



Intraspecific variability of *Amaranthus tricolor* (Amaranthaceae) in India with a new variety

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Abstract

Amaranthus tricolor (*Amaranthus* subgen. *Albersia* sect. *Pyxidium*) is a native species of tropical Asia. It shows high inter- and intra-population phenotypic variability that is poorly known at present. During the field survey in India (West Bengal area) a large number of plants were collected and studied from the morphological point of view. The results justify the recognition of three varieties, of which one is new for the science: var. *tricolor*, var. *tristis* and var. *acutus* var. *nov.*

Key words: *Amaranthus*, morphology, new taxon, Sect. *Pyxidium*

Introduction

Amaranthus Linnaeus (1753: 989) is a cosmopolitan genus (many species are native to the Americas) and includes about 70 species (Costea *et al.* 2001, Iamónico 2012). This genus is nomenclaturally and taxonomically critical both for its morphological variability and for the hybridization. Mosyakin & Robertson (1996) recognized three subgenera, subgen. *Acnida* (Linnaeus 1753: 1027) Aellen ex K.R. Robertson (Robertson 1981: 283), subgen. *Amaranthus* and subgen. *Albersia* (Kunth 1838: 144) Grenier & Godron (1856: 3) on the basis of the inflorescence and the floral features. Traditionally, the subgen. *Amaranthus* has been classified into two sections (see e.g. Thellung 1919, Aellen 1959, Robertson 1981), sect. *Amaranthus* [= sect. *Amaranthotypus* Dumortier (1827: 19)] and sect. *Blitopsis* Dumort. s.l. (1827: 19). Carretero (1985) splitted the sect. *Blitopsis* into two groups: sect. *Blitopsis* s.s., including species with indehiscent fruits and $n = x = 17$, and sect. *Pyxidium* Moquin-Tandon in De Candolle (1849: 262) including species with dehiscent fruits and $n = x = 16$. Recently Mosyakin & Robertson (1996) recognized four sections under the subgen. *Albersia*, of which three referred to the species with indehiscent fruits [sect. *Blitopsis*, sect. *Pentamorion* (Beck 1909: 24) Mosyakin & K. R. Robertson (1996: 280) and sect. *Goerziella* (Urban 1924: 301) Mosyakin & K.R. Robertson (1996: 280)] and one (sect. *Pyxidium*) including species with dehiscent fruits.

A. tricolor is the lectotype of this latter section (see Carretero 1985) and it is a critical taxon from morphological and nomenclatural points of views. Several authors (e.g. Mathai 1978, Mosyakin & Robertson 1996) recognized the *A. tricolor* aggregate, including the taxa: *A. gangeticus* Linnaeus (1759: 1268), *A. mangostanus* Linnaeus (1755: 32), *A. polygamus* Linnaeus (1755: 32), *A. melancholicus* Linnaeus (1753: 989), *A. tristis* Linnaeus (1753: 989). Since its taxonomic complexity, this aggregate has a great interest among botanists and it should need clarification from cytological and/or molecular view point. Also the nomenclature in some cases is confuse (D. Iamónico, *in verbis*). The vegetable species *A. tricolor* probably originated from weed progenitor in tropical Asia by out-crossing and domestication process. As a consequence, several new taxa were described at subspecies, variety and form ranks.