

CHARLES WRIGHT IN THE CUBAN FLORA. 1. CITATION OF SAUVALLE'S *FLORA CUBANA*

CHARLES WRIGHT EN LA FLORA CUBANA. 1. CITACIÓN DE LA *FLORA CUBANA* DE SAUVALLE

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Abstract

The correct citation for the new names that Charles Wright described in Sauvalle's *Flora Cubana* from 1868 to 1872 are those published in nine articles while those that appear in the reprinted book in 1873 are later isonyms.

Resumen

La cita correcta para los nuevos nombres que Charles Wright describió en *Flora Cubana* de Sauvalle de 1868 a 1872 son los publicados en los nueve artículos, mientras que los que aparecen en el libro reimpreso en 1873 son isónimos posteriores.

Introduction

This paper is the first contribution about the role of Charles Wright to our knowledge of the Cuban flora. Wright (29 October 1811, Wethersfield, Connecticut to 11 August 1885, Wethersfield, Connecticut) was an American botanist who explored and collected plants in Cuba in the mid-19th century. Considered one of the most important naturalists of his era, he made a remarkable contribution to the Cuban flora (León 1918). Over a span of eight years, he conducted three expeditions to Cuba, the first from November 30, 1856 to August 1857, the second from November 29, 1858 to August 1864, and the third from May 10, 1865 to July 1867 (Howard 1988). León (1918) added that Wright collected more than 4000 specimens, including higher terrestrial plants and lichens and mosses. His collections represent an important contribution to our knowledge of the Cuban plant diversity, including ferns and allied group (Eaton 1859, 1860), lichens (Muller 1885, Nylander 1876), mushrooms (Berkeley and Curtis 1869, mosses (Sullivant 1861; Muller 1898), orchids (Lindley 1858, 1860,) and other angiosperms (Grisebach 1862, 1866).

Francisco Adolfo Sauvalle (Charleston, South Carolina, USA, July 1, 1807 - Regla, La Habana, Cuba, February 1, 1879), was born to French parents from Haiti. He was sent to France at the age of seven for his studies, after which he settled in Cuba 1824. There he was able to pursue his interest and research on nature, particularly on his farm "Vuelta Abajo," near the town of San Cristóbal in present-day Artemisa province. He was a landowner in Cuba, married, had children, and passed away there in 1879 (Moya 2020).

León (1918) wrote about Sauvalle, "Although a notable botanist [in his own right], . . . he greatly favored Wright and the Havana Academies of Sciences . . ." León went on to note that the Academy gave Sauvalle a nearly complete collection of Wright's plants, which he used in his work on the Cuban flora, including adding common names to a considerable number of Wright's collections.

