

The ontogenesis and ontogenetic structure of *Tulipa micheliana* Th. Hoog (Liliaceae) coenotic populations in Uzbekistan

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ABSTRACT: Within Uzbekistan *Tulipa micheliana* more widespread in the southwestern Hissar, Nuratau sporadically - in the Turkestan and Zeravshan ranges. In the Kyzylkum desert (mountain Kokchatau) he comes to the westernmost border of its range. On the basis of ontogenesis revealed structure 9 coenotic populations of the species within the above range. The duration of ontogenesis in natural conditions lasts about 30 years. All investigated coenopopulations normal, most are not complete. The base type of the spectrum - unimodality centered. Characteristic and distinguished spectra do not match. In rare cases, developmental spectra correspond to characteristic and reflect the biological characteristics of species: a high seed production, mass germination of seeds, a gradual increase in life expectancy in generative period culminating in generative condition rapidly aging.

Keywords: *Tulipa micheliana*, ontogenesis, coenotic population, a characteristic type, base type, types coenopopulations, Uzbekistan.

INTRODUCTION

The *Tulipa* L. genus 63 species are presented in Central Asia (Vvedensky, Kovalevskaya, 1971), that makes more than 60% of all views of the globe (the total of species of a tulip on the globe according to different data varies from 50 to 100). Such a great variety shows leading position genus *Tulipa*. 63 species grow in Central Asia during the formation of species diversity, in Uzbekistan 34 species grow (Tojibayev, 2015), 37 species in Kazakhstan - (A.A Ivashenko, 2011), 22 species in Kyrgyzstan (Flora of Kyrgyzstan, V.3), 24 species in Tajikistan (Flora of Tajikistan, V.2) and 16 species in Turkmenistan (Flora of Turkmenistan). 34 species of the genus are presenting in Uzbekistan, 8 species are native to arid habitats where the amount of annual precipitation does not exceed 120-140 mm per year. These species are: *Tulipa lehmanniana* Merckl., *T. buhseana* Boiss., *T. borszczowii* Regel., *T. sogdiana* Bunge, *T. biflora* Pall, *T. sharipowii* Tajibaev, *T. intermedia* Tajibaev, *T. micheliana* Hoog.

From the above stated species of *Tulipa lehmanniana*, *T. buhseana*, *T. borszczowii*, *T. sogdiana* and *T. biflora* are the real desert types. The area covers the first two types of Turan lowland and reaches northern China (Kashgar), and the other three species are endemic to Turan stringent phyto-geographical region. Two species - recently described in the Fergana Valley - *Tulipa sharipowii* and *T. intermedia* grow on the gray-brown soils of the southern foothills of the Kurama Range (Western Tien Shan), (Tojibayev, 2010, 2015). Finally, the last species of Asian mountain *Tulipa micheliana*, the predominantly north-western Pamir-Alai and Kopetdag, the western most border of their range comes in Kyzylkum (at Nuratau relict mountains and Kokchatau).

These species *Tulipa lehmanniana*, *T. borszczowii*, *T. sharipowii* and *T. micheliana* are listed in the Red Book of the Republic of Uzbekistan (2009).

This scientific work is devoted to assessing current state of coenotic populations of the *T. micheliana*. This species grows in the belt clay stone and thermophiles juniperus; on stony and clay slopes in nature, ephemeral-wormwood communities at an altitude of 350-1800 m. One of the characteristic features of a purple type often interrupted strip on top of the leaves (Bochantseva Z.P, 1962, Sharipov A.1997).

MATERIALS AND METHODS

Studying of ontogenesis was carried out with using of the standard methods and approaches (Rabotnov, 1950; Uranov 1975; Cenopopulations, 1976). Structure of populations studied in a conventional manner (Uranov, 1975; Cenopopulations, 1976). Each cenopopulations is laid from 10 to 30 areas of 1m². Coenopopulations characterized on classifications A.A Uranov and O.V Smirnova (1969) and "delta-omega" (Zhivotovsky, 2001). Density was determined as the number of habitable space per 1m² (Odum, 1986). Geobotanical descriptions carried out by standard methods in the areas of 100 m² (Geobotany field, 1972). Plant name is given by the latest report Cherepanov (1995).

