

Acknowledgements

The curators of the herbaria mentioned in the text are thanked for their valuable help with the location and loans of *Senecio* collections. We are also grateful to Carine Denjean-Drechsler (curator of NCY), Mats Hjertson (curator of UPS), and Edwinstael Ramanantsoa (P) for

kindly sending photographs of the type material. Special thanks go to F. Muñoz Garmendia for his nomenclatural advice. This work was financed by *Flora Iberica* project (CGL2008-02982-C03-01/CLI), and by a Ph.D. grant (JAE-Pre, CSIC).

(2011) Proposal to conserve the name *Euphorbia acuta* Engelm. against *E. acuta* Bellardi ex Colla (*Euphorbiaceae*)

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- (2011) *Euphorbia acuta* Engelm. in Emory, Rep. U.S. Mex. Bound. 2(1): 189. 1–20 Apr 1859 [*Dicot.: Euphorb.*], nom. cons. prop. Typus: U.S.A., “N. Mex.,” 1851, *Wright 1839* (MO).
- (H) *Euphorbia acuta* Bellardi ex Colla, Herb. Pedem. 5: 132. 6–30 Apr 1836, nom. rej. prop. Typus: *Bellardi?* [deest].

The name *Euphorbia acuta* Bellardi ex Colla was published in *Herbarium Pedemontanum* (Colla, l.c.), with a short and vague morphological description. The reference to “umbrella 4-fida” is sufficient to place the species within *Euphorbia* L. subg. *Esula* Pers. because this is the only infrageneric taxon in northern Italy that possesses pseudoumbellate inflorescences. However, none of the remaining characteristics are diagnostic, and based solely on the description it is not possible to attribute this name to any of the numerous species of *Euphorbia* subg. *Esula* that occur in the region. No precise collection information is provided in the protologue, but reference is made to a specimen in the Bellardi Herbarium. This herbarium is now housed at TO, as is the Colla Herbarium. A search in both these collections for a possible type of *E. acuta* Bellardi ex Colla failed to locate any specimen to which this name could be attributed (L. Guglielmo, pers. comm.). Likewise, in a detailed account of the 3167 species represented in the Herbarium Pedemontanum (TO-HP), Montacchini & al. (in *Allionia* 39: 9–37. 2003) listed 28 species of *Euphorbia*, but there was no mention of *E. acuta*. In his brief protologue, Colla (l.c.) wrote that the original material was in poor condition, and it appears not to have survived until present. Therefore, it is impossible to ascertain what species *E. acuta* Bellardi ex Colla represents, and thus the name is best treated as nomen dubium. We are aware of only two publications in which *E. acuta* Bellardi ex Colla was included, and both are general checklists of a bibliographic nature: Govaerts & al. (*World Checkl. Bibliogr. Euphorb.*: 862. 2000) and Oudejans (*World Catal. Sp. Publ. Tribe Euphorb. Geogr. Distr.*: 41. 1990). In the former, the name was treated as an unplaced synonym. It has apparently never been mentioned in any *Flora* or revision of *Euphorbia* subsequent to its original publication. In particular, it is worth emphasizing that the name was not cited in the only complete monograph of the genus (Boissier in Candolle, *Prodr.* 15(2): 3–188. 1862) nor in the treatments of *Euphorbia* for *Flora Europaea* (Smith & Tutin in Tutin & al., *Fl. Europ.* 2: 213–226. 1968) and *Flora d'Italia* (Pignatti, *Fl.*

Ital. 2: 26–50. 1982), despite the name being presumably based on a plant from the Piedmont region of Italy.