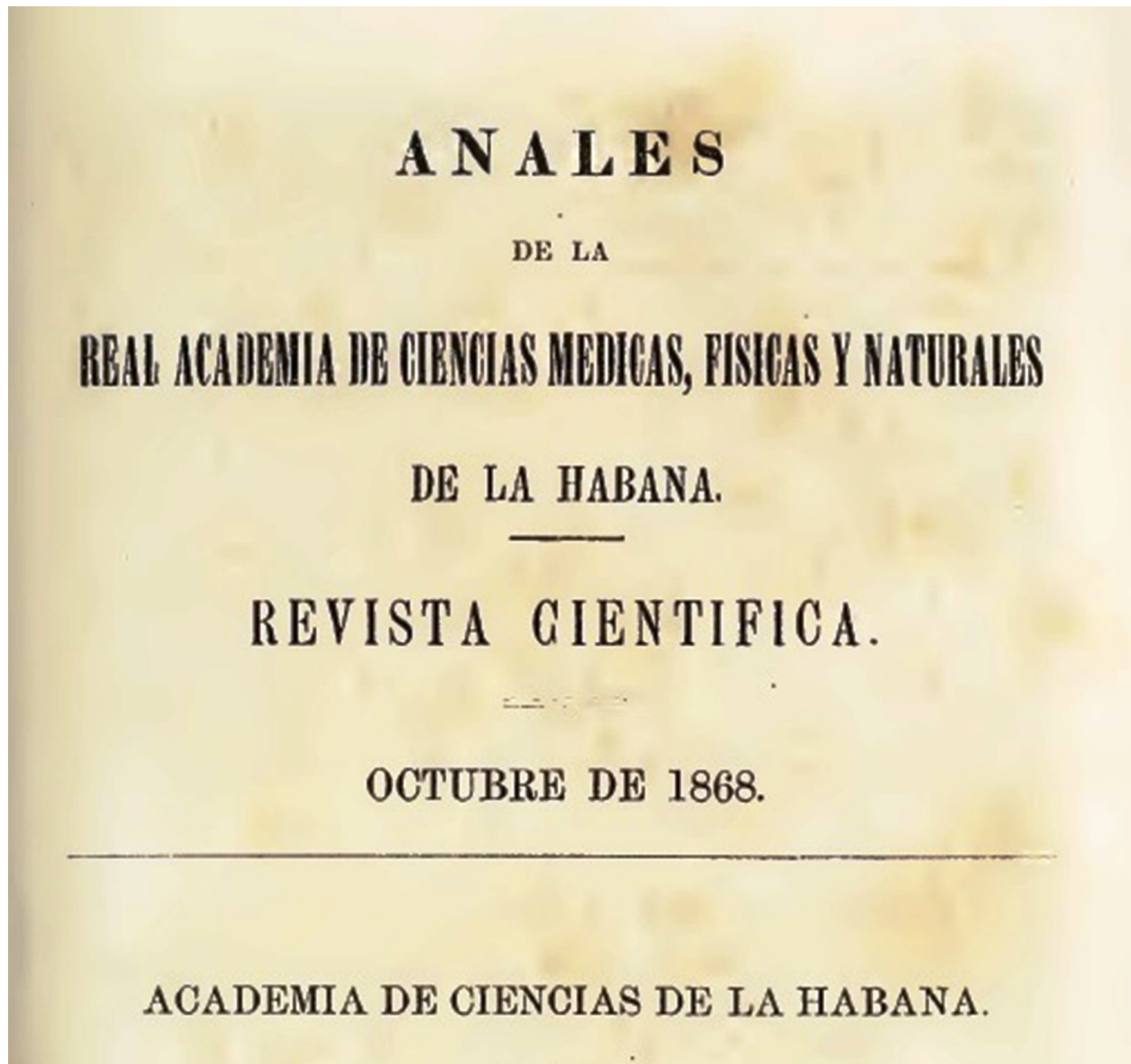
Sauvalle, who also wrote about poisonous and medicinal plants in Cuba, eventually published his *Flora Cubana* in 39 parts, in a series of nine articles in the journal *Anales de la Academia de Ciencias Médicas Físicas y Naturales de la Habana*, volumes 5 to 9, from 1868 to 1872 (**Fig. 1**). León (1918) considered it the most complete account of the Cuban flora.

However, Sauvalle's *Flora Cubana* series of nine journal articles was also published as a book reprint in 1873. Sauvalle wrote as a title in both publications "*FLORA CUBANA. Revisio catalogi gnsebachiani vel index plantarum cubensium ad catalogum cl. Grisebachii anno 1866 editum attemperata, pluribus Wrightianis novis speciebus aucta, valde quoque emendata, a cl. C. Wright; omnia pro Annalibus Regiae Academiae Scientiarum Havanensis digesta, nominibusque adjectis cubensis vulgo receptis a Francisco A. Sauvalle. Setiembre 1868*" (**Fig. 2**). Urban (1898) first wrote about the publication history of Sauvalle's *Flora Cubana*.

Unfortunately, because of the two editions of *Flora Cubana*, one as an earlier series of journal articles and the other as a later book reprint, problems have arisen concerning the correct citation for newly described plant names that appeared in this work. Here I address these problems and determine the correct citations of the names.