In the period from 2012 to 2015 years we examined 9 coenotic populations of the *T. micheliana*, growing in different ecological conditions and phytocoenotic in Samarkand, Bukhara, Jizzakh and Surkhandarya regions of Uzbekistan. Populations are code names on the locus thereof.

The Amankutan coenopopulation (CP-1) is marked on the northern slopes of clayey Zeravshan Range in the vicinity of the village Amankutan, Urgut district, Samarkand region at an altitude of 1694 high meter (h. m.) Geographical coordinates N 39°17.038' E 066°56.609'. Plant community - *Amygdalus spinosissima* - *Ferula varia* + *Allium suworovii*. The community is dominated *Amygdalus spinosissima* Bunge. The projected coverage is 50 %. As part of the grass at different abundance found: *Ferula varia* (Schrenk) Trautv., *Crocus korolkovii* Regel, *T. micheliana* Hoog, *T. fosteriana* Irv., *Allium suworovii* Regel, *Iris warleyensis* (M.Foster) Vved., *Gagea vegeta* Vved. and etc.

Balyklitau coenopopulation (CP-2) grows on clayey slopes at Nuratau Balyklitau remnant hills at an altitude of 520-530 m above sea level (N 40°19.208' E 067°38.457'). The species composition of the community (*Crambe kotschyana*- *Carex pachystylis*) consists of 20 species. The projected coverage of herbage is 55 %. The plant community in the top tier dominated *Crambe kotschyana* Boiss. and the bottom - *Carex pachystylis* J.Gay. Along with the dominant grow here *Tulipa buhseana* Boiss., *T. micheliana* Hoog, *Poa bulbosa* L., *Erodium ciconium* (L.) L'Her et al.

The Kokchatau coenopopulation (CP-3) was studied in the most western part of the species range (N 40°31.822' E 065°02.387' h- 469). The plant community is dominated by *Artemisia diffusa* Krasch.ex Poljak. Along with *T. micheliana* here at different abundance found *Iris hippolyti* (Vved) Kamelin., *Allium kysylkumi* Kamelin., *Tulipa buhseana* Boiss., *Leontice inserta* Pall., *Poa bulbosa* L., *Scorzonera pusilla* Pall., *Cousinia hammadae* Juz., *Convolvulus hammadae* (Vved.) V.Petrov, *Strigosella grandiflora* (Bunge) Botsch., *Ranunculus severzowii* Regel. Total projective cover of grass is 30.0 %.

The following CP has been allocated to the north-western spurs of the Turkestan range. The Dashtabad coenopopulation (CP-4) grows along the road route Dashtabad-Sarmich (N 39°59.175' E 068°49.621') at an altitude of 773 m. The vegetation is dominated by *Phlomis tapsoides* Bunge. Total projective cover of grass is 38%, and the projective cover of *T. micheliana* does not exceed 3.0%. Sarmich coenopopulation (CP-5) marked on the eastern part of the village Sarmich (N 39°52.475' E 068°52.105', h-1130 m) as part of the community *Crataegus turkestanica* - *Artemisia sogdiana*- *Poa bulbosa* on typical gray soils. TPC (Total projective cover) grass 40.0%. Along with the dominant species in different abundance grow *T. micheliana* Hoog, *Poa bulbosa* L., *Ixirilion tataricum* (Pall.) Schult. & Schult. fil. and etc.

Baisun coenopopulation (CP-6) has been described in the south of Uzbekistan, in the spurs of the mountain Baysuntau (N 38° 15.304' E 067° 08.726', h- 1064 (Figure-1). Soil described coenopopulations - typical gray soil. Total projective cover of grass does not exceed 42 %. The vegetation is dominated by *Convolvulus hammadae* (Vved.) V.Petrov. In addition cenosis involved 25 species - *Turgenia latifolia* (L.) Hoffm., *Peganum harmala* L., *Koelpinia macrantha* C.Winkl., *Onobrychis micranta* Schrenk, *Haplophyllum bucharicum* Litv., *Tulipa micheliana* Hoog et al .

