



Syntaxonomic notes on validation, description and corrections of syntaxa names for *Pinus brutia* var. *pityusa* forests from the western Caucasus

Nikolai B. Ermakov^{1,2,3*} & Elena V. Ermakova¹

Nikolai B. Ermakov^{1,2,3*}
e-mail: brunnera@mail.ru

Elena V. Ermakova¹
e-mail: shadrina-vector@yandex.ru

¹ Nikitsky Botanical Garden – National Scientific Center RAS, Nikita, Yalta, Crimea Republic, Russia

² Maykop State Technological University, Maykop, Adygeya Republic, Russia

³ Khakas State University, Abakan, Khakassia Republic, Russia

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ABSTRACT

Validation and corrections of syntaxa of the sub-Mediterranean pine (*Pinus brutia* var. *pityusa* (Steven) Silba) forests of the Western Caucasus in the Braun-Blanquet system was carried out in accordance with the latest 4th edition of the International Code of Phytosociological Nomenclature. These are the alliance *Campanulo longistylae*–*Pinion brutiae* Litvinskaya et Postarnak ex Ermakov et Ermakova **all. nov.** and associations *Epimedio colchici*–*Pinetum brutiae* Litvinskaya et Postarnak 2002 **nom. corr.**; *Campanulo longistylae*–*Pinetum brutiae* Litvinskaya et Postarnak 2002 **nom. corr.**; *Ass. Trachystemo orientalis*–*Quercetum petraea* Litvinskaya et Postarnak 2002 **nom. corr.** The diagnostic species, peculiarities of ecology and geographical area are indicated. Prodrum of the validated alliance *Campanulo longistylae*–*Pinion brutiae* is represented.

Keywords: vegetation classification, light-coniferous forests, syntaxonomic correction, phytosociology, Braun-Blanquet, Euxine province

РЕЗЮМЕ

Ермаков Н.Б., Ермакова Е.В. Синтаксономические заметки по валидации, характеристике и коррекции названий синтаксонов сосновых (*Pinus brutia* var. *pityusa*) лесов из Западного Кавказа. Валидация и коррекция названий синтаксонов лесов из субсредиземноморской сосны (*Pinus brutia* var. *pityusa* (Steven) Silba) Западного Кавказа в системе Браун-Бланке было проведено в соответствии с последним 4-м изданием Международного кодекса фитоценологической номенклатуры. Это союз *Campanulo longistylae*–*Pinion brutiae* Litvinskaya et Postarnak ex Ermakov et Ermakova **all. nov.** и ассоциации *Epimedio colchici*–*Pinetum brutiae* Litvinskaya et Postarnak 2002 **nom. corr.**, *Campanulo longistylae*–*Pinetum brutiae* Litvinskaya et Postarnak 2002, **nom. corr.**, *Trachystemo orientalis*–*Quercetum petraea* Litvinskaya et Postarnak 2002 **nom. corr.** Для валидированного союза *Campanulo longistylae*–*Pinion brutiae* приведены диагностические виды, особенности экологии и географический ареал, представлен продромус единиц.

Ключевые слова: классификация растительности, светохвойные леса, синтаксономическая коррекция, фитоценология, Браун-Бланке, Эвксинская провинция

This contribution is part of a series of syntaxonomic notes accompanying the elaboration of a special program "Russian Vegetation Classification" (Plugatar et al. 2020). This work is based on the Braun-Blanquet approach (Westhoff & Maarel 1978) and classification systems developed for vegetation types in Europe (Mucina et al. 2016) and Northern Eurasia (Korotkov et al. 1991, Mirkin & Naumova 1998, Ermakov 2003). During the preparation of the checklist of plant communities, it became apparent that for several syntaxa no valid or legitimate names according to the International Code of Phytosociological Nomenclature (Theurillat et al. 2020, ICPN hereafter) were available. One of them is the alliance *Campanulo longistylae*–*Pinion pityusae* Litvinskaya et Postarnak 2002 representing the sub-Mediterranean thermophilous light coniferous (*Pinus brutia* var. *pityusa* (Steven) Silba) forests from the Western Caucasus. Litvinskaya & Postarnak (2002) described invalidly this alliance and gave illegitimate names for three associations. Subsequently, Mucina et al. (2016) made an unsuccessful attempt to validate them in violation of the ICPN.

