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IJIEMR Transactions, online available on 24th Nov 2020. Link :http://www.ijiemr.org/downloads.php?vol=Volume-09&issue=ISSUE-11

DOI: 10.48047/IJIEMR/V09/I11/26

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Volume 09, Issue 11, Pages: 131-136

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UDC 581.582.57•2(575•15)

TULIPS (TULIPA L.) of the SURKHAN RESERVE (KUGITANG RANGE)

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Annotation: In present paper, 7 species of Tulipa L. genus of the Surkhan State Natural Reservoir flora were studied and analyzed in comparison with other areas of growth, including Pomir-Oloy mountain-systems. The ecological features, types of area and spreading peculiarities along observed area of the tulip species were listed. In result, the identificater was build on the basis of obtained results on 7 tulip species that spread Surkhan State Natural Reservour.

Keywords: Tulip, Pamir-Alai, flora, Kugitang, nature reserve

The genus Tulipa L. is one of the largest in the family. Liliaceae. The number of species of the genus Tulipa in various literature sources ranges from 40 (Wendelbo, D. Stuart, 1985), about 55 (van Raamsdonk, 1996), 70 (Wendelbo, D. Stuart, 1985), more than 100 (Hall, 1940; Bochantseva, 1962; Mordak, 1982) and up to 140 (Silina, 1977), 150 (Zhao, 2003).

Central Asia is the center of origin and the main species diversity of the Tulip genus-Tulipa L. There are four centers of modern Tulip formation. One of them is located in deserts and semi – deserts, the other-in high - altitude areas, the third focus is considered to be the Pamir-Alai, the Fourth-the foothills and mountains of the Western Tien Shan. According to A. I. Vvedensky and S. S. Kovalevskaya, 63 species grow in Central Asia (Bochantseva, 1962). From here they spread to Asia, Europe, and North Africa.According to our calculations, 24 species grow in the desert and mountain expanses of Uzbekistan, and the richness of this genus is second only to the vast territory of Kazakhstan, where the variety of wild tulips is estimated at 34 species. Within the Uzbek part of the Pamir-Alay mountain ranges, 12 species grow (Tulipa tubergeniana Hoog, T. lanata Regel, T. ingens Hoog, T. affinis Z. Botsch, T. fosteriana Irving, T. carinata Vved, T. uzbekistanica Z. Botsch. & Scharipov, T. micheliana Hoog, T. korolkovii Regel, T. turkestanica Regel) and two high-altitude T. dasystemonoides Vved, T. dasystemon Regel). Four species grow in the surrounding plains - T. lehmanniana Merckl, T. borszczowii Regel, T. sogdiana Bunge, and T. buhseana Boiss. From this list, T.

korolkovii, T. turkestanica, T. dasystemonoides, T. dasystemon, and T. lehmanniana enter the Western Tien Shan mountain system. The rest are purely Pamir-Alai species.

Life studies were conducted on the territory Of the Kugitang branch of the Surkhan state reserve, which is located on the Eastern macroscline of the Kugitang range, Pamir-Alai mountain system. Difference in altitude from 850 to 3137 m above sea level. The total area is 24583 ha.

There are not many materials on wild Kugitang tulips. One of the first researchers of the Kugitang flora, S. A. Nevsky (1937), gives only one species in his list – Tulipa ingens . F. O. Khasanov (1987), who studied the tree and shrub belt of this ridge, significantly adds to the list of Kugitang Tulip flora. The cited work lists seven species-T. carinata, T. fosteriana, T. ingens, T. micheliana, T. tubergeniana, T. turkestanica, and T. nitida. All of these species (except T. fosteriana) were collected by us on the territory of the reserve. However, we accept T. nitida as a synonym for T. korolkovii, which is widespread on the gravelly, stony slopes of the Pamir-Alai mountain belt and certain localities of the Western Tien Shan.

