The typification of Cordia flavescens Aubl., the transfer of Firesnia Scop. from Cordia L. (Cordiaceae, Boraginales) to the synonymy of Ocotea Aubl. (Lauraceae), and the identity of the species of Firesnia

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Abstract

Firesnia Scop. was based on Cordia flavescens Aubl., a species described and illustrated from a mixed collection that Scopoli never transferred to Firesnia. The genus included three additional species formally named by Rafinesque. Currently the four species are placed in three different families and none retained the epithet accepted by Scopoli or given by Rafinesque for reason of priority. A lectotype is designated for Cordia flavescens that places Firesnia in the synonymy of Ocotea (Lauraceae).

Keywords
Aublet, Boraginales, Combretaceae, Cordia, Lauraceae, French Guiana, Rafinesque, typification

Introduction

In the preparation of the treatment of the Boraginaceae for the Flora of the Guianas, I got intrigued by the history of Firesnia Scop. When Scopoli (1777: 157) described Firesnia, he included only Cordia flavescens Aubl. that is therefore the type of the genus. Contrary to what is stated by Jackson (Index Kewensis 1893, as reflected in IPNI (http://www.ipni.org/index.html; accessed 23.01.2013), in that work C. flavescens was not transferred to Firesnia. Necker (1790, 1: 276) accepted Firesnia as one
of his “species naturalis” in a work where the nomenclature was uninnominal and that is rejected as a source of names by the International Code of Botanical Nomenclature (McNeill et al. 2006, App. VI: 483). Three species were placed in Firensia by Rafinesque (1838: 40), two of them illegitimate renaming. Other authors ignored Firensia or placed it in the synonymy of Cordia (ex.: Candolle 1845: 471 [as “Firenzia”]). Then Kuntze (1891, 2: 977) placed them in Lithocardium “L. 1735”. As this is a pre-1753 name, he created Lithocardium Kuntze with Cordia L. as a synonym. It is an illegitimate renaming of Cordia.

**Methods**

To solve the question of the generic and familial placement of Firensia, I studied the literature and type specimens. I looked also at printed photographs found in the cited herbarium collections, and examined scanned of specimens or photos of specimens posted online, available directly through the herbarium site, or through the sites of JSTOR or Europeana. Example: “photos F, MO!, US!; scan!” The Internet address to the scans is given in a note below the species.

A few typifications had to be made. When the type collection was known, but not the holotype, the text says: “Type:... (lectotype... ; isotypes...)”. When the original description was associated with several collections of equal status or syntypes, a type collection and a lectotype were selected and the text says: “Lectotype...: ... (hololectotype...; isolectotypes...)”. In both cases the information on the date of lectotypification is given next to the word lectotype.

**Taxonomic treatment**

Typification of Cordia flavescens and familial placement of Firensia in the Lauraceae

The name Cordia flavescens Aubl. was described and illustrated based on a mixture of fruiting branches of Ocotea commutata Nees (Lauraceae) and flowers belonging in Cordia. Specimens by Aublet at BM and S represent only the Ocotea element (Johnston 1935: 44). This offers an opportunity to give a clear identity to the name by designating as the lectotype a specimen lacking the Cordia element.

Cordia flavescens Aubl. is the only species included in Firensia by Scopoli (1777: 157) and is therefore the type species of Firensia Scop. Firensia falls in the synonymy of Ocotea Aubl. 1775 and belongs in the Lauraceae.

Nomenclature stability is satisfied: Firensia Scop. (1777) does not have priority over Ocotea Aubl. (1775), and the epithet flavescens cannot be transferred to Ocotea as the name Ocotea flavescens Rusby (1920) applies to a different species from Colombia. Aublet’s name becomes a synonym of Ocotea commutata (Nees) Mez.
The typification of *Cordia flavaescens* Aubl., the transfer of *Firensia* Scop.,

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**Ocotea** Aubl., *Hist. Pl. Guiane* 2: 780; 4: t. 310. 1775.
Type: *Ocotea guianensis* Aubl.

*Firensia* Scop., *Intr. Hist. Nat.* 157. 1777.
Type: *Cordia flavaescens* Aubl.

**Identity of the type species and those once placed in Firensia**

The species once placed in *Firensia* have been named or identified as species of *Cordia* L., one by Linnaeus (1757: 14) and three by Aublet (1775: 219, 224, 226; t. 86, 88, 89). None of the epithets used in *Firensia* could be kept for reason of priority. The type species, *Cordia flavaescens*, and the three species of *Firensia* currently belong in three different genera and families.

1. **Cordia flavaescens** Aubl., Lauraceae

**Ocotea commutata** (Nees) Mez, *Jahrb. Königl. Bot. Gart. Berlin* 5: 327. 1889.
Type: Based on *Oreodaphne commutata* Nees

*Oreodaphne commutata* Nees, *Syst. Laur.* 428. 1836.
Type: French Guiana. *J. B. Aublet* s.n. [specimens without the *Cordia* flowers] (lectotype here designated BM [BM-000993950; scan!]; isotypes LINN [SM 374.6], S [04-2350; scan!])

