



## Nomenclatural novelties in *Astraea* (Euphorbiaceae)

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*Astraea* Klotzsch (1841: 194) was considered a synonym of *Croton* Linnaeus (1753: 1004) by many authors (Baillon 1858, Müller 1866, Pax & Hoffmann 1931, Webster 1994, Radcliffe-Smith 2001), but based on a molecular phylogenetic study of *Croton* and related groups, Berry *et al.* (2005a) justified recognizing *Astraea* again as a valid genus. De-Paula *et al.* (2011) showed morphological differences in the flowers of these two genera, corroborating the findings of Berry *et al.* (2005a). Riina *et al.* (2014) discussed additional morphological characters separating *Astraea* from both *Croton* and its sister genus *Brasilicroton* Berry & Cordeiro in Berry *et al.* (2005b: 357). Some species that were originally described under *Croton* have already been transferred to *Astraea* (Berry *et al.* 2005a, Caruzo & Cordeiro 2007, Zuloaga *et al.* 2007, Van Ee 2011), and Van Ee (2011) accounted for numerous names of *Astraea* invalidly published by Klotzsch (1841). However, there are still several species of *Croton* that should be transferred to *Astraea*. As part of an ongoing taxonomic revision of the genus *Astraea*, we herein propose the necessary remaining transfers. *Astraea* has an estimated 13 species, most of them distributed in South America, especially in Brazil. *Astraea lobata* (Linnaeus 1753: 1005) Klotzsch (1841: 194) is the only species occurring throughout the Neotropical region and is also found, introduced, in Africa and Yemen.

***Astraea comantha* (S.Moore) Caruzo, comb. nov.** *Croton comanthus* Moore (1895: 460). Type:—BRAZIL. Mato Grosso: between Santa Cruz and Villa Maria, December 1891, S.L. Moore 1022 (holotype BM!, isotypes B† (photo F!), K!, NY!, P!, R!).

***Astraea douradensis* (Steyererm.) Caruzo, comb. nov.** *Croton douradensis* Steyermark (1958: 4). Type:—BRAZIL. Goiás: in gallery forest along stream 17 km east of Formoso, region of the southern Serra Dourada at 48° 40' W, 13° 40' S, 19 May 1956, E.Y. Dawson 14973 (holotype R!, isotypes F!, RSA!).

***Astraea gardneri* (Müll.Arg.) Caruzo, comb. nov.** *Croton gardneri* Müller Argoviensis (1865: 135). *Croton gardneri* var. *cordatus* Müller Argoviensis (1865: 135). Lectotype (designated here):—BRAZIL. Ceará: Serra do Araripe, September 1838, G. Gardner 1839 (K 000186088!, isolectotypes B† (photo F), BM!, K 000186087!, G-DC 00312463!, L!, P 00634930!, P 00634931!, NY 00246541!, NY 00246542!, S!, US 00109563!). The other syntype cited by Müller Argoviensis, BRAZIL: Bahia, partie méridionale de la prov. de Bahia, 1840, J.S. Blanchet 3155 (G!, G-DC!) corresponds to *Astraea praetervisa* (Müller Argoviensis 1873: 240) Berry in Berry *et al.* (2005a: 1532).

***Astraea subcomosa* (Müll.Arg.) Caruzo, comb. nov.** *Croton subcomosus* Müller Argoviensis (1873: 234). *Croton gardneri* var. *lanceolatus* Müller Argoviensis (1865: 135). Lectotype (designated here):—BRAZIL. Minas Gerais: prope José Gonzambres [= José Gonçalves], without date, J.B.E. Pohl 3416 (G-DC!, fragment F!, isolectotype G!). The holotype at B was destroyed in World War II, although there is a photograph of it at F!).

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