

MORPHOLOGICAL CHARACTERISTICS OF SOME SPECIES OF GENDER CROCUS IN TARABOSH AND VOLLJAKE

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Abstract

The object of this study is the search of the morphological characteristic of some species of gender Crocus in Tarabosh and Volljake. Species Crocus is perennial divided in 100 sp, where ecological factors can be important in their identification and individual determination. For their identification can be used too flowering time, some flower in spring and some in fall. In search have been 4 species genus Crocus (Crocus veluchensis, Crocus chrysanthus, Crocus flavus, and Crocus tommasinianus). In this study has be done comparison of species Crocus which flower in spring and those which flower in fall, their distinction in vertical and horizontal spread. Have been searched those parameters: altitude, quantitative characteristics as: plant, filament, anthers, bract, and bracteole length, tunic cover, corm size, perigon tube color. Results have shows differences between spring and fall species.

Key words: *genus crocus, bract, bracteole length.*

INTRODUCTION

The aim of the study has been morphological characteristic of some species of genus CROCUS in Tarabosh and in Volljake. *Crocus* is genus of flowering plants of the iridaceous family comprising 100 species growing from corms. Many are cultivated for their flowers appearing in autumn, winter, or spring. Vegetative part is: root, stem and leaf. Root is densely to the new plant, meanwhile in peak beginning of a new body. New body is covered by corm which consist many layers which added every year. Corm could be fiber or nested where rings are in the bottom. Stem is short, in flowering time growing arriving in some species length 11 cm, wrapped from base. Leaves (phylum) are linearly close with white line in bottom side and are wrapped with membranes leaves (cataphylum) and usually are white, transparent and membrane. Plant Reproductive part is: flower, seed and fruit. Plant Have 1-6 (7), flowers, in spring period are actinomorphe and which disappear for brief time-ephemera showing clemency as to light as to heat. In base of flower are bract and bracteoles which wrapped a long tube. Flowers are different color such as white, yellow, purples containing diverse nuance Inside of the base of perigon is situated fruit which have or haven't hair and it's with different colors. Petal are attached on perigon tube and situated in two circles, inside circle often shorten then that outside. Petals Appearance and size is diverse among particular species. Filament are the short or long then anthers, ovary is situated in base of paragon throat which latter maturing on land. Style is divided o peak in some wriggle section, stigma diverse colors and higher or same length. Seeds are diverse colors and often have papilla and each seed has membrane wing which help in spreading.

ECOLOGY OF THE GENUS CROCUS

Ecological factors can be important in diagnosis and identification of Crocus species. One of useful bases for identification is flowering period, because some species flower in spring and some in fall. Flowering begins at lower levels and finishes at the highest levels where species attain. The are difference between vertical and horizontal distribution, the vertical are alpine and sub alpine species (*C. veluchensis*, *scardicus*) and the species growing at lower levels (*C. tommasinianus*, *kosaninii*, *reticulates*). Horizontal distribution is interesting, and has a very small range and for that we class them as endemic. Behavior of these plants under various ecological conditions is interesting. Petals make movements in accordance with the light: they open during the day and close at night. Crocuses are native to woodland, scrub and meadows from sea level to alpine tundra in central and southern Europe.

MATERIALS AND METHODS

Have been searched these parameters: altitude, quantitative characteristic as plant, filament, anthers, bract and bracteole length, tunic cover, corm size, perigon tube color. *C. veluchensis* : perennial plant, to 18cm. Corm to 1cm, covered with finely netted tunic. Sheathing leaves 3-4, transparent with long green nerves. 3-4 Leaves, lanceolate with white line on the face, leaves to 4mm. Bract and bracteoles equal, flowers usually 1-2purple to lilac sometimes completely white. Flowering from March-to June, seeding from June to August.



Photo 1. CROCUS VELUCHENSIS

C. Flavus is perennial plant, to 30cm. Corm tunic brown composed by parallel fibres. Sheathing leaves 4-5, leaves 4-8. Bracts and bracteoles equal length. Number of Flowers 1-5 orange color. Flowering from March-to May, seeding from May to July.



Photo 2. CROCUS FLAVUS

C. Flavus is perennial plant, 12-15cm. Corm tunics with ring like segment. Leaves number 5-8, to 1.5mm.wide. Bracts and bracteoles equal length. Number of Flowers

1-3 orange to lemon yellow color. Flowering from March-to May. Seeding from May to June.



