



Bioecology Of Phlomoides Types In The Flora Of Surkhandarya Region

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ABSTRACT

Protecting the environment and flora is great vital importance to humanity. It is unfortunate that people misuse nature and negatively affect it. In the territory of our country, as a result of large-scale development of natural areas, the violation of the ecological balance, there is a risk of depletion of plant species, even the world-famous tulips, onions and lilies have completely declined in recent years. It should be the duty of all of us to put an end to the cruel treatment of nature and the plant world, to protect and reproduce natural resources.

KEYWORDS

Phlomoides baburii, Phlomoides baissunensis, Phlomoides baldschuanica, Phlomoides canescens, Phlomoides eriocalyx, Phlomoides hissarica. species in nature that do not lag behind the plants that

INTRODUCTION

Surkhandarya region is characterized by the diversity of flora, and these plants are used in various sectors of the economy, such as food, fodder, medicine, essential oils, nutrients, and many other purposes. Taking into account all the species of plants used, they make up a very small part of the natural flora. From this point of view, there are still many unexplored

are constantly used for their beneficial properties. Among such species, the species of Phlomoides, which are naturally growing ornamental, fodder for livestock and rare, stand out. This series of species is famous for its attractiveness, scenery, beauty. Determining the population of these species,

studying the levels of rarity is one of the current issues.

In 1929, MV Kultiasov published a book entitled "Materials on the knowledge of Turkestanian species of the genus *Phlomoides*" which provided detailed information about the species of *Phlomoides* in the Turkestan region and their distribution areas, new populations, biology, ecology [5].

In 1960 S. Payzieva's book "Construction of the list of growths and adult plants of some species of the genus *Phlomoides*" describes the bio ecology and morphological characteristics of the species of the genus *Phlomoides* [6].

In 1962, O.V. In his work "Rod *Phlomoides*" by Cherneva introduces new species for the "flora of Uzbekistan" and provides detailed information about their distribution areas, new populations, biology, and ecology [7]. Also, the book "Flora of Uzbekistan", published in 1962, lists more than 50 species of *Phlomoides* and gives a detailed description of their bio ecological characteristics.

In 2010, AJ Ibragimov provides detailed information on the flora of Surkhandarya State Reserve, located in the eastern part of the Kohitang ridge. The floristic composition of the Surkhandarya state reserve A.J. It was first mentioned by Ibragimov and found that 77 families consisted of 743 species belonging to 372 genera [6, 7]. Also in the flora there are 5 species of *Phlomoides* family *Phlomoides baissunensis* (Popov) Adylov, Kamelin et Makhm., *Phlomoides.kaufmanniana* (Regel) Adylov, Kamelin et Makhm., *Phlomoides.labiosissima* (Pazij et Vved.) Adylov, Kamelin etMakhm., *Phlomoidesnapuligera* (Franch.) Adylov, Kamelin etMakhm. *Phlomoidesspeciosa* (Rupr.) Adylov, Kamelin etMakhm. and analysis of areology, biomorphology, ecology, and distribution across steep regions.

In 2015, O. Turginov included in the flora of the Boysun ridge 8 species of *Phlomoides* family *Phlomoides baissunensis* (Popov) Adylov, Kamelin et Makhm., *Phlomoides canescens* (Regel) Adylov, Kamelin et Makhm., *Phlomoides hissarica* (Regel) Adylov, Kamelin et Makhm., *Phlomoides kaufmanniana*(Regel) Adylov, Kamelin etMakhm. *Phlomoides labiosissima*(PazijetVved.) Adylov, Kamelin etMakhm, *Phlomoides lehmanniana* (Bunge) Adylov, Kamelin et Makhm, *Phlomoides napuligera* (Kamch.). etMakhm., *Phlomoides speciosa* (Rupr.) Adylov, Kamelin etMakhm. Information on their distribution area, ecology, life form.

In 2015, F. O. Hasanov's Central Asian Plant Identifier, published in 11 volumes, lists more than 60 species of *Phlomoides* in the flora of Uzbekistan. These species make up the bulk Mountainousflora of the central Asia.

