

## ***Campanula tridentata* subsp. *ruprechtii*, a new combination and rank for *C. ruprechtii* (Campanulaceae)**

### ***Campanula tridentata* subsp. *ruprechtii* — новая комбинация и ранг для *C. ruprechtii* (Campanulaceae)**

М. Е. Оганесян

A. L. Takhtajan Institute of Botany of the National Academy of Sciences of the Republic of Armenia  
Department of Taxonomy and Geography of Higher Plants  
Acharyan Str., 1, Yerevan, 0040, Republic of Armenia  
oganesianm@yahoo.com

М. Э. Оганесян

Институт ботаники им. А. Л. Тахтаджяна НАН Республики Армения  
Отдел систематики и географии высших растений  
ул. Ачаряна, 1, Ереван, 0040, Республика Армения  
oganesianm@yahoo.com

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**Abstract.** A new combination in the rank of subspecies, *Campanula tridentata* Schreb. subsp. *ruprechtii* (Boiss.) Ogan., distributed in Armenia, Nakhchivan Republic and Iran is published. The lectotype of the name is designated.

**Keywords:** *Campanula*, new subspecies, new combination, Southern Transcaucasia, Iran.

**Аннотация.** Обнародована новая комбинация в ранге подвида, *Campanula tridentata* Schreb. subsp. *ruprechtii* (Boiss.) Ogan. Подвид распространен в Армении, Нахичеванской Республике и Иране. Обозначен лектотип названия.

**Ключевые слова:** *Campanula*, новый подвид, новая комбинация, Южное Закавказье, Иран.

*Campanula ruprechtii* Boiss. was originally described by F. J. Ruprecht under the name *C. gilanica* Rupr. in a note to the species *C. hygrophila* Rupr.: “ex albis gilanicis m. Julio flor., a Gmelino aut Hablitzl pro *C. tridentata* L. habitam” (Ruprecht, 1867: 210). Since the name was similar to *C. ghilanensis* Roem. et Schult., E. Boissier (1875: 905) renamed it *C. ruprechtii*, giving a good description, in particular: “foliis pubescentibus”, “corolla glabra”, “affinis *C. saxifraga*”, placing it between *C. ledebourii* Trautv. and *C. aucheri* A. DC. Though *C. gilanica* and *C. ghilanensis* are not true homonyms, but just the words so similar that they are likely to be confused, they have to be treated as homonyms due to established practice (Turland et al., 2018: Art. 53.2).

For the Caucasus, the name *C. ruprechtii* was first cited by A. A. Grossheim (1933: 57): “Армения, Даралагез, близ сел. Алагез, на альпийских пастбищах. Цв. 15-VIII-31. Собр. И. Карягин! [Armenia, Daralagez, near the village Alagez, in alpine pastures. Fl. 15 VIII [19]31. Coll. I. Karjagin!], without specifying the location of the specimen. It was not found in Herbaria ERE, LE, TBI, TGM; probably it is in BAK. Obviously, the same specimen is referred to by him in “Flora Kavkaz” (Grossheim, 1934: 72) and “Определитель растений Kavkaza” (Grossheim, 1949: 422). In LE, there is a specimen with the same label, but collected on June 25, 1931.

On the other hand, as early as in 1905, A. V. Fomin already distinguished the plants with densely pubescent upper side of leaf blades within *C. tridentata* Schreb. var. *gracilis* Fomin from Armenia: “Листья у var. *gracilis* m. вдвое уже, чем у типичной формы, причем верхняя сторона пластинки бывает густо опушена. Это опушение особенно характерно у экземпляров из южной части русской Армении и Малой Азии [the leaves of var. *gracilis* m. are twice narrower than in the typical form, and the upper side of the blade can be densely pubescent. This pubescence is especially characteristic of the specimens from the southern part of Russian Armenia and Asia Minor]” (Fomin, 1903–1907<sup>1</sup>: 52). He did not, however, give any name to the form with densely pubescent leaves.

Ан. А. Федоров (1957: 267) placed *C. ruprechtii* together with *C. saxifraga* M. Bieb. in series *Saxifragiformes* Fed. (nom. inval., descr. ross.) with a Russian description of the series reading, in particular, as follows: “receptacle pubescent, corolla glabrous”. In the description of the species, the receptacle was not mentioned. The name of the series was validated by A. Charadze

<sup>1</sup> The 6<sup>th</sup> fascicle of the 4<sup>th</sup> part of “Flora caucasica critica” (Fomin, 1903–1907) was published in separate signatures during five years. The signature 4 containing the comment on *C. tridentata* var. *gracilis* was issued in 1905.