Farish coenopopulation (CP-7) grows on gypsum soils in the north-eastern piedmont plain Nuratau (N 40° 30.770' E 067° 02.461', h-484). Total projective cover of grass is 65%, and the projective cover of *T. micheliana* does not exceed 1.0%. The vegetation, which recorded 20 species of vascular plants, dominated *Phlomoidea napuligera* (Franch) Adyl., R.Kam. & Machmedov and *Artemisia sogdiana* Bunge. In addition to these types there are *Phlomis tapsoides* Bunge, *Ranunculus severzowii* Regel, *Iris narbutii* (O.Fedtsch) Vved., *Tulipa micheliana* Hoog, *Poa bulbosa* L. et al. Next, the Madzhrum coenopopulation (CP-8), was studied on gravelly soils in the northern spurs Nuratau part of the community *Amygdalus spinosissima*- *Allium altissimum*- *Iris maracandica*, 30-40 km west of the previous (N 40° 35.126' E 066° 43.255', h-753). The dominant community advocate *Amygdalus spinosissima* Bunge and *Allium altissimum* Regel. The projected coverage is about 28 %, the proportion of the studied species is 1.0 %. The vegetation grow along with the dominant *Juno maracandica* Vved., *Ixirilion tataricum* (Pall.) Schult. & Schult. fil., *Papaver pavoninum* Schrenk, *Astragalus nobilis* Bunge ex B.Fedtsch, *Artemisia sogdiana* Bunge et al.

Last, Zaamin coenopopulation (CP-9) grows on the gray soils in the vicinity of the village Kavunkesty (southern foothills of Turkestan range) as part of the community *Amygdalus spinosa* + *Rosa canina*- *Artemisia sogdiana* (N 39° 52.421° E 068° 28.999°, h- 834). Total projective cover of grass is 51 %, species composition of the community consists of 17 species (*Artemisia sogdiana* Bunge, *Iris songarica* Schrenk, *Tulipa micheliana* Hoog, *Medicago* sp, *Stipa hohenackeriana* Trin. & Rupr, *Leptaleum filifolium* (Willd.) DC., *Hordeum bulbosum* L., and etc.).

Table 1. Characteristics of the studied coenopopulation (CP) *T. micheliana* in Uzbekistan

No CP	Location coenopopulation	Geographical coordinates	h.m	Community	Total projective cover of vegetation, %	The projective cover of this species, %
1	Samarkand region, Urgut district, Amankutan locality (Zeravshan Ridge).	N 39°17.038° E 066°56.609°	1694	<i>Amygdalus spinosissima</i> - <i>Ferula varia</i> + <i>Allium suvorovii</i>	53	3
2	Djizzak region, Farish district, the vicinity of the village of Aktam (Nurata Ridge)	N 40°19.208° E 067°38.457°	523	<i>Crambe kotschyana</i> - <i>Carex pachystylis</i>	55	2
3	Bukhara region, Gijduvan district, Kukchatau relict mountain (Kyzylkum desert)	N 40°31.822° E 065°02.387°	469	<i>Amygdalus spinosissima</i> - <i>Artemisia diffusa</i> - <i>Poa bulbosa</i>	31	1
4	Jizzakh region. Yangiabad district, Dashtabad town, neighborhood of northern spurs of the Turkestan Range	N 39°59.175° E 068°49.621°	773	<i>Allium suvorovii</i> + <i>Phlomis tapsoides</i> - <i>Ixilirion tataricum</i>	38	3
5	Jizzakh region. Yangiabad district, neighborhood of the village Sarmich (northern spurs of the Turkestan Range)	N 39°52.475° E 068°52.105°	1130	<i>Crataegus turkestanica</i> - <i>Artemisia sogdiana</i> - <i>Poa bulbosa</i>	42	3
6	Surkhandarya region. Boysun district, near the village of Darband (Baisun Ridge)	N 38° 15.304° E 067° 08.726°	1064	<i>Alhagi pseudalhagi</i> + <i>Onobrychis chorassanica</i> - <i>Poa bulbosa</i>	44	1
7	Jizzakh region. Farish district, near the village Yangikishlak (northern foothills of the Nurata Range)	N 40° 30.770° E 067° 02.461°	484	<i>Phlomoides nopliger</i> → <i>Artemisia sogdiana</i> – <i>Phlomis tapsoides</i>	65	1
8	Jizzakh region, Farish district, the vicinity of the village Madzhrum (Nurata Ridge)	N 40° 35.126° E 066° 43.255°	753	<i>Amygdalus spinosissima</i> - <i>Allium altissimum</i>	28	1
9	Jizzakh region, Zaamin district, near the village Kovunkestee (Turkestan Range)	N 39° 52.421° E 068° 28.999°	834	<i>Amygdalus spinosa</i> + <i>Rosa canina</i> - <i>Artemisia sogdiana</i>	51	3

