

*Botany*

## Diversity of Blackthorn (*Prunus spinosa* L.)

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**ABSTRACT.** The tetraploid ( $2n=32$ ) species of blackthorn (*Prunus spinosa* L.), spread in Georgia, has been studied. Form diversity was found here. Such transformation of forms represents steps of domestication, revealed in ploidy. © 2007 Bull. Georg. Natl. Acad. Sci.

**Key words:** tetraploidy, polyploidy, hybridization, *Prunus spinosa*.

Blackthorn (*Prunus spinosa* L.) is widely spread in Georgia as a wild form. Its tracts are situated mainly in Eastern Georgia, while in Western Georgia it grows as single shrubs only in some regions (Ambrolauri, Chiatura, Tkibuli).

The peculiarities of blackthorn distribution in Georgia show that in the past it was widely spread here. Now the natural habitats of the plant's dissemination are constricted, surviving only in places of its typical inhabitation, like river canyons, forest edges, etc.

In upper Kartli (village of Tsemi, Borjomi district) bushes of blackthorn grow together with *P.cerasifera* Ehrh. Blackthorn grows in stories, in the form of cultivated plum-tree. Fruit is of elongated form, blue-reddish or violet, juicy and sweet; flesh easily separates from stone. The stone is also elongated with furrow surface. The plant is evidently a hybrid of *P. spinosa* with *P.cerasifera*, which was proved by the cytological investigations. Its chromosome number is  $2n=48$  [1].

In Borjomi district blackthorn is met also in Sadgeri village, near Lake Tba, forest edges and in fields.

In Samtskhe-Javakheti blackthorn is rare, growing only in some places as a single plant. At 2-3 km distance from the village (place Chobareti), in the field we met bushes stretched on 10m length, where the picture of forms formation was clearly expressed. There were tall, tree-type forms among bushes. Fruits were found only on tree plants and very rarely, being big and sweet.

In the village of Bolajura, Adigeni district, I met tree-form plants of blackthorn on the river bank, but their fruits were similar to bush-form plant ones.

In Inner Kartli, in the Ksani and Liakhvi river vallies blackthorn grows in many places, in the environs of Mtskheta, Gori, Kaspi and Khashuri.

In Gori district, away from the Skra village, along both sides of the railway there grow plants of blackthorn, which are natural hybrids between *P. spinosa* and *P.cerasifera* [2].

In Akhalkori district (near the road leading to Gorubani) a blackthorn massif is found in a field, growing in tiers.

Low, bush-type forms have all features of wild blackthorn: small and round fruits, with polished surface, the pulp does not remove from stone, and has tart taste; the stone is round and small.

Middle size (1.5-2m) blackthorn plants by the morphology of fruit and stone are different from a bush-type form of the plant, possessing big and elongated fruits. The fruits are less tart, easily removing from the stone. The stone is slightly elongated, sharp with a rough surface.

Tall (2.5-3m) tree-type plants of blackthorn with fruit and stone morphology are similar to the cultivated plum. Fruits are big and sweet; pulp easily removes from the stone, almost splitting; the stone is big, elongated and sharp, with rough surface.

In Lower Kartli blackthorn is spread in the environs of Tetritsqaro, growing in clusters. The bush-type forms

sprawl on the ground; fruits are small, of tart taste.

Large bushes of blackthorn grow in the Mashavera valley, on slopes and edges of lakes and road edges.

Blackthorn is especially widespread in Tianeti district, on forest and road edges, light places, on river banks. At 10-15 km distance from the village, on both sides of a river was discovered a big tract of blackthorn represented in stories: low, bush-type forms, of medium size and tall (4-5m) tree-type forms. The latter

type was very similar to plum, with big, juicy and sweet fruits; the stone was bigger, compared with bush-type forms. These bushes of blackthorn were the most interesting, compared with other places according to its morphological features and chromosome number, which made  $2n=64$  [3].

The form diversity found in tetraploid blackthorn evidently demonstrates gradual steps of cultivation represented in the form of tiers and revealed in ploidy.

ბოტანიკა

## კვრინჩხის (*Prunus spinosa* L.) მრავალფეროვნება საქართველოში

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ნაშრომში შესწავლილია საქართველოს სხვადასხვა რეგიონში მოხარდი კვრინჩხის ადგილმდებარეობა. კვრინჩხის ექსპერიმენტული კვლევის შედეგად ტეტრაპლოიდურ სახეობაში ( $2n=32$ ) დადგენილია ფორმათა მრავალფეროვნება. ფორმათა ასეთი ცვალებადობა გაკულტურების საფეხურებზე ეტაპებს უნდა წარმოადგენდეს, რაც მის პლოიდურობაში ელვინდება.

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