

(2360) Proposal to reject the name *Chenopodium caudatum* (*Amaranthaceae*/*Chenopodiaceae*)

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(2360) *Chenopodium caudatum* Jacq., *Icon. Pl. Rar.* 2(2): t. 344. Feb–Mar 1789 [*Angiosp.: Chenopod. / Amaranth.*], nom. utique rej. prop.

Lectotypus (hic designatus): [icon in] Jacquin, *Icon. Pl. Rar.* 2(2): t. 344. Feb–Mar 1789.

Chenopodium caudatum was validly published by Jacquin (l.c.) by the presentation of an illustration (depicting an entire plant in two parts and the detail of a flower, see <http://bibdigital.rjb.csic.es/ing/Libro.php?Libro=6201>) that is part of the original material (Art. 9.3 of *ICN*; McNeill & al. in *Regnum Veg.* 154: 2012). Jacquin later provided a description of this species (in *Collectanea* 2: 325. Apr 1789; dated fide Stafleu & Cowan in *Regnum Veg.* 98: 412. 1979), where he also indicated the provenance (“*Guinea Africae*”).

A specimen at BM (barcode BM000795089) bears a single plant, and the inscriptions “Herb. Vindob. Jacquin” (on the top-left of the sheet, probably by Jonas Carlsson Dryander, who was a librarian to Sir Joseph Banks from 1782; J. Wajer, pers. comm.), and “*Amaranthus viridis* L. *Chenopodium caudatum* Jacq. in vol. 2” (on the bottom-center, but it is not possible to know who added it; J. Wajer, pers. comm.). Unfortunately, the date of collection is lacking and cannot be deduced (J. Wajer, pers. comm.), so the specimen could be a post-1789 addition to the collection, not part of the original material, and not eligible for selection as lectotype. Furthermore, despite a general resemblance to *Amaranthus viridis* L. concerning the leaf shape and the synflorescence structure (see discussion below about this Linnaean name), the surface of the fruits are smooth or slightly rugose. This latter feature characterizes the members of the *A. blitum* aggregate, while *A. viridis* shows fruits with surface strongly wrinkled (see, e.g., Mosyakin & Robertson, *Fl. N. Amer.* 4: 410–435. 2003; Das & Iamonico in *Phytotaxa* 181: 293–300. 2014; Iamonico in *Phytotaxa* 199: 1–84. 2015).

All things stated, Jacquin’s coloured iconography appears to be the only verifiable extant original material, and it is here designated as the lectotype of the name *Chenopodium caudatum*.

Although Desfontaines (*Tabl. Écol. Bot.*: 43. 1804) proposed to treat *Chenopodium caudatum* in *Amaranthus* L. under the replacement name *A. gracilis* Desf., and this latter name has been occasionally accepted or cited as a synonym, more recently under *A. viridis* L. (*Sp. Pl.*, ed. 2: 1405. 1763), by several subsequent authors (e.g., Poiret, *Encycl. Suppl.* 1: 312. 1810; Moquin-Tandon in Candolle, *Prodr.* 13(2): 274. 1849 sub *Euxolus caudatus* (Jacq.) Moq.; Boissier, *Fl. Orient.* 4: 992. 1879 sub *Albersia caudata* (Jacq.) Boiss.; Thellung in Ascherson & Graebner, *Syn. Mitteleur. Fl.* 5: 337. 1914; Merrill in *Amer. J. Bot.* 23: 609–612. 1936 sub *A. viridis*; Cacciato in *Ann. Bot. (Roma)* 28: 625. 1966; Townsend, *Fl. W. Pakistan* 71: 16. 1974 sub *A. viridis*; Zangheri, *Fl. Ital.* 1: 106. 1976; Pignatti, *Fl. Ital.* 1: 181. 1982 sub *A. viridis*; Akeroyd, *Fl. Europ.*, ed. 2, 1: 132. 1993 sub *A. viridis*; Mosyakin & Robertson in *Ann. Bot. Fenn.* 33: 279. 1996 sub *A. viridis*; Costea & al. in *Sida* 19: 986. 2001 sub *A. viridis*; Palmer in *Nuytsia* 19: 124. 2009 sub *A. viridis*; Pinto & Velásquez in *Acta Bot. Venez.* 33: 333. 2010), the name *C. caudatum* cannot be assigned to any *Amaranthus* species. Jacquin’s illustration clearly shows a bisexual flower, while the flowers of *Amaranthus* are always unisexual (see, e.g., Akeroyd, l.c.: 130–132; Mosyakin & Robertson, l.c.: 275–281. 1996; Costea & al. in *Sida* 19: 931–974. 2001; Das & Iamonico, l.c.).

On the basis of the general morphological configuration (habit, leaves, inflorescence structure), Jacquin’s plant might possibly be identified as *Chenopodium acuminatum* Willd. s.l. (in *Neue Schriften Ges. Naturf. Freunde Berlin* 2: 124, t. 5, fig. 2. 1799; see Iamonico, in prep.). However, the stamens are in an alternate position relative to the perianth segments and this characteristic is not found in any member of *Chenopodiaceae* (Endlicher, *Gen. Pl.*: 292: 1836; Flores-Olvera & al. in *Ann. Bot. (Oxford)* 108: 847–865. 2011). Moreover, the provenance of

C. caudatum (“*Guinea Africae*”) does not fit the current distribution of *C. acuminatum* s.l. (Asia—see, e.g., Zhu & al. in *Fl. China* 5: 380. 2003; Sukhorukov, *Carpology Chenopodiaceae*: 226–227. 2014). All things stated, *C. caudatum* not only cannot be referred to *C. acuminatum*, but it cannot be assigned to any known species in *Chenopodium*.

Only by rejecting *Chenopodium caudatum* is it possible to dispose of this name without disrupting established nomenclature, especially should anyone propose a specimen of *C. acuminatum* as an epitype for the Jacquin iconography. In this way we avoid the need to supplant *C. acuminatum* Willd., a name in current use (e.g., Zhu & al., l.c.; Wehrden & al. in *Mongol. J. Biol. Sci.* 4: 3–17. 2006; An & al. in *African J. Ecol.* 45: 94–102. 2007; Zhang & al. in *Seed Sci. Technol.* 35: 291–302. 2007; Khasbagan & Soylovt in *J. Ethnobiol. Ethnomed.* 4: no. 2. 2008 [<http://www.ethnobiomed.com/content/4/1/2>]; University of Greifswald, FloraGREIF-Virtual Flora of Mongolia, [\[uni-greifswald.de/floragreif/?flora_search=taxon&taxon_id=235\]\(http://uni-greifswald.de/floragreif/?flora_search=taxon&taxon_id=235\); Huehwa, *Desert Pl.*: 73–89. 2010; Kawada & al. in *Grass. Sci.* 57: 58–64. 2011; Sukhorukov, l.c.; GRIN, <http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?10177>; The Plant List, <http://www.theplantlist.org/>\), and avoid the need for a new combination to accommodate the taxon now known as *C. acuminatum* subsp. *virgatum* \(Thunb.\) Kitam. \(in *Acta Phytotax. Geobot.* 20: 206. 1962\), based on *C. virgatum* Thunb. \(in *Nova Acta Regiae Soc. Sci. Upsal.* 7: 143. 1815\).](http://greif.</p></div><div data-bbox=)

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