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(2511) Proposal to conserve the name *Triticum palaeocolchicum* against *T. karamyshevii* (Poaceae)

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- (2511) *Triticum palaeocolchicum* Menabde in Soobshch. Gruzinsk. Fil. Akad. Nauk S.S.S.R. 1: 686. 1940 (*palaeo-colchicum*) [*Angiosp.: Gram.*], nom. cons. prop.
 Typus: [icon in] Supatashvili in Vestn. Inst. Exp. Agron. Gruzii 1: 92–93, t. 2, fig. 1, 2, 3. 1929.
 (⇒) *Triticum karamyshevii* Nevski in Sovetsk. Bot. 6: 127. 1935, nom. rej. prop.

The name *Triticum karamyshevii* Nevski did not occur in works by triticultivists from 1935, the time of its publication by Nevski (l.c. 1935), until 1979 when Dorofeev & al. (in Dorofeev & Korovina, Kult. Fl. SSSR, ed. 2, 1: 69–73. 1979) adopted the name. *Triticum*

karamyshevii Nevski is validly published as a replacement name for *T. dicoccum* var. *chvamlicum* Supat. (in Vestn. Inst. Exp. Agron. Gruzii 1: 83–98. 1929). In publishing *T. dicoccum* var. *chvamlicum* Supatashvili (l.c.) gave a detailed morphological description in three languages: Georgian (l.c.: 92–94), Russian (l.c.: 95–96), and English (l.c.: 97–98), and included a figure (l.c.: t. 2, fig. 1, 2, 3). In the absence of any surviving specimens, **we designate here the illustration in Vestn. Inst. Exp. Agron. Gruzii 1: t. 2, fig. 1, 2, 3. 1929 as lectotype of *T. dicoccum* var. *chvamlicum*** (Art. 8.1 of the ICN, McNeill & al. in Regnum Veg. 154. 2012).

Nevski (l.c. 1935) stated that it was indisputable that “*T. dicoccum* var. *chvamlicum* Supat. (= *T. dicoccum* grex *georgicum* Dekapr. et Menabde)” represented a distinct species and proposed the name

T. karamyshevii for it; as noted, the replaced name was published by Supatashvili (l.c.) and the synonym, the “grex” name, by Dekaprevich & Menabde (in Trudy Prikl. Bot., ser. 5, Zernov. Kul’t. 1: 3–46. 1932). Nevski (l.c. 1935) cited Supatashvili (l.c.) indirectly in publishing his replacement name as “*Triticum Karamyshevii* Nevski sp. n. (= *Triticum dicoccum* var. *chvamlicum* Supat. ex Dekapr. et Menabde in Bull. of appl. Bot., of Genet and Plant Breed., Series V, 1 (1932) 1933 p. 13 f. 1)”.

In 1934 Nevski had published the account of the genus *Triticum* (Nevski in Komarov, Fl. SSSR 2: 675–688. 1934) but he included neither *T. dicoccum* var. *chvamlicum*, nor *T. dicoccum* grex *georgicum* among his accepted names and synonyms. Nevski (l.c. 1935), in reply to an unpublished critical letter from Flaksberger, on why he had not mentioned this taxon in his Flora account, wrote that the description of *T. dicoccum* var. *chvamlicum* was published by Supatashvili (l.c.) in Georgian (in fact it was also published in Russian [l.c.: 96] and English [l.c.: 98]) and only in 1933 had he [Nevski] seen a detailed Russian description in the article “Hulled wheats of West Georgia” by Dekaprevich & Menabde (l.c.), by which time it was too late to include the taxon in the Flora. On the basis of morphological features and geographical distribution (only West Georgia) of the variety (“разновидность”) “*chvamlicum*”, Dekaprevich & Menabde (l.c.: 14) indicated that it was a morphologically and geographically well isolated taxon that supported its recognition as a new infraspecific taxon, *T. dicoccum* grex *georgicum* Dekapr. & Menabde (l.c.: 12–14); as no other material was discussed in the account of the new “grex”, the name is necessarily typified by the type of *T. dicoccum* var. *chvamlicum*.

