

## NEW COMBINATIONS IN CAREX (CYPERACEAE)

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### ABSTRACT

Two new combinations are proposed for North American nothotaxa of *Carex* (Cyperaceae): *Carex ×flavicans* nothovar. *substans* (Lepage) Danylyk et Olshanskyi, **comb. et stat. nov.**, and *Carex ×halophila* nothovar. *stansalina* (Lepage) Danylyk et Olshanskyi, **comb. et stat. nov.**

The genus *Carex* L. (Cyperaceae) contains about 2000 species (Reznicek 1990; Global *Carex* Group 2015). Hybridization occurs relatively often in this genus (e.g., Cayouette & Catling 1992; Więsław & Wilhelm 2014; Elven et al. 2017; Nowak et al. 2020; Řepka & Taraška 2022; Danylyk & Koopman 2023; Olshanskyi 2023) and some of the names in current use for nothotaxa are not correct. Different views have been expressed on the taxonomy of this group and the status of some species (Benítez-Benítez et al. 2021).

According to Art. H.5.1. the *International Code of Nomenclature for algae, fungi, and plants*, (ICN, Turland et al. 2018), “If the postulated or known parent taxa are at unequal ranks, the appropriate rank of the nothotaxon is the lowest of these ranks.” At present *Carex stans* Drejer is considered a synonym of *C. aquatilis* var. *minor* Boott (Koopman 2022; POWO 2024). Therefore, hybrids with its participation must be considered at the rank of variety. We propose two new nomenclatural combinations.

Acronyms of herbaria are given according to *Index Herbariorum* (Thiers 2024). We also give the hybrid formula for hybrids. (According to Art. H.2.1. of the ICN “A hybrid between named taxa may be indicated by placing the multiplication sign × between the names of the taxa; the whole expression is then called a hybrid formula”).

### Two new combinations in *Carex*

#### CAREX ×FLAVICANS nothovar. SUBSTANS (Lepage) Danylyk et Olshanskyi, **comb. et stat. nov.**

*Carex ×substans* Lepage, Naturaliste Canad. 83: 152. 1956. **TYPE: CANADA.** Devon Island. Dundas Harbour, 7 Sep 1936, N. Polunin 2492 (holotype: CAN10089623). [<https://www.gbif.org/tools/zoom/simple.html?src=/api.gbif.org/v1/image/cache/occurrence/1804577086/media/7f5e29df94f5b54b8549c507622a9fea>].

**Hybrid formula.** *Carex aquatilis* var. *minor* Boott (syn.: *C. stans* Drejer) × *Carex subspathacea* Wormsk. ex Hornem. (Lepage 1956).

**Distribution.** Northern regions of Eurasia and North America (Lepage 1956; Cayouette & Catling 1992).

**CAREX ×HALOPHILA** nothovar. **STANSALINA** (Lepage) Danylyk et Olshanskyi, **comb. et stat. nov.**  
*Carex ×stansalina* Lepage, Naturaliste Canad. 83: 150. 1956. **TYPE: CANADA.**  
 Southampton Island, H.B. Co. Post, South Bay, 25 Aug 1934, *N. Polunin s.n.* (holotype: CAN25083).

**Hybrid formula.** *Carex aquatilis* var. *minor* Boott (syn.: *C. stans* Drejer) × *Carex salina* Wahlenb. (Lepage 1956).

**Distribution.** Northern North America (Canada) (Lepage 1956; Cayouette & Catling 1992).

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#### LITERATURE CITED

- Benítez-Benítez, C., S. Martín-Bravo, C.S. BJORÅ, S. Gebauer, A.L. Hipp, M.H. Hoffmann, M. Luceño, T.M. Pedersen, A. Reznicek, E. Roalson, P. Volkova, O. Yano, D. Spalink, and P. Jiménez-Mejías. 2021. Geographical vs. ecological diversification in *Carex* section *Phacocystis* (Cyperaceae): Patterns hidden behind a twisted taxonomy. *J. Syst. Evol.* 59: 642–667.
- Cayouette, J. and P.M. Catling. 1992. Hybridization in the genus *Carex* with special reference to North America. *Bot. Rev. (London)* 58: 351–438.
- Danylyk, I.M., and J. Koopman. 2023. Cyperaceae of Ukraine: Taxonomy and linear classification. *Phytotaxa* 578: 93–111.
- Elven, R., T.M. Pedersen, and C.S. Bjora. 2017. The nomenclature of two hybrid taxa in *Carex* sect. *Vesicariae* (Cyperaceae) currently assigned as *Carex rostrata* var. *borealis* and *Carex stenolepis*. *Phytotaxa* 324: 63–72.
- Global *Carex* Group. 2015. Making *Carex* monophyletic (Cyperaceae, tribe Cariceae): A new broader circumscription. *Bot. J. Linn. Soc.* 179: 1–213.
- Koopman, J. 2022. *Carex Europaea*. Vol. 1, ed. 3. Margraf Publishers, Weikersheim.
- Lepage, E. 1956. Études sur quelques plantes américaines IV. *Carex* hybrides. *Naturaliste Canad.* 83: 105–156.
- Nowak, M.D., A.T.M. Pedersen, A.K. Brysting, A. Schrøder-Nielsen, R. Elven, and C.S. Bjorå. 2020. Testing hypotheses of hybrid origins for two seashore species of *Carex* section *Phacocystis* (Cyperaceae). *Bot. J. Linn. Soc.* 194: 100–117.
- Olshanskyi, I. 2023. Hybrids of monocots in the flora of Ukraine: Preliminary synopsis. *Biosystems Diversity* 31: 420–427.
- POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. <<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:45753-2>> Accessed 1 Feb 2024.
- Řepka, R., and V. Taraška. 2022. *Carex ×gogelana* Podp.: Clarification of its identity and typification of the name. *Acta Musei Moraviae, Scientiae biologicae* 107(1-2): 49–54.
- Reznicek, A.A. 1990. Evolution in sedges (*Carex*, Cyperaceae). *Canad. J. Bot.* 68: 1409–1432.
- Thiers, B.M. 2023. Index Herbariorum. <<https://sweetgum.nybg.org/science/ih/>> Accessed 1 Feb 2024.
- Turland, N.J., J.H. Wiersema, F.R. Barrie, W. Greuter, D.L. Hawksworth, P.S. Herendeen, S. Knapp, W.-H. Kusber, D.-Z. Li, K. Marhold, T.W. May, J. McNeill, A.M. Monro, J. Prado, M.J. Price and G.F. Smith (eds.). 2018. International code of nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress, Shenzhen, China, July 2017. *Regnum Veg.* 159: 1–254.
- Więsław, H. and M. Wilhelm. 2014. Natural hybridization within the *Carex flava* complex (Cyperaceae) in Poland: Morphometric studies. *Ann. Bot. Fenn.* 51: 129–147.