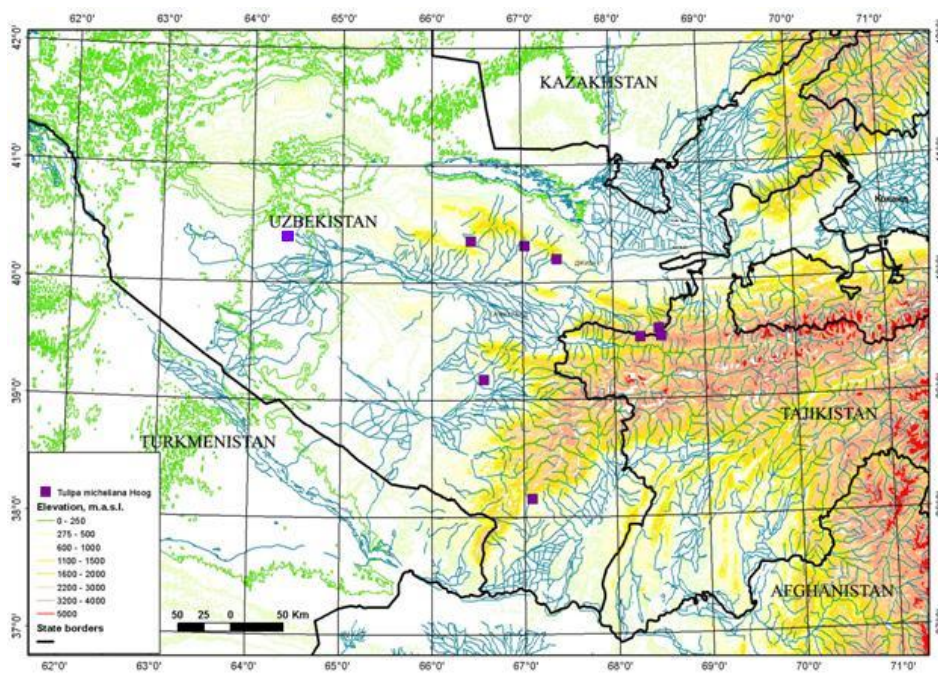


Figure 1. Map scheme of the study area

RESULTS AND DISCUSSION

Tulipa micheliana is perennial, herbaceous, polycarpic, bulbous plant. According Rabotnov (1950) we have allocated 7 developmental states. Seed (se), seedling (p), juvenile (j), immature (im), virginal (v), generative (g) and senile (s).

Se - generative individuals *T. micheliana*, like other species of the genus, abundant fruit. The plant flowered. Seed boxes (length 65 mm, width 25 mm) are oblong-shape box with a triangular base and a blunt tip. Its length is 80 mm, diameter 35 mm. In each box is formed by an average of 350-400 (540) pieces of seeds. Seeds broadly ovate, brown (11 mm length, 9 mm width) with a flat rim and a lighter embryo. According to M.G. Nikolaeva (1982), a large proportion of the seed belongs to the endosperm. In the early development of the embryo rapidly growing upper part of the cotyledons, this plays the role of the suction body. Type is endogenous dormancy. Weight of 1000 seeds is 9-11 g. Laboratory of seed germination is 65.5%, the field - 24.75%.

P - is one of the shoots plants. The plant has a single narrow linear cotyledons erect length of 18-30 mm and a width of 2 mm (the widest part). Cotyledon has gaustorial portion formed in endosperm in early embryonic development. Vagina cotyledons expanded surrounds embryonic kidney, forming the bulb. Hypocotyl vividly expressed. Chief unbranched root reaches 15-30 mm. Other root of *Tulipa micheliana* in the first year of vegetation is formed. Seedling deep is into the soil up to 22-35 mm.