Materials and Methods

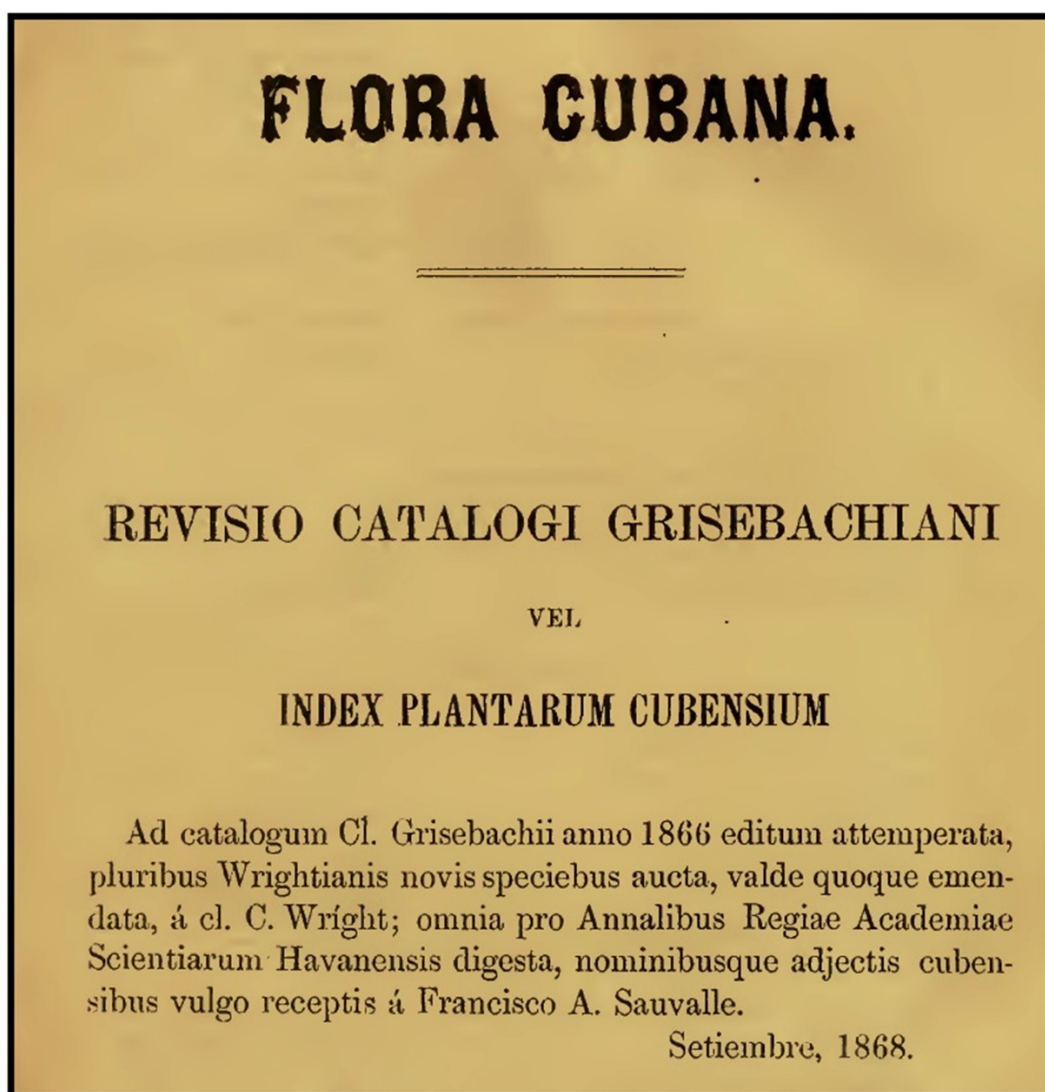
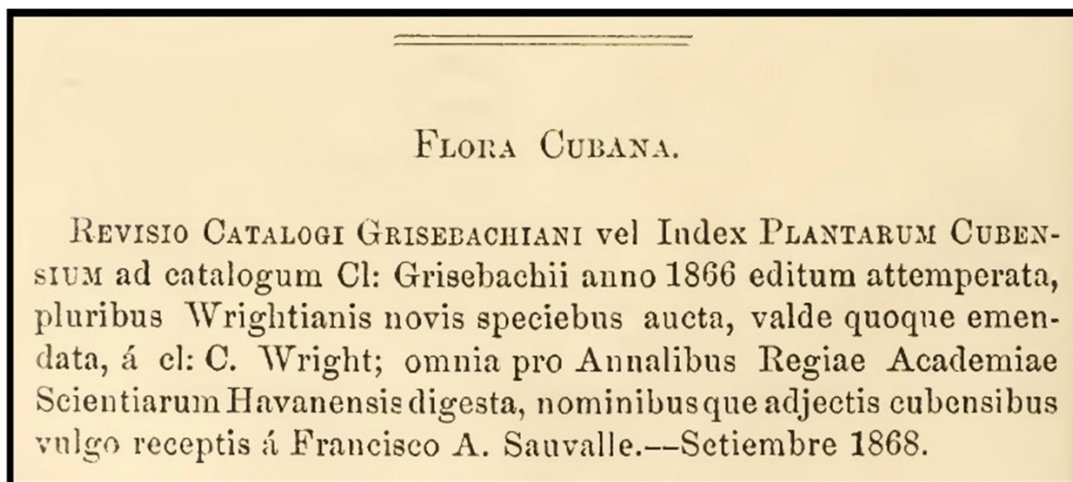
I examined the series of articles of *Flora Cubana* that Sauvalle published (1868, 1869a, 1869b, 1870a, 1870b, 1871a, 1871b, 1872a, 1872b) and the book that he published a year later (Sauvalle 1873). Particular attention was given to others who had investigated and offered an opinion about the citations of names, including Urban (1898), León (1918), Howard (1985), and Moya



1. Journal cover with the first article of Sauvalle's Flora Cubana in 1868.

(2020c). Also, I consulted information about Sauvalle in on-line sources, including the Biodiversity Heritage Library (BHL), International Plant Names Index (IPNI), and Tropicos.