**Cordia sarmentosa** Lam., *Tab. Encycl. Méthod.* 1: 422. 1791; illegitimate renaming.
Type: Based on *Cordia flavaescens* Aubl.

**Lithocardium flavaescens** (Aubl.) Kuntze, *Revis. Gen. Pl.* 2: 977. 1891.
Type: Based on *Cordia flavaescens* Aubl.

**Gerascanthus flavaescens** (Aubl.) Borhidi, *Acta Bot. Hung.* 34(3–4): 400. 1988.
Type: Based on *Cordia flavaescens* Aubl.

**Note.** The holotype of *Oreodaphne commutata* can be seen at [http://ww2.bgbm.org/herbarium/view_large.cfm?SpecimenPK=47688&cThumb=253360&SpecimenSequenz=1&loan=0](http://ww2.bgbm.org/herbarium/view_large.cfm?SpecimenPK=47688&cThumb=253360&SpecimenSequenz=1&loan=0), and the Paris isotypes at [http://coldb.mnhn.fr/coldweb/request.do?requestaction=exec](http://coldb.mnhn.fr/coldweb/request.do?requestaction=exec); the lectotype of *Cordia flavaescens* at [http://plants.jstor.org/specimen/bm000993950](http://plants.jstor.org/specimen/bm000993950), and its Stockholm isotype at [http://plants.jstor.org/specimen/s04-2350?history=true](http://plants.jstor.org/specimen/s04-2350?history=true).
2. *Firensia fusca* Raf., Cordiaceae

*Cordia collococca* L., *Sp. Pl. ed. 2*, 1: 274. 1762.

Lectotype (designated by Miller 1988, 1999): Jamaica. *P. Browne s.n.* (hololectotype LINN, Savage Catalog number 253.8[scan!])

*Firensia fusca* Raf., *Sylva Tellur. 40*. 1838; illegitimate renaming.

Type: Based on *Cordia collococca* L.

*Lithocardium collococca* (L.) Kuntze, *Revis. Gen. Pl.* 2: 438. 1891.

Type: Based on *Cordia collococca* L.

*Gerascanthus collococcus* (L.) Borhidi, *Acta Bot. Hung.* 34(3–4): 399. 1988.

Type: Based on *Cordia collococca* L.

**Notes.** The hololectotype of *Cordia collococca* can be seen at [herb. LINN scan!; http://www.linnean-online.org/view/plants_alpha/cordia_collococca.html; accessed 22.01.2013].

For other synonyms, see Feuillet (2012: 160).

3. *Firensia hirsuta* (Willd.) Raf., Cordiaceae

*Cordia nodosa* Lam., *Tab. Encycl.* 1: 422. 1792.

Type: Aublet (1775) *Hist. Pl. Guiane* 3: pl. 86.

*Cordia collococca* sensu J.B. Aublet, *Hist. Pl. Guiane* 1: 219; & 3: pl. 86. 1775; non L. 1757. (= *Cordia nodosa* Lam.)

*Cordia hirsuta* Willd., *Sp. Pl.*, ed. 5 [as “4”] 1(2): 1076. 1798.

Type: Based on *Cordia nodosa* Lam.

*Firensia hirsuta* (Willd.) Raf., *Sylva Tellur. 40*. 1838.

Type: Based on *Cordia nodosa* Lam.

*Lithocardium nodosum* (Lam.) Kuntze, *Rev. Gen.* 2: 977. 1891.

Type: Based on *Cordia nodosa* Lam.

**Notes.** Sometimes the collection from French Guiana—J.B. Aublet s.n. (BM [scan!], LINN SM-374.5 [microfiche!], P-Rousseau 5: 181! [acquired by P only in 1953])—is cited as the type of *Cordia nodosa* and *C. hirsuta*. In fact it is unlikely that Lamarck (1792, 1, 2(1): 422) or Willdenow (1798, 1(2): 1076) saw a specimen as they only cited Aublet plate 86.

Aublet s.n. can be seen at http://plants.jstor.org/specimen/bm000906214

*Cordia hirsuta* Fresen. 1857 is different from *C. hirsuta* Willd. 1798.

For other synonyms, see Johnston (1935: 13–14).

4. *Firensia lutea* Raf., Combretaceae

*Buchenavia tetraphylla* (Aubl.) R.A. Howard, *J. Arnold Arbor.* 64(2): 266. 1983.

Type: Based on *Cordia tetraphylla* Aubl.
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Cordia tetraphylla Aubl., Hist. Pl. Guiane 1: 224; 3: t. 88. 1775.
Lectotype (designated by Howard 1983: 266): Plate, Aubl., Hist. Pl. Guiane 1: pl. 88, excl. f. 1-3 (1775).