According to Z.P. Botchantseva (1956) all species or varieties of tulip in the first year of life have the cotyledons. Other green leaves in their first year are not formed. The growing season lasts from *Tulipa micheliana* first year of life is about 45-60 days.

J - in the second year of life of the plant formed the first assimilating and grassroots is stored, with a closed leaf sheaths. Usually grassroots list (stocking up on the scales last year) is being depleted and dries. According to the literature (Botchantseva, 1956, 1962) tulips first sheet differs from leaves of mature plants by the presence of the stem and wide vagina, but the shape, color and consistency of lamina it is similar to the leaves of mature plants of the same species that is observed in *T. micheliana*. An example of this is the brown-purple discontinuous strips on top of the leaves. At the end of the growing season, after drying the sheet, it is stored in the form of coating scales. Leaf length reaches 82 mm, width of 4 mm. The underground part of the plant deeper is to 95-110 mm. Bulb length 10-12 mm width 5-8 mm. The root system of *T. micheliana*, as in other species tulip, fibrous, the number of 7-11 year-old roots units, the length of 7-16 mm. The duration of the growing season in the second year is 70-80 days. The duration of the juvenile status is 1 year.

Im - from the third year of vegetation in plants generated annually by one assimilates and 2 grass roots sheet (stocking up on the scales last year), gradually increase their size, and expanded leaf blade, as well as the size of the bulb. The principal difference between and its age is the only state in assimilating leaf morphology. Last part of the leaves in the immature state has a wavy shape. Leaves with brown are purple stripes broken reach 110 mm, width of 6-9 mm. The underground part of the plant deeper to 120-145 mm. Bulb length 14-20 mm, width of 9-12 mm. The number of fibrous roots 16-22 pc. The duration of the growing season is 80-95 days. Duration immature status is 1 year.

V - virginal condition in tulips very long in nature and is 5-20 years (Didenko, 2008). Completion rates until generative phase is the appearance of a long shoot, which is always reproductive he carries demon stalked sessile leaves and flower. In virginal plants formed one broadly assimilating and grass-roots is stored 3-4 leaves. The length of the sheet is 270 mm, a width of 80 mm (on the extended portion). Curly edges of the leaves are more pronounced compared to immature plants. The number of bands with anthocyanin spots reaches 6-8.

During this period, the underground parts of the plant reaches a maximum depth - up to 190 -260mm continue actively deepen practically stops. The length of the bulbs in this age of 35-40 mm, the diameter of 15-20 mm. Number yearling fibrous roots of 60-80 pc. Under natural conditions, *T. micheliana* stolons are not formed.

The duration of the growing season virginal plants is up to 115 days. The duration of this condition is 3-10 years.

G - 6-7 year vegetation plants become the generative period. In early august, in the apical bud adult bulbs clearly formed flowering shoots bearing 3-4 assimilating sheet. In general, the tab generative shoot begins early, at the end of February, when the structural and functional transformation of replacement bulbs still associated with the mother plant. In late October, the rise of escape under the ground and with the onset of winter cold snap growth stops. Since the beginning of February the growth of shoots and resumed by mid-February, they appear above the soil surface.

The maximum height of the growing by mid-April is up to 219 mm (minimum height 49 mm). Stem downys. Leaves including 4 bent gray, with brownish-purple dotted stripes. The first linear-lanceolate or oblong leaves (lower) leave from the stalk 30-40 mm above the ground. Its length is 80 mm pre-270 mm, width of 31.4 mm pre-80mm at the widest part. Flower of one large, 80 mm long, cupped or extended. Tepals of raspberry - red to salmon - pink. He is a six-membered arrangement with petals in two rounds - external and internal. Six stamens. Triangular pistil

consists of a stigma and the ovary. The bulb is with leathery or papery scales with straight silky hairs, especially at the top and bottom. The length of the bulb is to 52 mm, 35 mm diameter (at the widest part). The number of fibrous roots is 120-160 pieces. The duration is 6-20 years generative state.

