



Amaranthus gangeticus (Amaranthaceae), a name *incertae sedis*

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As part of the revision of the genus *Amaranthus* Linnaeus (1753: 989) for the treatment of Amaranthaceae Jussieu for the Euro+Med PlantBase project (Iamónico, in prep.), and the typification work on the Linnaean names in this family (e.g., Iamónico 2012, 2013, 2014a, 2014b, Iamónico & Jarvis 2012, Iamónico & Del Pino 2014), it has been necessary to establish the identity of *A. gangeticus* Linnaeus (1759: 1268), especially in comparison with the related taxa included in the *A. tricolor* Linnaeus (1753: 989) aggregate (Iamónico 2014a).

Amaranthus gangeticus was placed by Linnaeus in the group “*Triandri*”. On the basis of the Linnaean protologue, *A. gangeticus* is morphologically similar to *A. tricolor*, *A. mangostanus* Linnaeus (1755: 32), *A. melancholicus* Linnaeus (1753: 989), and *A. tristis* Linnaeus (1753: 989). *Amaranthus tricolor* and *A. melancholicus* were distinguished by Linnaeus by their axillary inflorescences, while the other species have the flowers subspicate. Among *A. gangeticus*, *A. mangostanus* and *A. tristis*, the Linnaean diagnostic character is the leaf blade shape: “*fol. ovato-oblongis emarginatis*” (*A. gangeticus*), “*fol. rhombeis*” (*A. mangostanus*), “*fol. ovato-cordatis*” (*A. tristis*). The types of the names *A. mangostanus* and *A. tristis* were designated on the Linnaean specimens (at LINN) nos. 1117.10 and 1117.11 respectively (Iamónico 2014a). As regards *A. gangeticus*, Jarvis (2007: 283) indicates “Original material: Herb. Linn. No. 386.5 (S); Herb. Linn. No. 1117.9 (LINN)”. The specimen No. 1117.9 at LINN refers to *A. polygamus* (see Iamónico 2014a). The sheet No. S09-19096 (IDA microfiche number 386.5) at S-LINN (image available at <http://andor.nrm.se/kryptos/fbo/kryptobase/large/S09-019001/S09-19096.jpg>) includes the Linnaean annotation “*Amaranthus gangeticus*” (just below the plant) plus two other scripts: the first one (pencil annotation on the right) by C. A. M. Lindman (“*gangeticus* L. non est, cujus folia emarginata”) the second one (pen annotation on the bottom-right) by E. Wikström (“*Amaranthus melancholicus* Linn. var. *tricolor*”). Moreover, the Linnaean script “*gangeticus*” was crossed out by a horizontal line, probably by E. Wikström (A. Anderberg, *in verbis*). So, both Lindman and Wikström revised the identification. I agree with them. The exsiccatum at S-LINN lacks the Linnaean diagnostic leaf character of an emarginate apex, while the inflorescence is composed of axillary glomerules not spikes as stated by Linnaeus (“...*glomerulis...subspicatis...*”). The Linnaean specimens, therefore, are in conflict with the protologue and cannot be considered for the typification of the name *A. gangeticus*. Unfortunately, no authentic original material has been traced in any of the other Linnaean and Linnaean-linked herbaria (see also Jarvis 2007: 283), neither have exsiccata been found that could be used for neotypification. The combination of the leaf and inflorescence features (blade ovate-oblong with emarginate apex, and flowers in subspicate structure) does not appear to refer to any of the *Amaranthus* species included in the *A. tricolor* aggregate (sensu Mosyakin & Robertson 1996: 280. 1996). The diagnosis and description by Linnaeus (1759: 1268, 1763: 1403) are ambiguous. Despite this, the name *A. gangeticus* was often treated as a synonym of *A. tricolor* (see e.g., Townsend 1974: 13, Kerguelen 1993, Press *et al.* 2000, Bojian *et al.* 2003, USDA 2013). It is rarely accepted as a separate species (e.g., Larsen *et al.* 2003: 521–527), and the combination proposal by Fiori & Paoletti [1898: 322, as *A. tricolor* var. *gangeticus* (L.) Fiori & Paol.] has not been accepted by most subsequent authors. Finally, some authors have not cited *A. gangeticus* in their treatments of *Amaranthus*, although they recognized taxa of the *A. tricolor* aggregate (e.g., Mosyakin & Robertson 2003: 410–435, DAISIE 2008).

All things considered, the treatment of *Amaranthus gangeticus* appears inconsistent. However, this fact is not ground for rejecting of the name since the Linnaean name does not threaten any other name and thus there are no disadvantageous nomenclatural changes (Art. 56.1 of the ICN, McNeill *et al.* 2012).

The failure to properly designate a lectotype or a neotype, and the impossibility to reject *A. gangeticus* according to the ICN, causes the continued ambiguous nature of this Linnaean name and results in listing it as *incertae sedis*.

Amaranthus gangeticus Linnaeus (1759: 1268), *nomen incertae sedis*

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