(1976: 53), but in the Latin description she specified: “receptaculum pilosum, corolla pubescens”. Fedorov (1957: 268) indicated the range of the species: “Within the USSR, it is known so far only in the mountains of Salvarty, Yaglu, Ak-Yurt, Kaputdzhikh in the Zangezur Range and in the mountains above the village Alagez in Daralagez, also found on Mount Kyapaz in the Ganja Range”.

Later on, I classified *C. ruprechtii* as a synonym of *C. saxifraga* M. Bieb. subsp. *aucheri* (A. DC.) Ogan. (Oganessian, 1993: 149; 1994: 102; 1995a: 295; 1995b: 50; 2008: 154), and V. P. Victorov (2001: 118; 2002: 223–224) as a synonym of *C. bellidifolia* Adams subsp. *aucheri* (A. DC.) Victorov.

K. H. Rechinger and H. Schiman-Czeika (1965: 7, 28) accepted *C. ruprechtii* as a separate species, distinguishing it from *C. aucheri* A. DC. by glabrous (vs. pubescent) corolla and entire or denticulate at the apex (vs. crenate or dentate in upper half) basal leaves, referring to Fedorov, without seeing the type of *C. ruprechtii*. This viewpoint was adopted by F. Aghabeigi and M. Assadi (2008: 377, 383), who probably did not see the type either.

Aghabeigi again reported *C. aucheri* (Aghabeigi, 2010: 37) with a pubescent corolla and *C. ruprechtii* (Aghabeigi, 2010: 39) with a glabrous corolla. Distribution of the latter in Iran was specified as follows: N and NW (Mazandaran, Gilan, E Azerbaijan and Ardabil). Maps were also provided (Aghabeigi, 2010: 113) for both *C. ruprechtii* and *C. aucheri*.

My previous erroneous treatment of *C. ruprechtii* as a synonym of *C. saxifraga* subsp. *aucheri* (Oganessian, 1993: 149; 1995a: 295; 1995b: 50; 2008: 154) was mainly based on Fedorov's (1957) placing *C. ruprechtii* in the series *Saxifragiformes* with pubescent receptacles. The type of *C. ruprechtii* was studied by me in the late 1970s, but naturally was not dissected to examine the receptacle. An untypical shape of the leaves more characteristic of *C. saxifraga* subsp. *aucheri* also played a part. At the same time, I attributed the specimens from the Zangezur Ridge identified by Fedorov as *C. ruprechtii* to *C. tridentata* subsp. *tridentata*, since in the same population there were specimens with both pubescent and glabrous leaf surface, and pubescence could vary even within one specimen.

In recent years, in addition to new literature on Iran (Aghabeigi, Assadi, 2008; Aghabeigi, 2010), I studied some Iranian material, as well as new material from Armenia. All this, together with re-examination of the scanned type of *C. ruprechtii*, allowed me to confirm the correctness of Fedorov, who recorded this taxon for Southern Transcaucasia. At the same time, the variability of leaf pubescence both on one plant and in the

population in Zangezur region speaks in favor of the subspecific rank of this taxon within the species *C. tridentata*.

To test this assumption, material from Armenia and Iran was provided to Nana Silakadze for molecular study at the Botanischer Garten und Botanisches Museum Berlin-Dahlem. The results of study of the specimens from Armenia (ERE № 182051) and Iran (ERE № 82162) (Silakadze et al., 2019: 700, 708) also support the subspecific rank of *C. ruprechtii* within the species *C. tridentata*.

Although forms with pubescent leaves are found sporadically throughout the range of *C. tridentata* subsp. *tridentata* (in particular, often in the Arpi Lake basin in Armenia), they are clearly concentrated in the Zangezur Ridge in the Southern Transcaucasia and in Northern and Northwestern Iran. Rarely these specimens also have calyx tube, teeth and appendages pubescent on surface. The combination of several varying characters with a certain area gives the basis for publishing a new combination in the rank of subspecies.