S- Senile period is not clearly defined. One of the main indicators of aging individuals is weakening or termination of flowering. According to M.V. Baranova (1999), the plant ceases to form stalks, kidney reducing the number of pledged stock up scales, kidneys, reduced size of leaves, which is confirmed by our data. In senile individuals investigated species leaves in shape and size are similar to the leaves of immature individuals. A plant of this age is characterized by more large, but puny bulbs. The leaves are curled around the edges, which is stored in a brown-violet discontinuous strip. Leaf length is about 100 mm, width is 6-9 mm. The underground part of the plant is 130 mm. Bulb lengths is 50-55 mm, diameter is 40-45 mm. The number of fibrous roots 70-90 pc.

Ontogenetic structure coenopopulations *T. micheliana* before anyone has not been studied. According to the classification A.A. Uranov and O.V. Smirnova (1969) studied coenopopulations *T. micheliana* normal CP full members 4,6,8,9, and the rest (1,2,3,5,7) are not complete and there are no hydrocyanic individuals.

Ontogenetic structure of the vast majority of the population coenotic centered type with a maximum on generative individuals (CP 1,2,3,6,7,8,9). The CP 1, 2, 6, 9, the absolute maximum in the spectrum falls on generative individuals (35,59 %, 36,45%, 31,7 % and 42.0 %, respectively (Table-2). All of the above coenopopulations individuals differ in relation until generative phase factions. In the left part of the spectrum to the CP 1 juvenile prevails in the CP 6 and 9 immature and CP 2 virginal individual. A small proportion of juveniles in these coenopopulations probably associated with flushing plant of these fractions during the flood of Mountain Rivers and irregular seed renewal. The absolute maximum in the generative group is associated with a gradual increase in life expectancy of individuals in generative period and the elimination of fragile young individuals as a result of mudslides.

CP 3 grows in the gray-brown soils of the upper part of relict mountains Kokchatau. As noted above this coenopopulation was allocated to the western boundary of the range of the species. This border is in the eastern part of Kyzylkum, which is characterized by sharp fluctuations in daily and annual temperatures and persistent winds, sometimes reaching 30 m/ sec. Winds with velocities render seeds, sometimes of entire boxes of plants, beyond small hill Kokchatau (piedmont sand and saline plain), where natural environmental conditions are not suitable for this type of settlement. On the other hand, young seedlings *T. micheliana* not withstand spring frosts often occur in this area. Combination of all these factors leads to a decrease in the number of individuals in the left part of the spectrum.

CP 7 on gravelly soils studied in the northern piedmont plain Nuratau. Total projective cover of grass at the time of the survey was 65 %. Early in the spring, during the mass development of many ephemeroids, including *T. micheliana*, in vegetation dominated *Phlomoides nopliger*. Pretty powerful generative shoot and basal rosette leaves pose serious competition with other species in the community. Most of the juveniles, including the germ *T. micheliana* not withstand such phytocentral pressure drop. A similar trend is observed in the vicinity of the village Madzhrum, where it grows eighth coenopopulation. Densely overgrown specimens *Allium altissimum* and *Iris maracandica* squeeze juvenile *T. micheliana* along with other early vegetative plants in the period of intensive development. Big losses fragile species individuals investigated in connection with Phytocenotic pressure and long stay of individuals in generative period provides a centered type of spectrum in these coenopopulations.

Developmental spectra of the CP 4 and 5, left-hand drive type, with a maximum in the group of juvenile (CP 4) and virginal individuals (CP 5). CP 4 is located in the sandy soil at the site of regular grazing. Total projective cover is 38 %. The predominance of young individuals (juvenile) due to the fact that due to the elimination of the plant communities of the dominant species is exempt portions of the substrate. This is the optimal conditions for such reactive species (term Cheryomushkina, 2004) as the *T. micheliana*, reproducing only by seed.

The fifth cenopopulations is spectrum peaking in virginal individuals. Accumulation virginal individuals on the one hand, due to the rapid passage of the young plants fraction (p, j, im) favorable to their growth and development conditions, germination and other seed confirms irregular resumption coenopopulations. As noted in part of materials and methods, this cenopopulation has been studied in the northern spurs of the Turkestan range, where the provision of precipitation was sufficient for intensive development of young individuals.