Photo 3. CROCUS CHRYSANTHUS

C. tommasinianus is perennial plant, 8 cm. Corm tunic, upper part indistinctly netted, fibres. Leaves 2-4, width to 5-7mm. Sheathing leaves 4 white. Flowers 1 lilac purple, blue to sky-blue. At the base of the stem is basal spathe. Flowering from February to May. Fruit ripening during June and July.



Photo 4. CROCUS TOMMASINIANUS

TESTS AND RESULTS

The comparative morphological composition of the species *C. veluchensis*, *C. flavus*, *C. Chrysanthus*, *C. tommasinianus*.

Table 1. Comparative morphological composition of the species *C. veluchensis* *C. flavus* *C. chrysanthus* *C. tomasinius*

Quantitative characteristics	<i>C. veluchensis</i>	<i>C. flavus</i>	<i>C. chrysanthus</i>	<i>C. tomasinius</i>
Plant height (cm)	11 - 18cm	12 - 15	30	8
Corm diameter (cm)	1 cm	2	2	2
Number of leaves	3 - 4	4-8	5 - 8	2 - 4
Number of bracts/bracteoles	2 - 3	4	2 - 3	3 - 4
Numbers of flowers	1 - 2	1-5	1 - 3	1 - 2
Width of leaves (mm)	4	1-1.5	1.5	5 - 7
Length of filaments (cm)	1 - 1.2	0.5	2 - 5	0.7
Length of anthers (mm)	0.7 - 1.6	0.8-1.0	0.7 - 1.0	1
Length of bracts (cm)	3 - 4	7	6 - 7	0
Length of bracteoles cm	3.5 - 8	3 - 9	4 - 6	0
Number of Sheathing leaves	3 - 4	4 - 5	0	4

Table 2. Description of some morphological features of the species *C. veluchensis*, *C. flavus*, *C. chrysanthus*, *C. tomasinius*

Quantitative char.	<i>C. veluchensis</i>	<i>C. flavus</i>	<i>C. chrysanthus</i>	<i>C. tomasinius</i>
Corm tunic	finely netted tunic	brown parallel fibres	with ring at base	Upper part indistinctly netted
Perianth tube	purple in the upper part	purple	purple	white
Perigon throat	white and hairy	hairless	hairless	hairy/hairiness
Keel of leaf	papillose		hairy	
Length of bracts and bracteoles	equal	equal	equal	equal

Table 3. Locations and sea level

Species	location	height / sea level
<i>c. veluchensis</i>	livadhi i sakes - Tarabosh	700 - 800m
<i>c. flavus</i>	Tarabosh / Vollajke	950 – 1000 m / 700m
<i>c. chrysanthus</i>	Tarabosh / Vollajke	950 – 1000 m / 750m
<i>c. tomasinius</i>	Volljake / Sferke	540 - 600m

CONCLUSIONS

According to the search of the spread of four type of *Crocus* sp, in two localities in Trabosh and Volljake we can conclude that:

1. In Tarabosh we have three type of CROCUS that: *C. velunchensis* , *C. flavus* and *C. chrysanthus* .
2. Spread in different sea level. *C. velunchensis* in 700-800m, *C. flavus* in 950-1000 m, and *C. Chrysanthus* in 950-1000m.
3. In Volljake we have three type of *Crocus* that: *C. tommasinious* , *C. flavus* and *C. chrysanthus* .
4. Spread in different sea level. - *C. tommasinious* in 540-600m, *C. flavus* in 700m and *C. chrysanthus* in 750m.
5. Plant Height *C. flavus* up to 30cm, after *C. velunchensis* 11-18cm, then *C. chrysanthus* 15 and less has *C. tommasinious* 8cm.
6. Flowering : - *C. tommasinious* February to May, - *C. flavus* and *C. chrysanthus* March to May - *C. velunchensis* March to June
7. Basal spathe white membranous – Only to *C. tommasinious*.
8. Seeding *C. chrysanthus* May To June, *C. flavus* May To July, *C. tommasinious* June July, *C. velunchensis* June to August
9. Vertical distribution Low level has *C. tommasinianus* -540-600m, and higher *C. velunchensis* 700-800m
10. Horizontal distribution *C. chrysanthus* and *C. flavus*

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