**Campanula tridentata** Schreb. subsp. **ruprechtii** (Boiss.) Ogan., comb. et stat. nov.

≡ *Campanula ruprechtii* Boiss. 1875, Fl. Or. 3: 905; Grossh. 1933, Trudy Azerbajdzansk. Otd. Zakavkazsk. Fil. Akad. Nauk SSSR, Sect. Bot.: 57; id. 1934, Fl. Kavkaza, 4: 72; Fed. 1957, Fl. URSS, 24: 267; Rech. f. a. Schiman-Czeika, 1965, Fl. Iranica, 13: 28; Aghabeigi a. Assadi, 2008, Edinburgh J. Bot. 65, 3: 377; Aghabeigi, 2010, Fl. Iran, 66: 39. ≡ *C. gilanica* Rupr. 1867, Bull. Acad. Imp. Sci. Saint-Petersbourg, sér. 3, 11, 2: 210, non *C. ghilanensis* Roem. et Schult. 1819.

— *C. tridentata* Schreb. subsp. *tridentata* auct., p. min. p., excl. typo: Ogan. 1993, Bot. Zhurn. 78, 3: 149; id. 1995, Candollea, 50: 298; id. 1995, Fl. Armen. 9: 48; id. 2008, Caucas. Fl. Consp. 3, 1: 156.

— *C. saxifraga* subsp. *aucheri* auct., p. min. p., excl. typo: Ogan. 1993, Bot. Zhurn. 78, 3: 149; id. 1995, Candollea, 50: 295; id. 1995, Fl. Armen. 9: 50; id. 2008, Caucas. Fl. Consp. 3, 1: 154.

**Lectotype** (designated here): “[manu Hablitzii:] *Campanula tridentata* L. In alpinibus gilanicis. M. Julio floret”, “[manu Ruprechtii:] *C. Gilanica* Rupr. proxima *C. Kryophilae*”, “[manu Ruprechtii:] *C. gilanica* var. *obovata*; *C. Hablitzii* R. ([illegible] sp?) fol. basilarib. omnibus obovato spatulatis... [descr.] In alpinibus gilanicis, flor. Julio (Gmelin jun. et Hablitzl sub n. *C. tridentata* L.)” (LE: [LE 01190352!](#)). — Fig.

The herbarium sheet under consideration contains two gatherings. The three lower plants (LE 01190352) belong to the type variety of *C. gilanica*, although the label with the name and diagnosis of *C. gilanica* Rupr. var. *obovata*

