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FILIP VERLOOVE[1]

# New combinations in *Cenchrus (Paniceae, Poaceae)* in Europe and the Mediterranean area

**Abstract**

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Recent molecular phylogenetic studies strongly recommend the amalgamation of the grass genera *Cenchrus* and *Pennisetum*. The generic name *Cenchrus* having priority, the species of *Pennisetum* need to be transferred to it. The correct names in *Cenchrus* for the 15 *Pennisetum* species in Europe and the Mediterranean area are provided, including four new combinations.

Additional key words: *Pennisetum,* taxonomy, nomenclature

The generic limits of *Cenchrus* and *Pennisetum (Paniceae, Poaceae)* have always been controversial. In its traditional sense the former is characterised by bristles subtending the spikelets that are fused well above the base while in the latter the bristles are free or only fused at their extreme bases. *Cenchrus ciliaris* L. was considered to be a transitional species: although originally described in *Cenchrus* it was a more or less anomalous species in this genus (bristles only fused at their extreme bases) and its placement in *Pennisetum* as *P. ciliare* (L.) Link was often suggested. This taxonomic view became widely accepted in the past years (see for instance Stieber & Wipff 2003).

Recent molecular phylogenetic studies shed new light on the relationships in *Cenchrus* and *Pennisetum*. Donadio & al. (2009) confirmed that *Cenchrus* and *Pennisetum* are very closely related and demonstrated that most species of *Cenchrus* are in fact nested in *Pennisetum*. At most a core group of a few American species, mainly with a basic chromosome number of $x$=17, could be retained in *Cenchrus* s.str. Chemisquy & al. (2010) confirmed these results and strongly recommend to merge both genera. The generic name *Cenchrus* having priority, all species of *Pennisetum* need to be transferred to *Cenchrus*.

Morrone (in Chemisquy & al. 2010) published new combinations in *Cenchrus* for most of the species and Symon (2010) made some additional name changes for a few Australian taxa.

In Europe and the Mediterranean area (Valdés & Scholz 2009+) 15 (accepted) taxa currently treated as members of *Pennisetum* are concerned. Their correct names in *Cenchrus* are provided in the following:

*Pennisetum alopecuroides* (L.) Spreng. = ***Cenchrus purpurascens*** Thunb.
Synonym: *Cenchrus compressus* (L.) Morrone
Status of occurrence: introduced in Armenia, Azerbaijan and Georgia.

*Pennisetum centrasiaticum* Tzvelev in Grubov, Rast. Tsentral. Azii 4: 30. 1968 ≡ ***Cenchrus centrasiaticus*** (Tzvelev) F. Verloove, **comb. nov.**
Status of occurrence: introduced in Germany.

*Pennisetum clandestinum* Hochst. ex Chiov. ≡ ***Cenchrus clandestinus*** (Hochst. ex Chiov.) Morrone
Status of occurrence: introduced in Algeria, Canary Islands, Cyprus, Greece, Israel, Madeira, Morocco and Spain.

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*Pennisetum divisum* (Forssk. ex J. F. Gmel.) Henrard = ***Cenchrus ramosissimus*** Poir.
Status of occurrence: native in Algeria, Egypt, Israel, Lebanon, Libya, Morocco, Sinai, Syria and Tunisia.

*Pennisetum elatum* Hochst. ex Steud., Syn. Pl. Glumac. 1: 106. 1854 ≡ ***Cenchrus elatus*** (Hochst. ex Steud.) F. Verloove, **comb. nov.**
Status of occurrence: native in Egypt, Libya, Sinai and Tunisia.

*Pennisetum glaucum* (L.) R. Br. = ***Cenchrus spicatus*** (L.) Cav.
Synonym: *Cenchrus americanus* (L.) Morrone
Status of occurrence: introduced / cultivated in Algeria, Israel, Libya and Morocco.

*Pennisetum macrourum* Trin. = ***Cenchrus caudatus*** (Schrad.) Kuntze
Synonym: *Cenchrus macrourus* (Trin.) Morrone
Status of occurrence: introduced in the Canary Islands (La Palma).

*Pennisetum orientale* Rich. ≡ ***Cenchrus orientalis*** (Rich.) Morrone
Status of occurrence: native in Egypt, Greece, Israel, Lebanon, Syria and Turkey.

*Pennisetum purpureum* Schumach. ≡ ***Cenchrus purpureus*** (Schumach.) Morrone
Status of occurrence: introduced in Algeria, the Canary Islands, Cyprus, Israel and Morocco.

*Pennisetum rogeri* Stapf & C. E. Hubbard in Bull. Misc. Inform. Kew 1933: 285. 1933 ≡ ***Cenchrus rogeri*** (Stapf & C. E. Hubbard) F. Verloove, **comb. nov.**
Status of occurrence: native in Algeria.

*Pennisetum setaceum* (Forssk.) Chiov. ≡ ***Cenchrus setaceus*** (Forssk.) Morrone
Synonyms: *Cenchrus asperifolius* Desf., nom illeg.; *Pennisetum tiberiadis* Boiss.
Note: The earlier binomial *Cenchrus asperifolius* of 1799, given as a synonym by Le Floc'h & Boulos (2008), is an illegitimate name. These authors furthermore cite in the synonymy the non-existing "*Cenchrus tiberiadis* Boiss." obviously as an error for *Pennisetum tiberiadis*.
Status of occurrence: native to Algeria, Israel, Lebanon, Libya, Morocco, Sinai, Syria and Tunisia; introduced in the Canary Islands, Sicilia and Spain.

*Pennisetum sieberianum* (Schltdl.) Stapf & C. E. Hubbard ≡ *Penicillaria sieberianum* Schltdl. in Linnaea 25: 565. 1853 ≡ ***Cenchrus sieberianus*** (Schltdl.) F. Verloove, **comb. nov.**
Status of occurrence: introduced in Egypt.

*Pennisetum thunbergii* Kunth = ***Cenchrus geniculatus*** Thunb.
Synonym: *Cenchrus thunbergii* (Kunth) Morrone
Status of occurrence: introduced in the Canary Islands (La Palma, Tenerife).

*Pennisetum villosum* R. Br. ex Fresen. = ***Cenchrus longisetus*** M. C. Johnst.
Synonymy: *Cenchrus villosus* (R. Br. ex Fresen.) Kuntze 1898, non (Spreng.) Spreng. 1824.
Status of occurrence: introduced in Algeria, the Balearic Islands, Canary Islands, Corse, Greece, Italy, Morocco, Sardegna and Spain.

*Pennisetum violaceum* (Lam.) Rich. ex Pers. ≡ ***Cenchrus violaceus*** (Lam.) Morrone
Status of occurrence: native in Algeria and Morocco.

Finally, it is useful to point out that the mistakable citation of *"Echinaria"* as a synonym of *Cenchrus* in Mabberley (2008) does not refer to *Echinaria* Desf. (1749), which is, of course, a very distinct genus of the tribe *Poeae,* but to the later homonym *Echinaria* Fabric. (1759), which, indeed, corresponds with *Cenchrus*.

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