As a result of research, the flora of Surkhandarya region today includes more than 20 species of the genus *Phlomoides*, which are mainly distributed in the hills, mountains and pastures.

LITERATURE VIEW

***Phlomoides baburii* (Adylov) Adylov.** It is a very rare, endemic plant species in southern Uzbekistan, growing only in exposed rocks in the Kelif-Sherabad hills of Surkhandarya region. This species was first collected on May 24, 1972 - around the village of Aktash in the Aktash Mountains, a perennial herb growing up to 40-50 cm in height. New populations of this species have been found around the village of Poshkhurt. The overgrazing of livestock, in particular, has led to a decline in the population of this species.

***Phlomoides baissunensis* (Popov) Adylov, Kamelin et Makhm.** It is distributed in the rocky, fine-grained soils of the middle part of the mountains in the area of Darband, Shurob village, Suvsizmountain, Sarimas of the

Boysun mountain range. As its composition is rich in honey, it quickly attracts insects.

***Phlomooides baldschuanica* (Regel) Adylov, Kamelin et Makhm.** Its Perennial nodular grass in the Bobotag ridge, at the top of the mountain, fine rock is found in the soil contains small amounts of alkaloids.

***Phlomooides canescens* (Popov) Adylov, Kamelin et Makhm.** It grows on fine-grained, stony, sometimes gravelly mixed soils on the middle and Upper Mountain slopes of the mountains in the KhojaBorku, KhojaGurgur-ota and Chakmoq river areas of the Cholbairmountain. It is rich in honey.

***Phlomooides ericalyx* (Regel) Adylov, Kamelin et Makhm.** It's an annual herb. Distributed in the lowlands of Sherabad, in the plains at the foot of the low mountains around the villages of Gaz and Aktash, on the rocky, limestone-mixed fine-grained soils.

***Phlomooides hissarica* (Regel) Adylov, Kamelin et Makhm.** It's a perennial herb, reaching 20-30 cm in height. The root is turnip-shaped. The stem is covered with thick, simple fluffy feathers. The leaves are broadly ovate, shortly banded, the edges of the leaf are serrated, simple hairy. The leaves on the stem are similar to the leaflets, but smaller. The flowers are small, semi-circular, located in the axils of the petals. The shell is 20-25 mm long, trumpet-shaped, the back is broad, covered with simple and sparse glandular hairs. The length of the crown is 28-31 mm, white, the lower lip is yellow. The outside of the crown is hairless and the inside is hairy. It blooms in May and bears fruit in June.

***Phlomooides kaufmanniana* (Regel) Adylov, Kamelin et Makhm.** It grows in the upper Machay, Sharshara, Gurbulak, Pashshahona, Boysun-Denov highways in the Machay-river basin, as well as on the gravelly southern slopes in the middle of the mountains in the Shalkan and Kampirtepa and Sherjonregions of the Kohitang ridge. It's a perennial, thick

hairy grass, up to 20-40 cm in height. The stems are three, branched from the bottom, covered with thick feathers. The band of leaflets is short, thick and long hairy. The leaves on the stem are rhombic-ovoid, the edges are serrated, thickly hairy, the veins are thick, and the leaves at the top of the stem are loose. The flowers are arranged in a ring in the axils of the petals. The petals are glabrous and fluffy. The cup is bell-shaped, about 20 mm long, the tube is thickly hairy. The crown is yellow 4 mm long, the length of the tube is 15 mm, hairless, the back is short, thick hairy, the lower lip of the crown is twice as long as the upper lip. It blooms in July and bears fruit in August.

***Phlomooides knorringiana* (Popov) Adylov, Kamelin et Makhm.** It is a perennial herb up to 100 cm tall, growing in the open mountain rocks of the lowlands in the basins of the Topolong River, Stems are branched and hairless, the leaves are long, sometimes short-banded, the edges are large serrated covered on both sides with sparse-star feathers. The leaves on the stem are shortly banded, while those at the top are almost banded. Cup length 14-16 mm, bell-shaped, sparsely hairy. The length of the crown is 30-32 mm, white - yellowish. It blooms in May and bears fruit in June.