No Latin description is provided by Nevski and so valid publication must be as a replacement name. Nevski (l.c. 1935) cited “p. 13, fig. 1 [in fact the photo is on p. 12, not on p. 13]” as an illustration of *T. dicoccum* var. *chvamlicum*. As the replaced synonym Nevski (l.c. 1935) indicated the author of *T. dicoccum* var. *chvamlicum* as Supat. ex Dekapr. & Menabde, but when “ex” is a component of an author citation, it indicates that the author before the “ex” (i.e., Supat. [Supatashvili]) did not validly publish the name, but that it was subsequently validly published by the authorship following the “ex” (Art. 46.5), in this case by Dekaprevich & Menabde. However, the name was validly published by Supatashvili (l.c.) in compliance with all the relevant rules of *ICN*, and so *T. karamyshevii* is necessarily typified by the type of *T. dicoccum* var. *chvamlicum* Supat. (Art. 7.4 of the *ICN*).

In 1940 Menabde (l.c.) published the new species name *T. palaeocolchicum* Menabde. Although a detailed Latin description was provided, Menabde (l.c.) explicitly published this as a replacement name (“nomen novum”) for *T. dicoccum* subsp. *georgicum* (Dekapr. & Menabde) Flaksb. (in Wulff, Kult. Fl. SSSR 1: 301. 1935). The epithet *palaeocolchicum* was adopted as carbonized seeds of the taxon were found at an archaeological site of the Neolithic Period at the Colchic (“Kolkhis”) area in West Georgia. Within *T. palaeocolchicum* Menabde distinguished two infraspecific taxa: *T. palaeocolchicum* var. *chvamlicum* (Supat.) Menabde and *T. palaeocolchicum* var. *rubidium* Menabde; brief Latin descriptions are provided for the two varieties, distinguishing var. *rubidium* by its reddish spikes.

Because *T. karamyshevii* is validly published as a replacement name for *T. dicoccum* var. *chvamlicum*, the later *T. palaeocolchicum* is nomenclaturally superfluous and illegitimate as it included that variety in its circumscription (*ICN* Art. 52.1, 52.2(d)). However, as Menabde explicitly published his name as a replacement for *T. dicoccum* subsp. *georgicum*, it is to be typified by the type of that name, which being that of *T. dicoccum* var. *chvamlicum* (see above) happens to be the same as that of *T. karamyshevii*. The name *T. karamyshevii*

was never used as an accepted name either in Georgia, where the plant is endemic, or in most parts of the world, including Russia, up to 1979 when the account of Wheat (Пшеница) in the second edition of *Культурная Флора СССР* was published (Dorofeev & al., l.c.: 69). This name was not adopted by any Russian wheat monographers (e.g., Flaksberger, l.c.: 293, 301–302; Vavilov, Mirovye Resursy 2. Pshenitsa: 26–27. 1964; Dorofeev in Trudy Prikl. Bot. 39(3): 98–99. 1969; 47(1): 48. 1972) from the time of its publication by Nevski in 1935, up to 1979. After 1979 the name *T. karamyshevii* started to appear in the scientific literature (e.g., Golovnina & al. in Pl. Syst. Evol. 264: 195–216. 2007; Goncharov & al. in Breed. Sci. 59: 492–498. 2009; Goncharov, Sravnitelnaia Genetika Pshenits, ed. 2. 2012; Badaeva & al. in PLoS ONE 10 (5): e0128556. 2015; Konopatskaia & al. in B. M. C. Pl. Biol. 16: 93–106. 2016).