Firensia lutea Raf., Sylva Tellur. 40. 1838; illegitimate renaming.
Type: Based on Cordia tetraphylla Aubl.
Lithocardium tetraphyllum (Aubl.) Kuntze, Rev. Gen. 2: 977. 1891.
Type: Based on Cordia tetraphylla Aubl.
Gerascanthus tetraphyllus (Aubl.) Borhidi, Acta Bot. Hung. 34(3–4): 402. 1988.
Type: Based on Cordia tetraphylla Aubl.

Note. For other synonyms, see Acevedo and Strong (2012: 229).

Invalid names

Ocotea commutata Nees ex Meisn., Prodr. (DC.) 15(1): 120. 1864, invalid: pro syn.
Oreodaphne commutata Nees (= Ocotea commutata (Nees) Mez 1889).
Cordia echitioides Lam. ex D. Dietr., Syn. Pl. 1: 612. 1839; invalid: pro syn. Cordia flavescens Aubl. (= Ocotea commutata (Nees) Mez).

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References

Acevedo-Rodríguez P, Strong MT (2012) Catalogue of Seed Plants of the West Indies. Smithsonian Institution Scholarly Press, Washington, 1–1192. http://hdl.handle.net/10088/17551
Aublet JB (1775) Histoire des Plantes de la Guiane Françoise. Didot jeune, London, Paris, 4 vol., 1–976 & plates 1–392. doi: 10.5962/bhl.title.674
Candolle AP de (1845) Prodrumus Systematis Naturalis Regni Vegetabilis, vol. 9. Treuttel et Wurtz, Paris. 1–573. doi: 10.5962/bhl.title.286
Feuillet C (2012) Boraginaceae. In: Acevedo-Rodríguez P, Strong MT (Eds) Catalogue of Seed Plants of the West Indies. Smithsonian Institution Scholarly Press, Washington, 157–174. http://hdl.handle.net/10088/17551
Howard RA (1983) The plates of Aublet’s Histoire des Plantes de la Guiane Française. Journal of the Arnold Arboretum 64(2): 255–292. http://www.biodiversitylibrary.org/item/33627
Jackson BD (1893) Index Kewensis vol. 1. Oxford, 1–1268.
Johnston IM (1935) Studies in Boraginaceae X. The Boraginaceae of northeastern South America. Journal of the Arnold Arboretum 16(1): 1–64. http://www.biodiversitylibrary.org/item/33592

Kuntze O (1891) Revisio Generum Plantarum vol. 2. Arthur Felix, Leipzig, 377–1011. doi: 10.5962/bhl.title.327

Lamarck JB (1792) Tableau Encyclopédique et Méthodique des Trois Règnes de la Nature, Botanique tome 1, vol. 2, part 1. Panckoucke, Paris, 353–440. doi: 10.5962/bhl.title.824

Linnaeus C (1757) Flora Jamaicensis. Sandmark, Upsala, 1–27. doi: 10.5962/bhl.title.4340

McNeill J, Barrie FR, Burdet HM, Demoulin V, Hawksworth DL, Marhold K, Nicolson DH, Prado J, Silva PC, Skog JE, Wiersema JH, Turland NJ (eds) (2006) International Code of Botanical Nomenclature (Vienna Code). Regnum Veg. 146. Gantner Verlag, Ruggell, 1–568. http://ibot.sav.sk/icbn/main.htm

McNeill J, Barrie FR, Buck WR, Demoulin V, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Marhold K, Prado J, Prud’Homme van Reine WF, Smith GF, Wiersema JH, Turland NJ (2012) International Code of Nomenclature for algae, fungi, and plants (Melbourne Code). http://www.iapt-taxon.org/nomen/main.php?page=title

Miller JS (1988) A revised treatment of Boraginaceae for Panama. Annals of the Missouri Botanical Garden 75: 456–521. http://www.biodiversitylibrary.org/item/87375, doi: 10.2307/2399433

Miller JS (1999) New Boraginaceae from Tropical America 1: New species of Bourreria and Tournefortia from Costa Rica and a note on the publication of Cordia collococca. Novon 9(2): 230–235. doi: 10.5962/bhl.title.744

Necker NJ (1790) Firensia. Elementa Botanica 1: 276. doi: 10.5962/bhl.title.4452

Rafinesque CS (1838) Sylva Telluriana, part 1. 184 pages. Philadelphia, 1–184. doi: 10.5962/bhl.title.248

Scopoli JA (1777) Introductio ad Historiam Naturalem. Gerle, Prague, 1–540. doi: 10.5962/bhl.title.10827

Willdenow CL (1798) Species Plantarum , ed. 4, 1(2). Nauk, Berlin, 1–1070. doi: 10.5962/bhl.title.60064