Twenty-three years after the publication of *Euphorbia acuta* Bellardi ex Colla, Engelmann (l.c.) applied the specific epithet to a species collected in western Texas or eastern New Mexico, United States. This name and the alternative *Chamaesyce acuta* (Engelm.) Millsp. (in *Field Mus. Nat. Hist., Bot. Ser.* 2: 407. 1916) have since been applied to a well-characterized species of *Euphorbia* known from limestone outcrops of southern New Mexico and western Texas, as well as the adjacent states of Chihuahua and Coahuila, Mexico. Specimens determined and filed under this name occur in numerous herbaria. Furthermore, the species is a phylogenetically important one, because molecular data demonstrate that it forms part of a small clade of three species that is sister to all of the remaining nearly 300 species of *Euphorbia* subg. *Chamaesyce* sect. *Anisophyllum* Roep. (the former genus *Chamaesyce*; Y. Yang, in prep.). It is also one of just three species in the section that has a C₃ or transitional C₃-C₄ photosynthetic system, whereas all remaining species presumably share the C₄ photosynthetic system (R. Sage, in prep.). The epithet has been widely used in floristic literature in the United States and northeastern Mexico, both under *Euphorbia* (e.g., Watson in *Proc. Amer. Acad. Arts* 18: 150. 1883; Hemsley, *Biol. Cent.-Amer., Bot.* 4: 85. 1887; Wheeler in *Amer. Midl. Naturalist* 30: 480. 1943; Johnston in *Correll & Johnston, Man. Vasc. Pl. Texas*: 971. 1970; in *Wrightia* 5: 136. 1975; Mayfield in *Sida* 14: 573. 1991) or its segregate *Chamaesyce* (e.g., Webster in *J. Arnold Arbor.* 48: 425. 1967; Mayfield in *Phytologia* 75: 181. 1993; Jones & al., *Vasc. Pl. Texas*: 109. 1997; Turner & al., *Atlas Vasc. Pl. Texas* 1: 281. 2003; Poole & al., *Rare Pl. Texas*: 79, 206. 2007; Jercinovic in *New Mexico Botanist Newslett.* 40: 4. 2007). This name also appears in Boissier's (l.c.: 18) monograph of the genus, the revision of *Euphorbia* subg. *Chamaesyce* in the United States (Wheeler in *Rhodora* 43: 176–178. 1941) where a lectotype was selected, as well as a number of anatomical, cytological, and molecular phylogenetic studies (Webster & al. in *Taxon* 24: 28, 32. 1975, in *Amer. J. Bot.* 69: 411. 1982; Powell in *Ann. Missouri Bot. Gard.* 65: 602. 1978; Urbatsch & al. in *Amer. J. Bot.* 62: 497. 1982; Jordon & Hayden in *Collect. Bot. (Barcelona)* 21: 83, 84. 1992; Simmons & Hayden in *Brittonia* 49: 163. 1997; Steinmann & Porter in *Ann. Missouri Bot. Gard.* 89: 462, 473. 2002; Bruyns & al. in *Taxon* 55: 401. 2006; Park & Jansen in *J. Pl. Biol.* 50: 646, 648. 2007; Steinmann & al. in *Anales Jard. Bot. Madrid* 64: 127. 2007; Zimmermann & al. in *Pl. Syst. Evol.* 286: 48. 2010).

In 1989 Oudejans recognized that *Euphorbia acuta* Engelm. was an illegitimate later homonym, and he proposed the new name *E. georgei* Oudejans to replace it (in *Phytologia* 67: 45. 1989), the specific epithet honoring George Engelmann. However, despite more than 20 years since its publication, we have not yet seen the adoption of the name *E. georgei* in the literature, although it was accepted by both Govaerts & al. (l.c.: 734) and Oudejans (l.c.: 171), in the same bibliographic checklists that included *E. acuta* Bellardi ex Colla.

In order to maintain nomenclatural stability we propose the conservation of a well-known, commonly applied name (*Euphorbia acuta* Engelm.) against an obscure earlier name whose identity cannot be determined (*E. acuta* Bellardi ex Colla). Adoption of this proposal

would have no negative nomenclatural consequences because neither *E. acuta* Bellardi ex Colla nor *E. georgei* have ever been generally accepted. In contrast, *E. acuta* Engelm. has been continuously applied for over 150 years, but without this conservation must now be replaced by *E. georgei*. This represents a considerable “disadvantageous nomenclatural change” that can be remedied under Art. 14.

Acknowledgements

We thank Laura Guglielmo (TO) for searching for the type of *Euphorbia acuta* Bellardi ex Colla. This research was funded by National Science Foundation award DEB-0616533.

(2012) Proposal to reject the name *Heptallon simplex* (*Euphorbiaceae*)

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(2012) *Heptallon simplex* Raf., *Autik. Bot.*: 47. 1840 [*Dicot.: Euphorb.*], nom. utique rej. prop.
Typus: non designatus.

