

Botany

The Newly Recorded Species in Flora of Non-Calcareous Habitats of Imereti Region, Georgia

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Georgia's geographical location, diversity of physical and geographical conditions and geological past gave rise to remarkable biodiversity of the country. Of 4,100 species of vascular plants known in Georgia, about 900 species are recorded in Imereti, one of the western regions of the country. The study was carried out in the vicinity of Mt. Mepistskaro located at the junction of the Meskheta ridge and its northern branch Didi Loboroti, in the upper reaches of the Supsa and Tsablaristskali rivers. Flora of Imereti was carefully studied by well-known Georgian botanists. However, our study revealed 21 species of 21 genera and 16 families new for the region. Three of the newly recorded species: *Astrantia trifida* Hoffm., *Helichrysum polyphyllum* Ledeb., *Delphinium thamarae* Kem.-Nath. are Caucasian endemics characteristic to non-calcareous soils. © 2024 Bull. Georg. Natl. Acad. Sci.

Imereti, Caucasus, endemic plants, non-calcareous soils

The region of Imereti is located in the eastern part of West Georgia and phytogeographically belongs to the ancient Mediterranean kingdom, Sub-Mediterranean region, Colchis or Eastern Euxine province, Racha-Lechkhumi, Imereti, Colchis lowland and foothill sub-divisions [1, 2].

Imereti includes three of the six landscape types of Georgia: components of the Caucasus mountain system including the southern slope of the Racha ridge, the Khvamli massif and the southeastern part of the Askhi massif; the eastern extremity of Colchis, the Imeretian plateau and Likhi ridge; the northern slope of the Adjara-Imeretian ridge from the landscape region of the Lesser Caucasus [3, 2].

The floristic region of Imereti is characterized by mixed- and broad-leaved as well as dark-coniferous forests, subalpine and alpine belts, although the distribution of the alpine belt is limited to a narrow strip in the Adjara-Imereti (Meskheta) Range [4].

The area of our research covers the ridge of Adjara-Imereti range and its northern slope. The main geomorphological features of the area are old glacial forms and plains [5]. Ancient glacial landforms are in certain extent found on the Meskheta ridge, on the ridges and foothills of Mts. Mepistskaro (2850 m a.s.l.), Didi Loboroti (2728 m a.s.l.) and others [6].

The limestone flora of Imereti is relatively well studied [7, 8] which cannot be said about the southern part of Imereti. Therefore, our floristic study was focused on the surroundings of Mt. Mepistskaro located in that part of the region. In this area, climate is less humid compared to typical Colchic areas, no karst terrain and calcareous soils are found, which accounts for absence of specific vegetation adapted to those habitats. The area lacks the most moisture-loving elements of the Colchis flora, characteristic to the more western regions of the foothills of the Lesser Caucasus, as well as plants associated with calcareous substrates” [9, 5].

On the slopes of northern exposure, the largest area of subalpine shrubs is occupied by so-called “Dekiani”, thickets of *Rhododendron caucasicum* Pall. as well as tall grass communities and alpine meadows also mentioned by A. Kolakovsky when characterizing the non-calcareous sub-province [7, 10].

At higher elevations polydominant tall grass meadows are widespread. However, there are also meadows with a monodominant composition made up of the species of *Agrostis*, *Anemone*, *Geranium*. Species of *Ranunculus*, *Campanula*, *Gentiana*, *Alchemilla*, etc. are also recorded on these meadows. The meadows are heavily weeded because of overgrazing. Wetlands are also found on small areas in the alpine belt of Imereti [1].

The study area is rich in lithophytes, which compose floristic complexes of rocks and scree.

Materials and Methods

The vascular plant survey on Mt. Mepistskaro (2850 m a.s.l.) and its vicinity, southern part of Imereti region and included herbarium specimen collection and standard labeling, photography and databasing. The fieldwork was conducted in 2006-2010.

Species were identified with Flora of Georgia [11-15]. Nomenclature follows [16].

Results and Discussion

The flora of Imereti was carefully studied by well-known Georgian botanists such as L. Kemularia-Natadze and Sh. Kutateladze. However, our study revealed 21 species new for the region; three of the newly recorded species are Caucasus endemics [9] characteristic to non-calcareous soils (Table 1).

Table 1. Species of vascular plants new for Imereti region (recorded in 2006-2010)

	Species	Caucasus endemic (C), Georgia's endemic (C-G)
1	<i>Allium ruprechtii</i> Boiss.	
2	<i>Anthemis sosenovskyana</i> Fed.	C
3	<i>Aster alpinus</i> L.	
4	<i>Astrantia trifida</i> Hoffm.	C
5	<i>Betonica macrantha</i> K.Koch.	
6	<i>Campanula collina</i> Sims.	
7	<i>Chamerion angustifolium</i> (L.)Holub.	
8	<i>Chenopodium foliosum</i> Ashers.	
9	<i>Delphinium thamarae</i> Kem.-Nath.	C-G
10	<i>Epilobium algidum</i> M.Bieb	
11	<i>Gentianella caucasea</i> (Lodd ex Sims) Holub.	
12	<i>Geranium gymnocaulon</i> DC.	
13	<i>Helichrysum polyphyllum</i> Ledeb.	
14	<i>Leontodon hispidus</i> L.	
15	<i>Myosotis alpestris</i> F.W.Schmidt.	
16	<i>Polygonum carneum</i> C.Koch.	
17	<i>Potentilla elatior</i> Willd. ex D.F.K.Schltl.	
18	<i>Scabiosa caucasica</i> M.Bieb.	
19	<i>Trifolium trichocephalum</i> M.Bieb.	
20	<i>Thymus nummularius</i> M.Bieb.	
21	<i>Veratrum lobelianum</i> Bernh.	