The specimens of T. korolkovii collected by us on the territory of the reserve have two-flowered stamen filaments: black at the bottom, purple at the top. This character of the color of the stamen filaments is indicated by Z. P. Bochantsev (1962) in the morphological description of T. korolkovii and T. nitida. Specimens of T. korolkovii collected by us from the kuraminsky range also have two-colored stamen filaments (Report ..., 2005). In the original description for T. korolkovii in AHP (1875, #3, p. 295), E. Regel does not indicate the two-flowered nature of the staminate filaments. A. I. Vvedensky in one of his last works (Flora of Tajikistan, 1963 vol. II, p. 260) in a note to T. nitida writes "in the foothills of the Western Tien Shan (from art. Arys through the Angren river and the Mogol-Tau mountains to the Western part of the Ferghana valley) and Western Pamiroalay (in the Turkestan and Zerafshan ranges, in the Samarkand mountains, in the Nura-Tau range, in the Baisun lowlands, in the Kugitang and Khoja-Gur-ATA, Babatag and Gazimaylik ranges), a fairly complex, currently insufficiently studied group of tulips is distributed.Apparently, it is more correct than I did in the "Flora of the USSR", "Flora of Uzbekistan" and here, to consider T. nitida Hoog a synonym of T. korolkovii Regel, and to distinguish Western Tianshan and South pamiroalayskiye tulips along with T. rosea in special species."

According to Z. P. Bochantseva (1962), 13 red-flowered species of the subgenus Tulipa (with a different crimson hue) and 6 species of tulips of the subgenus Eriostemones grow in the Pamir-Alai, the tepals of

which are yellow. Half of the total species diversity of red-flowered tulips of the subgenus Tulipa grows within the Kugitansky Department of the surkhansky reserve. Analysis of the reserve's species shows that there are no yellow-flowered forms from the Tulipa subgenus.

T. tubergeniana, T. lanata, T. micheliana, T. carinata, and T. ingens are endemic to the Pamir-Alai and mountainous Turkmenistan. T. korolkovii and T. turkestanica are simultaneously associated with the Western Tien Shan. A comparative analysis of the species composition of the tulips of the surkhansky reserve with the surrounding areas shows a relative proximity to the tulips of the nuratinsky range. According To N. Y. Beshko (2001), seven species of tulips (T. affinis Z. Botsch., T. ingens, T. korolkovii, T. linifolia Regel, T. micheliana, T. nitida, T. turkestanica) are found on the territory of the nuratinsky reserve. Four of them are shared with our species.T. affinis is endemic to the Nurata range itself. The presence of T. linifolia in the flora of the nuratinsky reserve is not clear to us, since this plant is considered endemic to Hissar-Darvaza (Vvedensky, 1963), Darvaza (Vvedensky, Kovalevskaya, 1971). With tulips Varzob (Kamelin, 1971) is supported by the smaller connection. There are six species of this genus-T. lanata Regel, T. tubergeniana Hoog, T. praestans Hoog, T. turkestanica Regel, T. dasystemon Regel, T. hissarica Popov & Vved.Of these, half are shared with Kugitang. T. praestans is a West-Siberian species that mainly grows in the shiblyak and chernolesya belts, and T. hissarica is endemic to the Hissar range and is not found in Kugitang. For the high-altitude (3000-3500 m above sea level) T. dasystemon, the altitude limit of our range is a natural barrier to propagation.

The key to the definition and summary of Tulipa species in the Surkhan reserve are given below. Scientific names of plants are given according To S. K. Cherepanov (1995). The authors of the species - R. K. Brummitt & C. E. Powell “Authors name of plants” (1992). Types of the area according to R. V. Kamelin (1973). The genus system is given according to A. I. Vvedensky (1934).

Key for determining Tulipa L. of the surkhan reserve

1. Filaments of stamens at the base are bearded, ciliated. Flowers in number 1-7. Perianth leaves are white, yellow at the base, dirty purple outside. Bulb shells up to 3 cm thick, black-brown, leathery, with woolly hairs on the inner side at the top

7. Tulipa turkestanica Regel

+The filaments of the stamens at the base are always bare. Flowers are single, large. Perianth leaves are bright (red), with or without a yellow spot.....