I followed the recommendations of the International Code of Nomenclature for algae, fungi and plants (The Shenzhen code, Turland et al. 2018, referred to in the text by the word "Code." I gave special emphasis to priority of names and status definitions of article 6, especially Note 2 of article 6.3, and author citations of article 46, especially Note 2 of article 46.2.



2. Title pages in both publications of Sauvalle's FLORA CUBANA. Above, journal articles from 1868 to 1872. Below, reprinted book in 1873.

Results

Sauvalle's *Flora Cubana* was published in the earlier series of nine articles (comprising 39 parts) from 1868 to 1872 and the later book reprint was published in 1873. They notably represent different author citations for botanical nomenclature.

Author citations

The title of *Flora Cubana* in the original journal series publication (Sauvalle 1868) makes it clear that Sauvalle is primarily editor and that the new taxa should be ascribed to Charles Wright. The author citations of new names should be cited as "C. Wright" or "C. Wright in Sauvalle," followed by a bibliographic citation of the place of publication, but not "C. Wright ex Sauvalle" (Article 46.2 and Note 2 of the Code).

All the new names published in Sauvalle (1873) are based on the same type published in Sauvalle (1868–1872). According to Article 6.3 and its Note 2 of the Code, only the oldest of these "isonyms" has nomenclature status. Thus, names should always be cited from Sauvalle (1868–1872), their valid original publication, and later isonyms from Sauvalle (1873) are ignored and rejected.

Urban (1898) first pointed out this discrepancy and it is difficult to understand that after more than 120 years this improper citation still occurs. Indeed, author citations of names in the current literature continue the erroneous use of Sauvalle (1873), his book reprint, instead of using the earlier and accepted Sauvalle (1868–1872), his series on nine journal articles. In some publications citation page numbers are confused and have been transposed from the series to the book or vice versa, without considering that the series and the book are two different editions.

Correct citation example, using the first species described by C. Wright in Sauvalle:

Cleome macrorhiza C. Wright in Sauvalle, Anales Real Acad. Ci. Méd. Fís. Nat. Habana Revista Ci. 5: 199. 1868. (**Fig. 3**).

or

Cleome macrorhiza C. Wright, Anales Real Acad. Ci. Méd. Fís. Nat. Habana Revista Ci. 5: 199. 1868.



3. *Cleome macrorhiza* C. Wright, in Sauvalle 1868. C. Wright 3495 (© P745093).



4. *Andromeda glandulosa* (A. Rich.) C. Wright, in Sauvalle 1870. $\equiv$ *Lyonia glandulosa* (A. Rich.) Griseb. Ericaceae. Holguín. (© J.L. Gómez).

The following citations should not be used:

Cleome macrorhiza C. Wright, Fl. Cub. (Sauvalle): 4. 1868. “Fl. Cub. (Sauvalle)” is an incorrect title of the 1868 publication and, thus, should not be used.

Cleome macrorhiza Sauvalle, Anales Acad. Ci. Med. Habana 5: 199. 1868. Sauvalle ascribed the name to C. Wright.



5. *Andromeda latifolia* (A. Rich.) C. Wright, in Sauvalle 1870. $\equiv$ ***Lyonia latifolia*** (A. Rich.) Griseb. Ericaceae. Sancti Spíritus. (© J.P. García).

“*Cleome macrorhiza*” C. Wright ex Sauvalle, *Anales Acad. Ci. Med. Habana* 5: 199. 1868. Sauvalle ascribed the name to C. Wright.

“*Cleome macrorhiza*” C. Wright, *Fl. Cub. (Sauvalle)*: 4. 1873. It is a later isonym, without nomenclatural status.

Other Cuban species cited in Sauvalle's *Flora Cubana* (1868–1872) (Wright numbers represent types or other specimens that are referred to that species; Sauvalle applied his own numbers but they have no taxonomic significance):

Andromeda glandulosa (A. Rich.) C. Wright, in *Anales Acad. Ci. Méd. Habana* 6: 249. 1870. C. Wright 2195, 2196 (not types). Sauvalle 1348. $\equiv$ ***Lyonia glandulosa*** (A. Rich.) Griseb., *Cat. Pl. Cub.*: 51. 1866. Ericaceae. (Fig. 4). (Updated by Berazaín 2017).