Pine (*Pinus brutia* var. *pityusa*) forests of the Western Caucasus occurring in isolation from the main range in the Mediterranean are characterized by peculiar floristic compositions and there is still no consensus among researchers about their position in the hierarchy of vegetation classification system.

The purpose of the work is to validate and correct the names of the alliance and associations of pine (*Pinus brutia* var. *pityusa*) forests from the Western Caucasus, and to represent the opinions on their classification.

The materials from publications where the previously described alliance name 'Campanulo longistylae–Pinion pityusa' and subordinated units were used for the nomenclatural analysis. Checking the correctness of the syntaxa names and their validation was carried out in accordance with the 4th edition of the International Code of Phytosociological Nomenclature (ICPN) (Theurillat et al. 2020). We followed Czerepanov (1995) in vascular plants taxonomy.

Validation of the name

Campanulo longistylae–Pinion brutiae Litvinskaya et Postarnak ex Ermakov et Ermakova **all. nov.** hoc loco – sub-Mediterranean pine (*Pinus brutia* var. *pityusa*) forests on calcareous substrates of the Western Caucasus, **holotypus** hoc loco – Epimedio colchici–Pinetum brutiae Litvinskaya et Postarnak 2002 nom. corr. **Diagnostic species of the alliance:** *Pinus brutia* var. *pityusa*, *Campanula longistyla*, *Epimedium colchicum*, *Hedera colchica*, *Quercus petraea* var. *iberica*, *Seseli rupicola*, *Veronica caucasica*, *Rhus coriaria*, *Trachystemon orientalis*, *Serratula quinquefolia*. **Syn.:** Campanulo longistylae–Pinion pityusae Litvinskaya et Postarnak 2002 nom. inval. [Art. 5a]; ICPN, Campanulo sibiricae–Pinion brutiae Litvinskaya et Postarnak ex Mucina in Mucina et al. 2016 nom. inval. [Art. 5a, ICPN].

Corrections of the syntaxa names

Pinus pityusa Steven 1838 is synonym with *Pinus brutia* Ten. 1811 (*P. brutia* var. *pityusa* (Steven) Silba 1985). Correction of the syntaxon name using *Campanula sibirica* instead *C. longistyla* made by Mucina (Mucina et al. 2016) is not obvious, since the status of the latter species currently differs in different sources. *Campanula longistyla* Fomin 1904 is accepted name according to ‘Plants of the World Online’ (<https://powo.science.kew.org/>) and ‘World Plants’ (<https://www.worldplants.de/world-plants-complete-list/complete-plant-list>). However, it is synonym with *Campanula sibirica* L. 1753 according to ‘International Plant Names Index’ (IPNI 2023) <http://www.ipni.org> and ‘Euro+Med PlantBase’ (<https://euromedplus.med.org/>). Therefore, we accept the name *Campanula longistyla* as it was in original publication (Litvinskaya & Postarnak 2002).

Quercus iberica Steven ex M. Bieb. 1808 is synonym with *Quercus petraea* subsp. *iberica* (Steven ex M. Bieb.) Krassiln. 1968 according to all plant taxa databases mentioned above.

Originally, the alliance name ‘Campanulo longistylae–Pinion pityusae’ was described by Litvinskaya & Postarnak (2002). Three associations – Epimedio colchici–Pinetum pityusae Litvinskaya et Postarnak 2002, Campanulo longistylae–Pinetum pityusae Litvinskaya et Postarnak 2002 and Trachystemo orientalis–Quercetum ibericae Litvinskaya et Postarnak 2002 were included in this alliance. The Epimedio colchici–Pinetum pityusae has been selected as the ‘номенклатурный тип’ (= nomenclature type in Russian) of the Campanulo longistylae–Pinion pityusae however the authors failed to introduce the nomenclature type as ‘typus’ expressis verbis. It is therefore we validate the description of the Campanulo longistylae–Pinion brutiae Litvinskaya et Postarnak 2002 by re-assigning the association Epimedio colchici–Pinetum brutiae Litvinskaya et Postarnak 2002 as the **holotypus** (hoc loco) of the Campanulo longistylae–Pinion brutiae Litvinskaya et Postarnak ex Ermakov et Ermakova **all. nov.** hoc loco.

