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RESEARCH ARTICLE

New nomenclatural combinations in *Cenchrus*, and two new names in *Cenchrus* and *Elymus* (*Poaceae*)

Ihor G. OLSHANSKYI *, Natalia M. SHIYAN, Svitlana I. ANTONENKO
M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine,
2 Tereshchenkivska Str., Kyiv 01601, Ukraine
* Author for correspondence: *olshansky1982@ukr.net*

Abstract. Three new combinations are proposed in two genera of *Poaceae* following the recent phylogenetic data: *Cenchrus beckeroides* (Leeke) Olshanskyi, comb. nov., *Cenchrus exiguus* (Mez) Olshanskyi, comb. nov., and *Cenchrus ledermannii* (Mez) Olshanskyi, comb. nov. Two replacement names are validated: *Cenchrus hochstetteri* Olshanskyi, nom. nov. (= *Pennisetum humile* Hochst. ex A. Rich), honoring Christian Ferdinand Friedrich Hochstetter, a German botanist, and *Elymus* ×*irynae* Olshanskyi, Shiyan & Antonenko, nom. nov. (= *Elymus* ×*karakabinicus* (Kotukhov) Olshanskyi, nom. illeg., ×*Elymotrigia altaica* Kotukhov), honoring Iryna Korotchenko, a Ukrainian botanist and conservationist.

Keywords: *Cenchrus*, ×*Elymotrigia*, *Elymus*, *Elytrigia*, hybrid, nothotaxon, *Pennisetum*, species

Introduction

The family *Poaceae* Barnhart includes ca. 780 genera and ca. 12 000 species (Christenhusz, Byng, 2016). The system of this family is now dynamically changing, especially in response to new molecular phylogenetic data, which is reflected, in particular, in new or updated circumscriptions of genera and nomenclature of many taxa. For example, species earlier placed in *Hierochloë* were transferred to *Anthoxanthum* L., and *Pennisetum* Rich. is now merged into *Cenchrus* L. (see Donadio et al., 2009; Chemisquy et al., 2010; Verloove, 2012; de Lange, James, 2024, etc.). Previously, we have already made several nomenclatural combinations in *Poaceae* and other families of monocots (Danylyk et al., 2017; Olshanskyi, 2023; Danylyk, Olshanskyi, 2024). Also, we propose here some new nomenclatural solutions for taxa worth to be accepted and placed in the proper genera. We found it necessary to make some of these nomenclature decisions partly thanks to *POWO* (2025–onwards). In this source, some names are listed as "nom. ined.", a practice used to discover synonyms and subsequently put them under the correct name (de Lange, James, 2024; Sandoval-Ortega, Zumaya-Mendoza, 2025, etc.).

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Nomenclature

***Cenchrus beckeroides* (Leeke) Olshanskyi, comb. nov.**

Basionym: *Pennisetum beckeroides* Leeke, Z. Naturwiss. 79: 30. 1907.

Type citation (Leeke, 1907): "Abessinien".

Type (Leeke, 1907; Phillips, 1995: 273, as "holo[type]"): FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA: "Debra Eski, *Schimper 38*" (**lectotype**, **designated here**): B100167866 [https://herbarium.bgbm.org/object/B100167866]; isolectotypes: G, K, P, S).

Note. Here and below, in formally designating the lectotype, we follow the advice of McNeill (2014: 1113).

***Cenchrus hochstetteri* Olshanskyi, nom. nov.**

Replaced synonym: *Pennisetum humile* Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 383. 1850.

Type citation (Richard, 1850): "in pratis prope Entchetkab, in provincia Semiene, mense Julio (*Schimper*)".

Type (Richard, 1850; Phillips, 1995: 269, as "holo[type]"): FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA: "Semien, Entchetkab [Enschedcap], *Schimper 1372*" (**lectotype**, **designated here**): P00442921 [https://plants.jstor.org/stable/10.5555/al.ap.specimen.p00442921]; isolectotypes: BR, G, GOET, HAL, K, KW, LG, M, MPU, P, REG, S, STU, TUB, US, W).

Etymology: The new name honors Christian Ferdinand Friedrich Hochstetter (1787–1860), a German botanist.

Notes. The new replacement name was necessary because of the already existing name *Cenchrus humilis* Hitchc. (Contr. U.S. Natl. Herb. 24: 488. 1927). During the preparation of this article, we discovered an additional original specimen (isolectotype) of *Pennisetum humile* Hochst. ex A. Rich. in the historical collection of Nikolai Turczaninow (KW-TURCZ), which is kept at the National Herbarium of Ukraine (KW001003700).

Pennisetum humile is listed at present in *Plants of the World Online* (https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:415067-1) as "*Cenchrus nanus* (Engl.) ined.", a provisional nomenclatural combination based on "*Pennisetum humile* var. *nanum* Engl., Hochgebirgsfl. Afrika: 123 (1892)". Since an epithet has priority only in its rank, we decided to provide a new name.

***Cenchrus exiguus* (Mez) Olshanskyi, comb. nov.**

Basionym: *Pennisetum exiguum* Mez, Bot. Jahrb. Syst. 57(2): 190. 1921.

Type citation (Mez, 1921): "Madagascar (*Loher*)".