In a recent revision of *Croton* sect. *Heptallon* (Raf.) Müll. Arg. (in *Linnaea* 34: 78. 1865) of *Euphorbiaceae*, Van Ee & Berry (in *Syst. Bot.* 35: 158–159. 2010) listed in synonymy four species of *Heptallon* Raf. (Neogenyton: 1. 1825). Although no type material has been located for them and their precise application is difficult to resolve, these *Heptallon* names can reasonably be narrowed down as potential earlier names for *C. elliottii* Chapm. (Fl. South. U.S.: 407. 1860), *C. heptalon* (Kuntze) B.W. van Ee & P.E. Berry, based on *Oxydectes heptalon* Kuntze (in *Revis. Gen. Pl.* 2: 610. 1891) (= *C. albinoideus* (A.M. Ferguson) Croizat), or *C. lindheimeri* (Engelm. & A. Gray) Alph. Wood, based on *Pilinophytum lindheimeri* Engelm. & A. Gray (in *Boston J. Nat. Hist.*: 5: 232. 1845). Three of Rafinesque’s names, *Heptallon aromaticum* Raf. (l.c. 1825: 1), *H. fruticosum* Raf. (*Autik. Bot.*: 48. 1840), and *H. lanceolatum* Raf. (l.c. 1840: 48) do not threaten these *Croton* names because it is not possible (Art. 53.1; McNeill & al. in *Regnum Veg.* 146. 2006) to legitimately combine them in *Croton*, being blocked by the earlier names *C. aromaticus* L., *C. fruticosus* Mill., and *C. lanceolatus* Cav. In contrast, *Heptallon simplex* Raf. could be combined in *Croton*, and therefore threatens these names.

The description of *Heptallon simplex* Raf. (l.c. 1840: 47) consists of “caule simpl. squamat. seminudo, fol. term longe petiol. alt. ellipt. acutis tomentosis, basi rotundatis, fl. term. paucis lanatis, masc. spicatis—Florida, annual, stem 10 inches high almost naked, leaves as in the last [*H. graveolens* Raf. = *Croton capitatus* Michx.] but not cordate. †.” In this work the dagger symbol (†) was used to identify species for which there were only a few specimens (Rafinesque, l.c. 1840: 5), suggesting that a specimen may exist. Johnston (in *Southw.*

Naturalist 3: 191. 1959) stated that *H. simplex* might be an earlier name for *C. capitatus* var. *lindheimeri* (Engelm. & A. Gray) Müll. Arg. [= *C. lindheimeri*]. Van Ee & Berry (l.c.: 159) included *H. simplex* as a synonym of *C. elliottii* Chapm. given that the leaf bases of *C. elliottii* are rounded, while those of *C. heptalon* and *C. lindheimeri* are cordate to rounded (Van Ee & Berry, l.c.: 159, 162).

Croton elliottii is a widely accepted name, as by Müller (in *Candolle, Prodr.* 15(2): 688. 1866), Ferguson (in *Rep. (Annual) Missouri Bot. Gard.* 12: 56. 1901), Small (Man. S.E. Fl.: 783. 1933), Croizat (in *Bull. Torrey Bot. Club* 69: 448. 1942), Godfrey & Wooten (*Aquat. Wetl. Pl. S.E. U.S.* 2: 280. 1981), Clewell (*Guide Vasc. Pl. Fla. Pan.*: 355. 1985), Webster (in *Taxon* 42: 813. 1993), and Wunderlin (*Guide Vasc. Pl. Fla.*: 400. 1998). *Croton lindheimeri* has been widely treated as a synonym of *C. capitatus* Michx., as by Müller (l.c.: 687), Johnston (l.c.: 191), Correll & Johnston (Man. Vasc. Pl. Tex.: 935. 1970), Kartesz (in *Syn. Checkl. Vasc. Fl. U.S. ed. 2, 1: 264. 1994*), and Diggs & al. (Fl. N.C. Tex.: 599. 1999), but was recovered as a distinct species in the molecular phylogeny of Van Ee & Berry (l.c.: 154–155). Without viewing original material of *Heptallon simplex*, or neotypifying the name, it is impossible to conclusively determine which species of *Croton* is synonymous with it. And even if this were done, it would be nomenclaturally disadvantageous to transfer *H. simplex*, which does not appear to have been used by anyone other than Rafinesque, to *Croton* for use instead of one of these well-established names. I therefore propose to reject *Heptallon simplex* under ICBN Art. 56.

Acknowledgements

I am grateful to Daniel B. Falkenberg and Rafaël Govaerts for pointing out the nomenclatural consequences of listing *Heptallon simplex* as a synonym of *Croton elliottii*, and to John H. Wiersma for a critical review that improved the proposal.