Previously, Mucina (Mucina et al. 2016) made an unsuccessful attempt to validate the alliance Campanulo sibiricae–Pinion brutiae Litvinskaya et Postarnak ex Mucina in Mucina et al. 2016 nom. inval. [art. 5a, ICPN] because he indicated an invalid association name Epimedio colchici–Pinetum pityusae Litvinskaya et Postarnak ex Mucina in Mucina et al. 2016 nom. inval [art. 5a, ICPN] as the holotype. In the same paper, Mucina et al. (2016) made an attempt to validate this association based on the fact that in the original publication (Litvinskaya & Postarnak 2002) only one relevé was given for the association Epimedio colchici–Pinetum pityusae Litvinskaya et Postarnak 2002, which was chosen as the nomenclature type (without specifying “Type”). However, Mucina over-interpreted Art. 5a of ICPN (Theurillat et al. 2020) since before 1 January 2021, when the original diagnosis contained only one single validly published element, the Latin word “typus” was not mandatory to designate the type. Therefore, all three associations (including Epimedio colchici–Pinetum pityusae) described in Litvinskaya & Postarnak (2002) are validly published.

Currently, the position of the alliance Campanulo longistylae–Pinion brutiae in the higher units system

remains uncertain. Mucina et al. (2016) included it in the order Quercetalia pubescenti–petraeae Klika 1933, class Quercetia pubescentis Doing-Kraft ex Scamoni et Passarge 1959. Bonari et al. (2021) proposed to consider this alliance in a special class of Mediterranean pine forests Pinetea halepensis Bonari et M. Chytrý in Bonari et al. 2021 (the order Pinetalia halepensis Biondi, Blasi, Galdenzi, Pesaresi et Vagge in Biondi et al. 2014). We accept the first concept of Mucina et al. (2016) because Caucasian pine (*Pinus brutia* var. *pityusa*) forests enriched by moderately xeric sub-Mediterranean and Colchic elements which are characteristic species of the Quercetia pubescentis. Furthermore, the class Pinetea halepensis Bonari et M. Chytrý in Bonari et al. 2021 was not accepted by Nomenclature Commission (IAVS).

CONCLUSIONS

The scientific names of the alliance name ‘Campanulo longistylae–Pinion brutiae’ and the three associations included in it were validated and corrected according the ICPN (Theurillat et al. 2020). Syntaxonomic position of this alliance in the classification system is still not clear. At present, we adhere to the concept proposed by Mucina (Mucina et al. 2016), however a detailed analysis of this problem is expected in the future.

Class

Order

Alliance

Association

Quercetia pubescentis Doing-Kraft ex Scamoni et Passarge 1959

Quercetalia pubescenti–petraeae Klika 1933.

Campanulo longistylae–Pinion brutiae Litvinskaya et Postarnak ex Ermakov et Ermakova **all. nov.** (validated in this paper). **Syn.:** Campanulo longistylae–Pinion pityusae Litvinskaya et Postarnak 2002 **nom. inval.**, Campanulo sibiricae–Pinion brutiae Litvinskaya et Postarnak ex Mucina in Mucina et al. 2016 **nom. inval.**

Epimedio colchici–Pinetum brutiae Litvinskaya et Postarnak 2002 nom. corr. **Syn.:** Epimedio colchici–Pinetum pityusae Litvinskaya et Postarnak 2002 nom. inapt. (Art. 44, Example 3, ICPN)

Campanulo longistylae–Pinetum brutiae Litvinskaya et Postarnak 2002 nom. corr. **Syn.:** Campanulo longistylae–Pinetum pityusae Litvinskaya et Postarnak 2002 nom. inapt. (Art. 44, Example 3, ICPN)

Trachystemo orientalis–Quercetum petraeae Litvinskaya et Postarnak 2002 nom. corr. **Syn.:** Trachystemo orientalis–Quercetum ibericae Litvinskaya et Postarnak 2002 nom. inapt. (Art. 44, Example 3, ICPN).

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