Assessment of age (Δ - delta) and efficiency (ω - omega) coenopopulation showed that the CP 3 ($\Delta = 0,27$; $\omega = 0,60$) and CP 8 ($\Delta = 0,28$; $\omega = 0,61$) ripening. All the rest is the young.

The density of fish in the studied coenopopulations varies and ranges from an average of $1,95 \pm 0,59$ to $4,8 \pm 1,18$ piece. $1m^2$, ecological density of 2.56 to 6.4 piece. $1m^2$ (table 3).

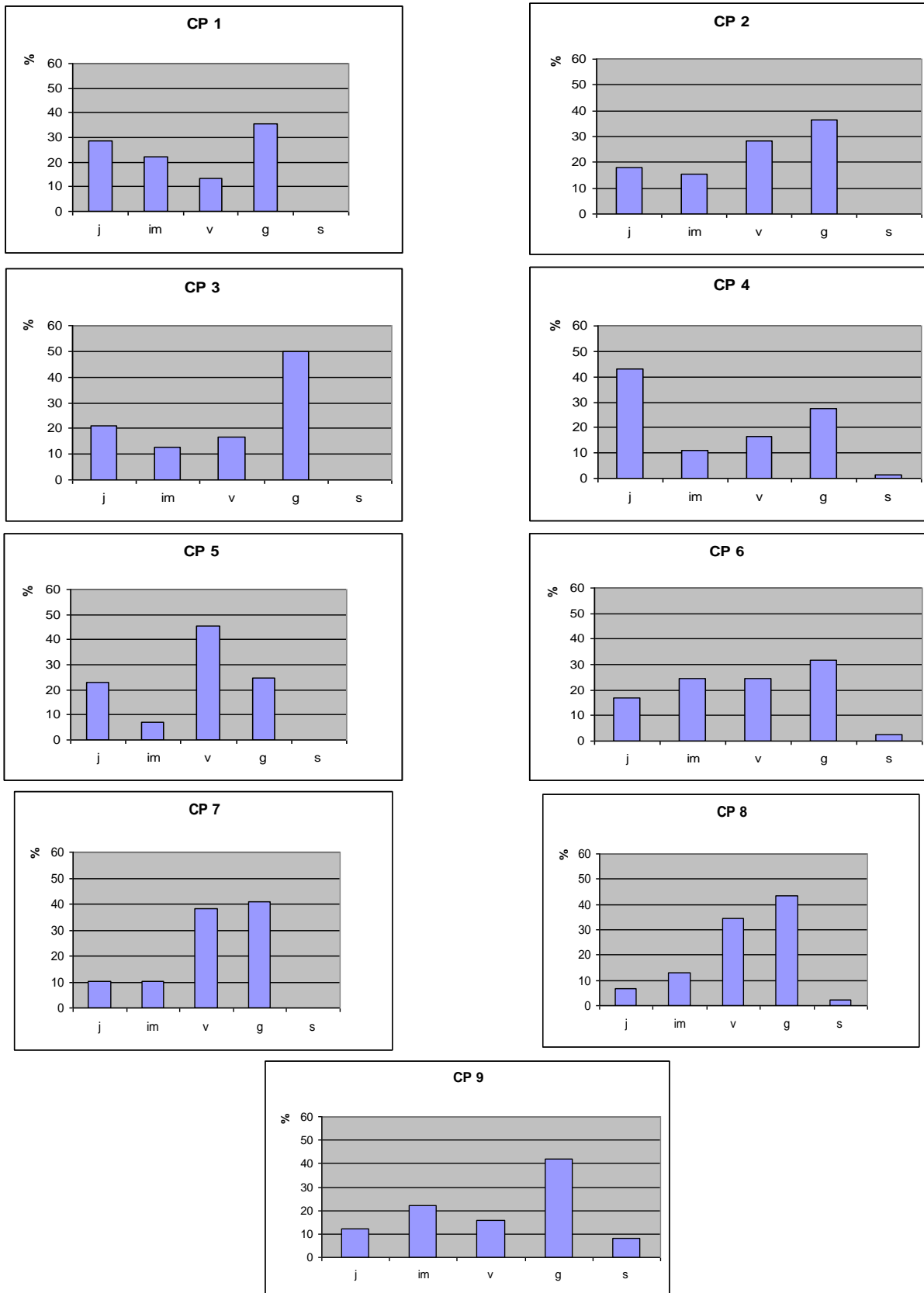


Figure 2. Developmental populations spectrum of *T. micheliana*

Based on the features of biology of the species (high seed productive, high germination, most individuals slowdown in reproductive period), a characteristic of this type of spectrum coenopopulation be left-sided type with a peak at juveniles.

