Trichospermum lessertianum comb. n., the correct name for the Cuban species of Trichospermum (Malvaceae, Grewioideae) also found in Mexico and Central America

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Abstract

The correct name for the Cuban species of Trichospermum Bl. (Malvaceae: Grewioideae) also found in Mexico and Central America is T. lessertianum (Hochr.) Dorr, comb. n. The name T. mexicanum (DC.) Baill., incorrectly applied to this Cuban species, should be restricted to a species endemic to western and southern Mexico.

Keywords

Belotia, Cuba, Grewioideae, Malvaceae, Mexico, new combination, Tiliaceae, Trichospermum

Introduction

Trichospermum Bl. (Malvaceae: Grewioideae, or Tiliaceae) is a genus of ca. 40 species found in tropical America, Asia, and the Pacific (Kostermans 1962, 1972). Belotia A. Rich., a generic synonym of Trichospermum, was described from Cuba. Misinterpretations of the legitimacy and identity of its generitype, B. grewiifolia A. Rich., have led authors treating Trichospermum (or Belotia) for various floras and revisions to adopt species names that are incorrect. Sorting out this confusion requires determining where Belotia was first published (there are three competing publications); demonstrating that B. grewiifolia was
nomenclaturally superfluous when published; and establishing the identity of the name, *Grewia mexicana* DC., that should have been adopted as the generitype of *Belotia*.

Achille Richard published *Belotia* in three different works that appeared in the 1840s; in volume 10 of Ramón de la Sagra’s *Historia física, política y natural de la isla de Cuba* (Richard 1845: 82; see also Stafleu and Cowan 1983: no. 10.000), in an unnumbered volume of a French edition of the same work (Richard 1841: 207; see also Stafleu and Cowan 1983: nos. 9150, 10.002), and in the second volume of Charles d’Orbigny’s *Dictionnaire universel d’histoire naturelle* (Richard 1842: 539; see also Stafleu and Cowan 1981: no. 7096; Evenhuis 1990). The volumes of the French version of de la Sagra’s *Historia*, at least, were issued in parts (livraisons) and these parts were distributed well before the publication dates given on the volumes as a whole (Brizicky 1962: 84–86; see also Stafleu and Cowan 1983; no. 9150). While the title pages of both the French and Spanish volumes of de la Sagra’s *Historia* that include *Belotia* have the year 1845, Brizicky (1962: 84–86) determined that the description of *Belotia* in the French edition actually appeared in a part (livraison) issued in 1841. The strongest evidence for this is the review of Richard’s contribution to Cuban botany published by Grisebach (1842), which established that the livraison containing *Belotia* was available by the end of 1841. This is the publication date accepted by Stafleu and Cowan (1983: nos. 9150, 10.002). The publication of the second volume of d’Orbigny’s *Dictionnaire*, which included a description of *Belotia*, followed in 1842. Stafleu and Cowan (1981: no. 7096) dated this volume 30 July 1842, but Evenhuis (1990) subsequently presented evidence that 20 June 1842 is the latest date at which the livraison containing a description of *Belotia* could have appeared. (The earliest possible, but not probable, date for the publication of this livraison is 24 January 1842). The description of *Belotia* in the *Dictionnaire* cites the paging and plate number (albeit incorrect) of the Spanish edition of de la Sagra’s *Historia*, which implies that the latter was typeset but presumably not yet distributed. No other evidence has surfaced indicating that the publication of *Belotia* in the Spanish edition of de la Sagra’s *Historia* was earlier than the date on the title page (i.e., 1845; see also Stafleu and Cowan 1983: no. 10.000) and without proof establishing some other date, the one appearing in the printed matter must be accepted as correct (see McNeill et al. 2006: Art. 31.1).