Dorofeev & al. (l.c.: 72) emphasized (our translation) that “... species *T. karamyshevii* was first adopted by Supatashvili (1929) as a variety (var. *chvamlicum* Supat.) of the species *T. dicoccum*; later Dekaprevich & Menabde (1932) distinguished it as a special section grex *georgicum* within the same species (*T. dicoccum*); Flaksberger (1935) considered this group (grex *georgicum*) in the rank of subspecies [as *T. dicoccum* subsp. *georgicum* (Dekapr. & Menabde) Flaksb.]. The first who recognized this wheat at the species level was Nevski (1935). Before 1940 Colchic emmer appeared in the literature as *T. dicoccum* subsp. *georgicum* (Dekapr. & Menabde) Flaksb. (Flaksberger, 1935; Vavilov, 1964; Dorofeev, 1969). In 1940 Menabde raised Colchic emmer to the rank of species as *T. palaeocolchicum* (synonym of *T. karamyshevii*).” The species name for Colchic emmer *T. palaeocolchicum* (although after 1976 in many cases mis-spelled “*T. paleocolchicum*”) first adopted by Tzvelev, Zlaki SSSR: 165. 1976) was used continuously from the publication of this name by Menabde in 1940 until 1979 but even to the present time the name has continued to be used by some triticologists (e.g., Slageren in Wageningen Agric. Univ. Pap. 94-7: 91–92. 1994; Mori & al. in Genes Genet. Systems 72: 153–161. 1997; Gill & al. in Israel J. Pl. Sci. 55: 223–229. 2007; Matsuoka in Pl. Cell Physiol. 52: 750–764. 2011; Gornicki & al. in New Phytol. 204: 704–714. 2014; Shewry & Hey in J. Cereal Sci. 65: 236–243. 2015).

As Goncharov (in Pl. Syst. Evol. 295: 1–11. 2011) noted: “The taxonomy of many cultivated plants is controversial. This is causing confusion within the global wheat research community because Western scientists, for the most part, follow treatments based on MacKey’s [in Biol. Zentralbl. 107: 369–379. 1988] classification, whereas Eastern [i.e., Russian] scientists, again with some exceptions, follow treatments based on the treatment by Dorofeev & al. (1979).”

The problem is that different names are assigned to the seed samples of this species in various genebanks; e.g., seed samples of this species are stored under the name of *Triticum turgidum* subsp. *palaeocolchicum* Á. Löve & D. Löve at the USDA-ARS, the world’s largest agricultural research complex. In contrast, the name *T. karamyshevii* is used at the Vavilov Institute of Plant Industry (St. Petersburg, Russia), which maintains the largest collection of Transcaucasian wheat seeds. Also, in IPNI at the specific rank the taxon is only given as “*T. palaeo-colchicum*” Menabde with its original hyphenated spelling (to be corrected to “*palaeocolchicum*”, under Art. 60.9), while *T. karamyshevii* is not listed at all. Slageren (l.c.) adopted the spelling “*T. turgidum* subsp. *paleocolchicum*” as used by Tzvelev (l.c.) at species rank. This spelling is used more frequently in recent scientific papers compared to the original one. However, we propose to conserve the name with the original spelling of the epithet, which is also currently used at the USDA-ARS.

Triticum palaeocolchicum is one of the key species in the evolution of the genus *Triticum* and it is widely used in molecular systematics and plant breeding. Scientists who work in wheat DNA research obtain seeds of this species mostly from the Vavilov Institute of Plant Industry. Therefore, in the scientific papers on DNA studies the name *T. karamyshevii* has begun to appear more often in the recent period, especially in the last 3–4 years.

For taxonomic stability and a better monitoring of the numerous accessions in gene banks, every taxon must have only one validly published name. “Each taxonomic group with a particular circumscription, position and rank can bear only one correct name, the earliest that is in accordance with the Rules, except in specified cases (*ICN* principle IV).”

Thus, although *T. karamyshevii* is a validly published replacement name at species rank for *T. dicoccum* var. *chvamlicum*, the latter

is a variety of *T. palaeocolchicum* (Menabde, l.c.: 686; Dorofeev & al., l.c.: 73). For this reason, and because the epithet “*palaeocolchicum*” has priority at subspecific rank, we consider that the name *T. palaeocolchicum* should be used as the conserved name for the Colchic emmer. It is desirable to encourage stability of nomenclature, and this proposal for conservation of *T. palaeocolchicum* would be a step in that direction. It is appropriate to conserve the scientific name *T. palaeocolchicum* Menabde against *T. karamyshevii* Nevski. The alternative would be to use the replacement name, the name “forgotten” for more than 40 years.

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