is 3-5 cm long. The length of the secondary branch is 5-7 cm. Between the joints is short, the branching is up to 3 order boziton, the

leaves are elongated, the tip is covered with sharp star-shaped hairs, flowering in April-May. In desert, hilly and mountainous areas, it grows on slopes with loamy or sandy soils.

Alyussum desertorum Stopf

The structure of Alissum's seed is described by A.A. Butnik and G.S. Learned by Tursunbaeva. According to their data, Alissum's seed pods are 5 mm long and 2 mm wide, thin, and the third part of the seed pod is carved. he peduncle is broad, covered with feathers of various shapes. The epidermis is fine-celled, straight on both sides of the cell wall. The mouthparts are small, numerous, anomocytic, mesophilic dorsigentral, densely packed with three rows of polysaccharides, and the porous parenchyma is 4-5 rows, with large cell spaces. The conductive tissue is numerous in the transverse incision, surrounded by a series of small parenchyma, the tubes slightly woody.

Morphological characteristics of representatives of the Alyussum group

Table 1

№	Types of growth	Speci	First order rod			Second order rod			Maximum order		Types of branching
			Length, cm	Number of metomers, pcs	Length of joint spaces, cm	Number of joints, cm	Length, cm	Number of metomers, pcs	Metomers length, cm	The order of branching	
1.	Hemisimpodial	Alyssum campestel L	10-15	8-12 (20)	0,5-5	2	5-15	12-16	6	3	basiton
		Alyssum desertorum Stopf	3-15	5-8	3	2-4	5-7	2-8	1,5	2	basiton

Conclusion.

To study the representatives of the genus Alyussum L. went to the Kattaqum massif of Termez district and Alyussum campeste and Alyussum desertorum Stopf. vegetation was observed.

Seeds of representatives of the genus Alyussum L. were harvested in May and planted in late November on the experimental field of Termez State University. The seeds of the genus began to germinate in late January. In the first week of February formed 1–2 petals. At the end of February, the first order rod was formed. The flowering and fruiting phases coincided with April. As long as the representatives of the Alyussum L. family do not choose the environment, the swamp can grow and develop freely in the soil, but the flowering and fruiting phases are lagging behind the natural conditions.

From the diagnostic signs of the representatives of the Alyussum L. family, it was determined that the growth type is hemisimpodial, the branching type is basiton.

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