The fact that *Belotia* was first published in the French edition of de la Sagra’s *Historia* has nomenclatural implications for the legitimacy of its generitype, *B. grewiifolia*. In the French edition, *B. grewiifolia* (Richard 1841: 209) is a superfluous renaming of *Grewia mexicana* DC. (1824: 510) as the latter name was placed in synonymy and is the name that should have been adopted (McNeill et al. 2006: Art. 52). Later, in both d’Orbigny’s *Dictionnaire* and in the Spanish edition of de la Sagra’s *Historia*, Richard equivocated with respect to this synonymy. In the former instance, he (1842: 540) wrote “*Belotia grewiafolia* Rich. (*Fl. Cubens* p. 82, t. 22), qui est probablement le *Grewia mexicana* DC.” and in the latter (1845: 83) he cited *G. mexicana* in synonymy with a question mark. Sprague (1921), who revised the genus *Belotia*, recognized that the Mexican and Cuban species differed, but he failed to appreciate that *B. grewiifolia* was an illegitimate name and he used this name for one of two species he recognized from Cuba. He also confused *B. mexicana* (DC.) K. Schum. (basionym *G. mexicana*) with yet a different
species occurring in Mexico and Central America. Bullock (1939) continued to use the illegitimate name *B. grewiifolia* for a species from Cuba, but expanded his concept of this taxon’s range to include Central America. He also continued to confuse the identity of *B. mexicana*. Farr et al. (1979: 91) and Rodríguez Fuentes (2000: 31) began to clarify the nomenclatural confusion by recognizing that *B. grewiifolia* is illegitimate, but the former did so while citing a place of publication (d’Orbigny’s *Dictionnaire*) that if in fact had been the earliest publication would have resulted in the legitimate publication of the name (see McNeill et al. 2006: Art. 52, Note 1, Ex. 12) and the latter although citing the earliest place of publication failed to realize that *G. mexicana* is not conspecific with the Cuban species of *Trichospermum*.

Although the plate accompanying the description of *Belotia grewiifolia* is numbered tab. 21, the protologues of both Spanish and French versions of de la Sagra’s *Historia* incorrectly cite tab. 22, which is a plate illustrating *Triumfetta grossulariifolia* A. Rich. (Malvaceae: Grewioideae). The plate caption for *B. grewiifolia* in the French (Richard 1841: 211), but not the Spanish version (Richard 1845: 84), however, is correctly labeled tab. 21. Although the plates today invariably are bound separately from the text in a folio volume, text and plates originally were probably available at the same time as each livraison of the French version, at least, of de la Sagra’s *Historia* was projected to contain four folio plates accompanied by four sheets of text in octavo (see Stafleu and Cowan 1983: no. 9150). As early as March–June 1842 there is a published reference (Endlicher 1842: 108; “Belotia A. Richard Flor. cub. 207. t. 22”) to the French text of *B. grewiifolia* and its plate (albeit misnumbered).

The type of *Grewia mexicana* agrees well with the species treated as *Trichospermum insigne* (Baill.) Kosterm. in the *Flora Nova–Galiciana* (Fryxell 2001), which has broadly ovate leaf blades with acute apices and a dense and evenly stellate–omentum below, flowers with sepals and petals ca. 10 mm long, and capsules 16–18 × 24–28 mm. This Mexican species is very distinct from the material of *Trichospermum* collected in Cuba, which has ovate leaf blades with acuminate to long acuminate apices and a sparse stellate–omentum below, flowers with sepals and petals 4–6 mm long, and capsules 8–10 × 10–12 mm. A new combination for the Cuban species of *Trichospermum* is necessary as the earliest available epithet belongs to a species of *Belotia*. The name *T. mexicanum*, misapplied to the Cuban species, is here considered to apply to a species endemic to western and southern Mexico that is frequently but incorrectly cited as *T. insigne*.