***Phlomooides labiosa* (Bunge) Adylov, Kamelin et Makhm.** It is distributed on the petrified, rocky lands on the slopes of low mountains around the city of Shargun. The rhizome is turnip-shaped, the stem is erect, The upper part is branched, fluffy hairy about 30 cm high. The leaves are serrated hairy on both sides. The flowers are not branched located in the axils of 1 inflorescence. The calyx is bell-shaped, puffy, 15-20 mm long and thickly hairy. Inflorescence is white lower lip yellow, length 22-25 mm. It blooms in July and bears fruit in August.

***Phlomooides labiosissima* (PazijetVved.) Adylov, Kamelin et Makhm.** It's growing in the

town of Boysun is mountainous in the villages of Lower Red, Omonkhona, Qiyakamar, as well as around the villages of Vandop and Sherjon in the Kohitang Range, and is distributed in fine-grained lands in the lower mountainous areas. This species is a perennial herb, reaching a height of 45-55 cm. Stems are branched in to two simple hairless. The leaves are numerous, broadly ovate or obovate with serrated edges. The leaves on the stem are 1 pair, oblong-lanceolate. The flowers are arranged in a single many-flowered ring. The petals are pencil-shaped and cup-shaped. The calyx is 14 mm long, covered with thick star-shaped feathers. The length of the teeth in the calyx is 3-5 mm. The length of the crown is 18-20 mm. It blooms in July and bears fruit in August.

***Phlomooides lehmanniana* (Bunge) Adylov, Kamelin et Makhm.** An alkaloid, honey-rich plant found in rocky and oily soils around the villages of Upper Machay, Sharshara, Pashshakhona, Red Naur in the Machay-river basin. It's a perennial herb, reaching 30-35 cm in height. The stem is single; the upper part is branched covered with thick feathers. The band of leaves is short, thick and long-haired. The leaves on the stem are rhombic-ovoid, the edges are serrated thickly hairy, the veins are thick, and the leaves on the upper part of the stem are noodles and small. The flowers are arranged in a ring or circle in the axils of the petals. The cup is bell-shaped about 15-20 mm long, the tube is thickly hairy, The crown is white sometimes yellowish 3 mm long, the length of the tube is 10 mm hairless, the back is short thick hairy, the lower lip of the crown is twice as long as the upper lip. It blooms in July and bears fruit in August.

***Phlomooides napuligera* (Franch.) Adylov, Kamelin et Makhm.** It's a perennial herbaceous plant in the upper part of Kizilolma village of Kogitang ridge, in Boysun ridge, on Boysun-Darband highway and in the plains and foothills around Darband village,

yellow, purple rocks are adapted to grow on sometimes gravelly soils.

***Phlomooides speciosa* (Rupr.) Adylov, Kamelin et Makhm.** It grows in the foothills and rocky, gravelly and fine-grained soils of the upper Machay, Kurtukay, Shotut regions of the Machay-river basin. It's a perennial herb up to 30 cm tall. Stems are vigorous, hairless, branched at the base. The leaves are elongated; the base is pones-shaped, elongated hairless. The leaves on the stem are smaller, almost bandless with sharp serrated. The flowers are arranged in a semicircle in the axils of the petals. The petals are glabrous, hairless, and 2 times shorter than the calyx. The calyx is 12-16 mm long, bell-shaped, hairless. The edges of the cup are finely ciliated. The inflorescence is 20 mm long pale in color. This species blooms mainly in May and bears fruit in May-June.

CONCLUSION

Thus, the rich flora of Surkhandarya region includes many species of useful plants. Not all useful plants have been adequately studied yet. Also, the inclusion of more than 130 species of oasis plants in the latest edition of the Red Book of the Republic of Uzbekistan once again proves the need for special observation and scientific research in the region.

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