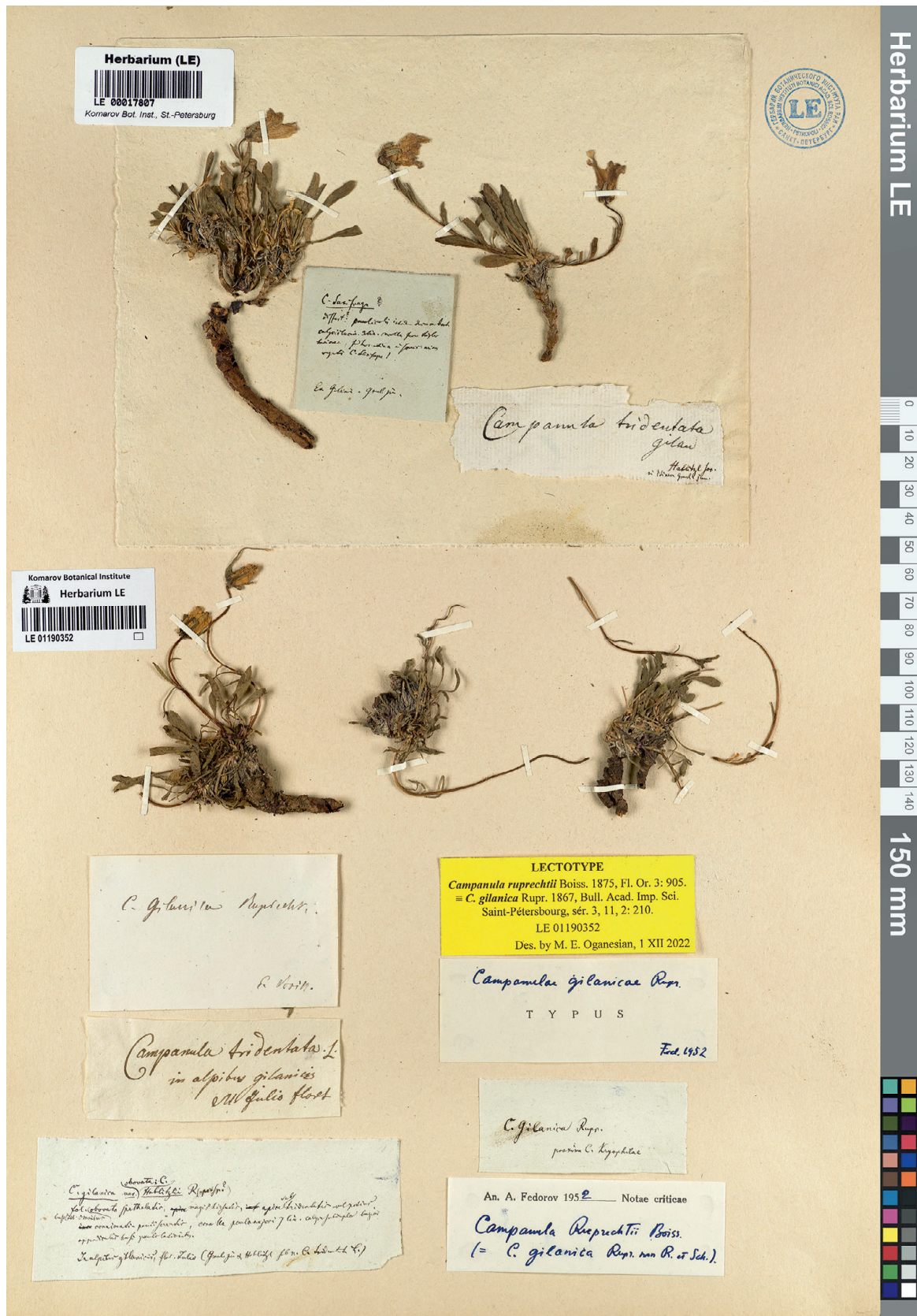


Fig. Lectotype of *Campanula ruprechtii* Boiss. (LE 01190352; <http://rr.herbariumle.ru/01190352>).

Rupr. is mounted with them. Because of the lanceolate leaves attenuated into long petioles, they cannot be attributed to var. *obovata*. The ratio of calyx to corolla ( $\frac{1}{3}$  in var. *gilanica*,  $\frac{1}{2}$  in var. *obovata*) cannot be verified on poorly dried two flowers. Var. *obovata*, judging by its diagnosis: “foliis basilaribus omnibus obovato-spathulatis, magis hirsutis, apice subtridentatis vel potius conniventi-pauciser-ratis; corolla paulo major 7 lin., calyce subduplo longior, appendiculis basi paulo latioribus” (Ruprecht, 1867: 210), is closer to typical *C. tridentata* in the shape of leaves and calyx appendages. Ruprecht mentioned four specimens of his species in the protologue. It is possible that the fourth (now missing) specimen belonged to var. *obovata*. Special searches of var. *obovata* in LE yielded no result.

The upper two plants (LE 00017807) were once mounted separately and, judging by their label, Ruprecht attributed them to *C. saxifraga*, and mentioned them in the same publication (Ruprecht, 1867: 210) just above the description of *C. gilanica*. They are not part of the original material, although they also belong to *C. gilanica*.

#### Key to *Campanula* subgen. *Scapiflorae* taxa of Southern Transcaucasia and Iran

1. Whole plant, including corolla and receptacle, shortly evenly greyish pubescent. Calyx teeth at fruit reflexed ..... *C. saxifraga* subsp. *aucheri*.
- + Corolla and receptacle glabrous. Calyx teeth appressed to fruit. Calyx tube and teeth at the base blackish. Leaves, calyx teeth and appendages ciliate or pilose at margins ..... *C. tridentata* ... 2.
2. Leaves glabrous at surfaces ..... subsp. *tridentata*.
- + Leaves pilose at least at upper surface .... subsp. *ruprechtii*.

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#### Appendix

Examined specimens of *Campanula tridentata* subsp. *ruprechtii*. [https://www.binran.ru/files/journals/Novitates/2022\\_53/NSPV-53\\_12-Oganessian-Appendix.pdf](https://www.binran.ru/files/journals/Novitates/2022_53/NSPV-53_12-Oganessian-Appendix.pdf)

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