Comparison of ontogenetic structure coenopopulation *T. micheliana* in different ecological and geographical habitat showed that the basic range - unimodal, with the peak centered on the generative individuals. Base spectrum does not match the characteristic.

Table 2. Distribution of individuals by age groups

№ CP	Age structure (%)				
	j	lm	v	g	s
1	28,81	22,03	13,55	35,59	0
2	17,79	15,62	28,12	36,45	0
3	20,83	12,5	16,6	50	0
4	43,05	11,11	16,6	27,7	1,38
5	22,8	7,01	45,61	24,56	0
6	17,07	24,39	24,39	31,7	2,43
7	10,25	10,25	38,4	41,02	0
8	6,52	13,04	34,7	43,47	2,17
9	12	22	16	42	8

Table 3. Demographic characteristics coenopopulations of *T. micheliana*

№ CP	The total number, (pc)	The density of individuals, 1m ² (pc)	The ecological density of individuals, 1m ² (pc)	ω	Δ	Type CP
1	59	2,95±0,75	3,47	0,47	0,20	young
2	96	4,8±1,18	6,4	0,52	0,22	young
3	48	2,4±0,74	3,6	0,60	0,27	ripening
4	72	3,6±0,66	4,5	0,40	0,18	young
5	57	2,85±0,63	3,8	0,46	0,18	young
6	41	2,05±0,50	2,56	0,48	0,22	young
7	39	1,95±0,59	2,6	0,59	0,25	young
8	47	2,35±0,71	3,35	0,61	0,28	ripening
9	50	2,5±0,67	3,33	0,54	0,31	young

Note: Δ - age population index, ω- efficiency index

CONCLUSION

Tulipa micheliana is the sole representative section *Vinistriatae* (Raamsd.) Zonn., which grows in the Pamir - Alai mountain system. All other species (*T. greigii* Regel, *T. mogoltavica* Popov & Vved., *T. butkovii* Botschantz., *T. vvedenskyi* Botschantz.) are common on the ranges of the Tien - Shan (Tojibaev, Beshko, 2015). Outside of Uzbekistan *T. micheliana* is found in Iran (Rechinger, 1990), Turkmenistan and Tajikistan. Within Uzbekistan, it is widely distributed in southwestern Hissar, Nuratau sporadically - in the north-western part of the Turkestan and Zeravshan ranges. In the Kyzylkum desert (Kokchatau mountain) comes to the most westerly boundary of its range. Over the last four years (2012-2015) has been studied in all 9 coenotic populations of the species within the above range. Projective cover of grass, where he studied cenotic *T. micheliana* population does not exceed 65% (the minimum rate of 28%). Most coenopopulation grow in communities where the total projective covers less than 45%. The density of animals is 1,95 ± 0,59 - 4,8 ± 1,18 pc. 1m². This indicates less competitive species investigated.

The study of ontogeny shows that overall survival *Tulipa micheliana* in natural conditions lasts about 30 years (a period of about 10 reproductive period and generative - 20 years). The more moisture conditions specimens bloom for 5-6 year of vegetation, and in the more arid habitats, a process observed in the 9-10 year life of the plant.

Coenopopulations *T. micheliana* studied in different eco-phytocoenotic normal conditions, most are not complete. Individuals are complete only in the ontogeny of favorable habitat conditions: when sufficient soil moisture and good mineral nutrition. The base type of the spectrum - Unimodality centered, with a peak in the generative individuals. Developmental cenopopulation specific spectra differ by yea- variability of seed germination, eco-phytocoenotic conditions and varying degrees of anthropogenic load. Characteristic and distinguished spectra *T. micheliana* not match. Only the CP 4 and 5 correspond to typical developmental spectrum and reflect the biological characteristics of this species: a high seed production, mass germination of seeds, a gradual increase in life expectancy in reproductive period culminating in generative condition rapidly aging.

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