Type: REPUBLIC OF MADAGASCAR: "[Madagascar] *Loher*" (**lectotype**, **designated here**, or perhaps holotype): B100167865 [https://herbarium.bgbm.org/object/B100167865]; isolectotypes: M).

***Cenchrus ledermannii* (Mez) Olshanskyi, comb. nov.**

Basionym: *Pennisetum ledermannii* Mez, Bot. Jahrb. Syst. 57(2): 191. 1921.

Type citation (Mez, 1921): "Kamerun (*Ledermann 2776*)".

Type: REPUBLIC OF CAMEROON: "Kamerun, Pass Tchäpe, 27 Febr 1909, *C. Ledermann 2776*" (**lectotype**, **designated here**, or perhaps holotype): B100167849 [https://herbarium.bgbm.org/object/B100167849]).

***Elymus* ×*irynae* Olshanskyi, Shiyan & Antonenko, nom. nov.**

Replaced synonym: ×*Elymotrigia karakabinica* Kotukhov, Bot. Zhurn. (Moscow & Leningrad) 75(12): 1755. 1990.

Type citation (Kotukhov, 1990): "Altaj Australis, jugum Tarbagataj, depressio Karakabinesis, 1700 m s. m., tumili herbosi morenici, prata graminosa sicca, 3 VIII 1985, *J. Kotuchov*".

Type (Kotukhov, 1990): REPUBLIC OF KAZAKHSTAN: "Altaj Australis, jugum Tarbagataj, depressio Karakabinesis, 1700 m s. m., tumili herbosi morenici, prata graminosa sicca, 3 VIII 1985, *J. Kotuchov* [Южн. Алтай, хр. Тарбагатай, Каракабинская впадина, 1700м над ур. м., задерненные моренные бугры, суходольные злаковые луга, 3 VIII 1985, Ю. Котухов]" (holotype: LE; isotype: AA).

Hybrid formula: *Elymus fedtschenkoi* Tzvelev × *Elymus repens* (L.) Gould. [in Kotukhov (1990): *Elymus fedtschenkoi* Tzvelev × *Elytrigia repens* (L.) Nevski s. l.].

Synonyms (Olshanskyi, 2023): *Elymus* ×*karakabinicus* (Kotukhov) Olshanskyi, Ukrayins'k. Bot. Zhurn. 80(2): 130 (2023), nom. illeg. (non *Elymus karakabinicus* Kotukhov, Bot. Zhurn. (Leningrad) 77(6): 89. 1992); ×*Elymotrigia altaica* Kotukhov, Turczaninowia 1(1): 16. 1998.

Etymology: The new name honors Iryna Korotchenko (1973–2022), a Ukrainian botanist and

conservationist. Iryna Korotchenko's scientific interests included biodiversity conservation, phytosociology, plant ecology, and geography (see Mosyakin et al., 2022).

Note: A nomenclatural combination in *Elymus* based on ×*Elymotrigia altaica* Kotukhov was impossible because of the pre-existing earlier name *Elymus altaicus* A. Spreng. (Tent. Suppl.: 5. 1828).

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ETHICS DECLARATION

The authors declare no conflict of interest.

ORCID

I.G. Olshanskyi https://orcid.org/0000-0002-8615-7054
N.M. Shiyan https://orcid.org/0000-0001-8144-5623
S.I. Antonenko https://orcid.org/0009-0009-0956-3372

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**Нові номенклатурні комбінації у роді *Cenchrus*,
а також дві нові назви у родах *Cenchrus* та *Elymus* (*Poaceae*)**

І.Г. ОЛЬШАНСЬКИЙ, Н.М. ШИЯН, С.І. АНТОНЕНКО
Інститут ботаніки ім. М.Г. Холодного НАН України,
вул. Терещенківська 2, Київ 01601, Україна

Реферат. Родина *Poaceae* включає близько 780 родів і 12 000 видів. Система цієї родини динамічно змінюється, особливо згідно результатів молекулярно-філогенетичних досліджень. Зокрема, види роду *Hierochloë* були переведені в рід *Anthoxanthum*, а види роду *Pennisetum* — у *Cenchrus*. Раніше ми зробили кілька номенклатурних комбінацій у родині *Poaceae* та деяких інших родинах однодольних рослин. У цій статті ми запропонували ще деякі номенклатурні рішення. Так, ми зробили три нові номенклатурні комбінації: *Cenchrus beckeroides* (Leeke) Olshanskyi, comb. nov., *Cenchrus exiguus* (Mez) Olshanskyi, comb. nov., *Cenchrus ledermannii* (Mez) Olshanskyi, comb. nov. Також, запропоновано дві замінні назви: *Cenchrus hochstetteri* Olshanskyi, nom. nov. (= *Pennisetum humile* Hochst. ex A. Rich.), на честь німецького ботаніка Християна Фердинанда Фрідріха Хохштеттера [Гохштеттера] і *Elymus* ×*irynae* Olshanskyi, Shiyan & Antonenko, nom. nov. (= *Elymus* ×*karakabinicus* (Kotukhov) Olshanskyi, nom. illeg., ×*Elymotrigia altaica* Kotukhov), на честь Ірини Коротченко, українського ботаніка та природоохоронця.

Ключові слова: *Cenchrus*, ×*Elymotrigia*, *Elymus*, *Elytrigia*, *Pennisetum*, вид, гібрид, нототаксон