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.....
.....**2**

2. The bulb Shells are always paper-like, with the inside of the entire surface very profusely cobwebby-shaggy. The pubescent hairs are very long, thin, silky, and strongly sinuous. The bulb is like a ball of cotton wool. The flower is bright red, with a black bottom, with a yellow border

1. Tulipa tubergeniana Hoog

+Onion shells of various consistency-paper-like, hard, leathery, black-brown, black. On the inner side over the entire surface woolly or hairy, but always direct.....
.....
.....**3**

3. the Pedicel is glabrous, the filaments of the stamens are somewhat expanded in the middle part, usually in two colors: black at the bottom, purple at the top. Plants up to 20 cm long

6. Tulipa korolkovii Regel

+Pedicel fluffy, filaments of stamens from the base to the top gradually narrowed, monotonous prevailing color. Plants with higher growth.....
.....
.....**4**

4. Tepals with a narrow, long, occupying 1/3-1/2 the length of the leaf spot. Leaves sometimes with purple stripes

5. Tulipa micheliana Hoog

+Spot of the perianth leaf of a different character. Leaves no stripes and
spots.....
.....
.....**5**

5. the bulb Shells are harder, leathery, and hairy on the inside. Leaves slightly deflected, all keeled. Perianth leaves are usually strongly drawn, sharp

4. Tulipa carinata Vved.

+The shell of the bulbs are weak or thinly leathery, b.m abundantly woolly.....
.....
.....**6**

6.Leaves glaucous, curly, in number 4. Perianth segments with a black, usually pale yellow, banded spot

2. Tulipa lanata Regel

+Leaves glaucous, slightly curly, in the number of 3-4-6. Perianth leaves with a black, not edged spot

3. Tulipa ingens Hoog

Section Tulipanum Reb. in Giorn. Bot. It. II (1851) 57.

1. T. tubergeniana Hoog in Gard. Chron. 35 (1904) 358. – T. Tubergen.

The plot Kizil-OLMA, in the Northern part of Huanca, on the southern slopes of the Bagley-Gift, Beisbolas. It grows on clay, fine-grained-stony and gravelly soils, at an altitude of 1100-1400 m above sea level. it Occurs in single

specimens or rarely in small populations. Ujepylesi type of area.

Section Leiostemones Boiss. Fl. Or. V (1884) 191.

2. T. lanata Regel in AHP. 8 (1884) 647. – T. woolly.

It is widely distributed throughout the Kugitang range. It lives on fine-grained, clay, fine-grained-stony, gravelly and sandy soils of the middle belt of mountains at an altitude of 1000-1800 m above sea level. m. it Occurs in small populations and single specimens.

3. T. ingens Hoog in Gard. Chron. 32 (1902) 14, fig. 7. - T. the great.

Plot Kampirtepa in the upper zone of Majilisi, the transition Zaharli, in the Northern part Kizil-OLMA and Bagley plot-Dara, in the upper part of Anticolic. It grows on clay, fine-grained-gravelly, stony and gravelly soils in the middle and upper mountain belts, at an altitude of 1500-2700 m above sea level. It is found in small populations and single specimens.The Western Pamir-Alai.

4. T. carinata Vved. in Fl. URSS, 4 (1935)332. - T. keel.

At the top of the plots Kizil-OLMA, section Huanco and in the gorge of Countera. The southern slope of the site Bagley Dar, Barbolosi. It grows on stony, stony-fine-grained sandy soils in the middle belt of mountains, at an altitude of 1500-2000 m above sea level. It occurs in single specimens or rarely in small populations. Afghanistan-Western Pamir-Alai.

5. T. micheliana Hoog in Gard. Chron. 31 (1902) 350, fig. 120– - T. Michael.

On the left slope of Salkantay, top Karabulaksky and on the Northern slopes of Majilisi. It grows on clay, fine-grained, stony-gravelly soils in the lower belt of mountains, at an altitude of 950-1300 m above sea level. It occurs in single specimens or rarely in small populations.

6. T. korolkovii Regel in AHP. 3 (1875) 295. - T. Korolkova.

In section Sergeancy, in the Northern and upper part of Suukbulak and in part Kampirtepa, Department Majilisi. It lives on sandy, fine-grained-stony, fine-grained-gravelly and variegated soils, at an altitude of 1500-1700 m above sea level. m. in the kugitanga range, it is a very rare species. Zapadnotekhasskaya-Pamir-Alai.

Section Eriostemones in Boiss. Fl. Or. V (1884) 191.

7. T. turkestanica Regel in AHP. 3 (1875) 296. – T. turkestan.

In the southern and Northern slopes of Salkantay. It grows on clay, fine-grained-stony and sandy soils of the middle belt of mountains, at an altitude of 900-1500 m above sea level. It is found in small populations and single specimens. Zapadnotekhasskaya-Pamir-Alai.

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