**Taxonomic summary**

*Trichospermum lessertianum* (Hochr.) Dorr, comb. nov.

urn:lsid:ipni.org:names:77109528-1

Basionym: *Belotia lessertiana* Hochr., Annuaire Conserv. Jard Bot. Genève 18–19: 90. 1914, as “Lessertiana.” *Belotia grewiifolia* var. *lessertiana* (Hochr.) Vict., Contr. Inst.
Belotia caribaea Sprague, Bull. Misc. Inform. Kew 1921(7): 276. 1921. *Trichospermum caribaeum* (Sprague) Kosterm., Reinwardtia 6(3): 278. 1962. TYPE: ST. LUCIA, s.d. (fl, fr), Anderson s.n. (holotype: K! [K000381875]; isotype: F).

Belotia reticulata Sprague, Bull. Misc. Inform. Kew 1921(7): 277. 1921. *Trichospermum reticulatum* (Sprague) Kosterm., Reinwardtia 6(3): 279. 1962. TYPE: NICARAGUA. Chontales, Seemann 11 (holotype: K).

Belotia campbellii Sprague, Bull. Misc. Inform. Kew 1921(7): 277. 1921, as “Campbellii.” TYPE: BELIZE. Seven Hills Estate, s.d. (fl, fr), E.J.F. Campbell 75 (holotype: K! [K000381880]; isotype: F).

Belotia tabascana Sprague, Bull. Misc. Inform. Kew 1921(7): 278. 1921. *Trichospermum tabascanum* (Sprague) Kosterm., Reinwardtia 6(3): 279. 1962. TYPE: MEXICO. Tabasco: Lomas de San Sebastián, 26 Mar 1889 (fl), Rovirosa 416 (holotype: K; isotypes: F, NY! [00546807], US! [00098426]).

**Distribution.** Southern Mexico to Costa Rica, and in western Cuba. A collection stated to be from St. Lucia (the type of *Belotia caribaea*) represents either material cultivated in the St. Vincent Botanic Garden or mislabeled material from Cuba (Bornstein 1989: 185–186).

**Note.** The name *Trichospermum grewiifolium* (A. Rich.) Kosterm. is frequently applied to this species, but it is illegitimate because as explained in the text *Belotia grewiifolia* A. Rich. was nomenclaturally superfluous when published (McNeill et al. 2006: Art. 52.1) and cannot serve as the basionym for this combination. More recently, Rodríguez Fuentes (2000: 32) accepted *T. grewiifolium* as a new species published by Kostermans (1962) apparently in the belief that Kostermans had explicitly excluded the purported basionym’s type, but this is debatable and in any case *T. grewiifolium* is not a valid name as Kostermans failed to designate a nomenclatural type (McNeill et al. 2006: Art. 37.1).

**Trichospermum mexicanum** (DC.)

*Trichospermum mexicanum* (DC.) Baill., Hist. Pl. 4: 179. 1872 (excluding synonym *Adenodiscus mexicanus* Turcz.). *Grewia mexicana* DC., Prodr. 1: 510. 1824. *Belotia mexicana* (DC.) K. Schum. in Engler & Prantl, Nat. Pflanzenfam. 3(6): 28. 1890. *Belotia grewiifolia* A. Rich. in R. de la Sagra, Hist. Phys. Cuba, Pl. Vasc.: 209, t. 21. 1841 [1845], as “grewiifolia,” nom. illeg. TYPE: MEXICO. “Nova Hispania,” 1807 (fl), Lagasca y Segura 86 (holotype: G-DC [IDC microfiche 216!]).

*Belotia insignis* Baill., Adansonia 10: 182. 1872. *Trichospermum insigne* (Baill.) Kosterm., Reinwardtia 6(3): 279. 1962, as “insigne.” TYPE: MEXICO. “Andes of Mexico,” Ghiesbreght 356 (holotype: P, photo [F neg. no. 35430] US!; isotype: F).
**Distribution.** Endemic to western and southern Mexico, where it appears to be restricted to the Pacific lowlands and hills from Sinaloa to Oaxaca.

**Note.** McVaugh (2000: 526–527) speculated that the type of *Grewia mexicana* may have been a garden specimen grown at Madrid from Mexican seed contributed by the Expedición Real.

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