Astrantia trifida (Umbelliferae) described from the Caucasus; grows on subalpine and alpine meadows [12]; recorded along the road to Mt. Mepistskaro, Vani, on subalpine to alpine meadows.

Helichrysum polyphyllum (Compositae), described from Guria; grows in the lower, middle and

upper montane belts on rocky outcrops, dry areas with skeleton substrates, juniper open forests, phrygana-like and montane steppe communities [15]. Recorded in the upper montane belt, on the way to Mt. Mepistkaro, at the foot of Mt. Sabughrao.

Delphinium thamarae (Helleboraceae); described from Kartli; grows in the upper montane forest belt, at the forest edge [11]; recorded on the way to Mt. Mepistkaro, on a slope covered with scree (Fig.).



Fig. Lithophyte floristic complex with *Delphinium thamarae*, endemic species to Georgia, on stone ecotope along the trail to Mt. Mepistkaro. Photo: T. Cheishvili.

The study area supports rich flora of lithophytes and although this group of plants has mostly azonal distribution, they are most diverse at high mountain elevations.

Endemic species recorded along the trail to Mt. Mepistkaro are given in Table 2.

Table 2. Endemic plant species of the foothills of Mt. Mepistkaro (recorded in 2006-2010) [17]

	Species	Caucasus endemic (C), Georgia's endemic (C-G)
1	<i>Anthemis sosnovskyana</i> Fed.	C
2	<i>Anthyllis lachnophora</i> Juz.	C
3	<i>Astrantia trifida</i> Hoff.	C
4	<i>Campanula albovii</i> Kolak.	C
5	<i>Cephalaria gigantea</i> (Ledeb.) Bobr. (= <i>Scabiosa gigantea</i> Ledeb.)	C
6	<i>Delphinium flexuosum</i> M. Bieb.	C
7	<i>Swertia iberica</i> Fisch. & C.A. May.	C
8	<i>Tripleurospermum colchicum</i> (Manden.) Pobed.	C
9	<i>Anthemis schischkiniana</i> Fed.	C-G
10	<i>Campanula sphaerocarpa</i> Kolak.	C-G
11	<i>Cirsium imereticum</i> Boiss.	C-G
12	<i>Delphinium thamarae</i> Kem.-Nath.	C-G
13	<i>Paracynoglossum imereticum</i> (Kusn.) M. Pop.(= <i>Cynoglossum imereticum</i> Kusn.)	C-G

ბოტანიკა

ახლად აღმოჩენილი სახეობები იმერეთის არაკირქვიანი ჰაბიტატების ფლორაში

თ. ჭეიშვილი

აკაკი წერეთლის სახელმწიფო უნივერსიტეტი, ზუსტ და საბუნებისმეტყველო მეცნიერებათა ფაკულტეტი, ბიოლოგიის დეპარტამენტი, ქუთაისი, საქართველო

(წარმოდგენილია აკადემიის წევრის გ. ნახუცრიშვილის მიერ)

საქართველოს ბიორმაველფეროვნება მრავალი ფაქტორითაა განპირობებული, მათ შორის გეოგრაფიული მდებარეობა, ფიზიკურ-გეოგრაფიული პირობების მრავალფეროვნება, გეოლოგიური წარსული. საქართველოში გავრცელებული ჭურჭლოვან მცენარეთა 4100 სახეობიდან იმერეთისთვის მითითებულია 900-მდე სახეობა. კვლევა ჩატარებულია მთა მეფისწყაროს მიდამოებში, მესხეთის ქედისა და მისი ჩრდილო განშტოების დიდი ლობოროთის შესაყართან, მდინარეების, სუფსისა და წაბლარისწყლის სათავეებთან. ცნობილი მკვლევრების, ლ. კემულარია-ნათაძე, შ. ქუთათელაძის მიერ იმერეთის ფლორა საფუძვლიანად იყო შესწავლილი. თუმცა იმერეთის სამხრეთ ნაწილში, კერძოდ, მესხეთის ქედზე აღვრიცხეთ მცენარეები, რომლებიც, “საქართველოს ფლორაში” იმერეთისთვის აქამდე არ იყო მითითებული. აღვრიცხულია რეგიონისთვის ახალი 21 სახეობა 21 გვარიდან და 16 ოჯახიდან, აქედან, 3 სახეობა უკარბონატო ნიადაგების ენდემია: *Astrantia trifida* Hoff. (Umbelliferae), *Helichrysum polyphyllum* Ledeb. (Asteraceae), *Delphinium thamarae* Kem.-Nath. (Helleboraceae).

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