Andromeda latifolia (A. Rich.) C. Wright, in Anales Acad. Ci. Méd. Habana 6: 250. 1870. *C. Wright* 2197 (not type). *Sauvalle* 1351. = ***Lyonia latifolia*** (A. Rich.) Griseb., Cat. Pl. Cub.: 51. 1866. Ericaceae. (Fig. 5). (Updated by Berazaín, R. 2017).

“*Colpothrinax wrightii*” Griseb. & Wendl. ex C. Wright, in Sauvalle, Anales Acad. Ci. Med. Habana, 8: 563. 1871, *nom. nud.* *C. Wright* 3964 (type). *Sauvalle* 2382. = ***Colpothrinax wrightii*** Siebert & Voss, Vilm. Blumen. ed. 3, 1: 1147. 1895. Arecaceae. (Fig. 6). (Updated by Moya 2020c).

“*Copernicia macroglossa*” Griseb. & H. Wendl., in C. Wright, Anales Acad. Ci. Med. Habana, 8: 562. 1871, *nom. nud.* *C. Wright* 3969 p.p. B (type). *Sauvalle* 2368. = ***Copernicia macroglossa*** Becc., Webbia 2: 177. 1907. Arecaceae. (Fig. 7). (Updated by Moya 2021).

Eugenia camarioca C. Wright, in Anales Acad. Ci. Med. Habana 5: 431. 1869. *C. Wright* 3552 (type). *Sauvalle* 717. Myrtaceae. (Fig. 8).

Melochia manducata C. Wright, in Anales Acad. Ci. Méd. Habana 5: 241. 1868. *C. Wright* 3510 (type). *Sauvalle* 239. Sterculiaceae. (Fig. 9). (Updated by Goldberg 1967).

Miconia cubensis (C. Wright ex Griseb.) C. Wright, in Sauvalle, Anales Acad. Ci. Med. Habana 5: 465. 1869 = *Pleurochaenia cubensis* C. Wright ex Griseb., Cat. Pl. Cub. 101. 1866. *C. Wright* 2514 (type). *Sauvalle* 795. Melastomataceae. (Fig. 10). (Updated by Goldenberg et al. 2013).

Stigmaphyllon faustinum C. Wright, in Anales Acad. Ci. Méd. Habana 5: 244. 1868 = ***Stigmaphyllon sagranum*** (‘*sagraeanum*’) A. Juss. in Ann. Sci. Nat., Bot., ser. 2, 13: 290. 1840. *C. Wright* 3522 (type). *Sauvalle* 291. Malpighiaceae. (Fig. 11). (Updated by González Gutiérrez and Meyer 2015).

Stigmaphyllon rhombifolium C. Wright, in Anales Acad. Ci. Méd. Habana 5: 244. 1868. = ***Stigmaphyllon diversifolium*** (Kunth) A. Juss., in Ann. Sci. Nat., Bot. sér. 2, 13: 290. 1840 = *Banisteria diversifolia* Kunth, Nov. Gen. Sp. [H.B.K.] 5, ed. 4º: 159. 1822. *C. Wright* 2153 (type). *Sauvalle* 293. Malpighiaceae. (Fig. 12). (Updated by González Gutiérrez and Meyer 2015).

“*Thrinax crinita*” Griseb. & H. Wendl. ex C. Wright, in Sauvalle Anales Acad. Ci. Med. Habana 7: 563. 1871, *nom. nud.* *C. Wright* 3967 (not type). *Sauvalle* 2380. = ***Coccothrinax crinita*** (R. D. Hoyt) Becc. Webbia 2: 334. 1907 = *Thrinax crinita* R. D. Hoyt, Gardening (Chicago) 2(46): 369. 1894. Arecaceae. (Fig. 13). (Updated by Moya 2020b).



6. "*Colpothrinax wrightii*" in Sauvalle 1871, nom. nud. = ***Colpothrinax wrightii*** Siebert & Voss 1895. C. Wright 3964. Arecaceae. Pinar del Rio. (© D.R. Hodel).



7. "*Copernicia macroglossa*" in Sauvalle 1871, nom. nud. = ***Copernicia macroglossa*** Becc., 1907. *C. Wright 3969 p.p. B* . Arecaceae. Camagüey. (© D.R. Hodel).



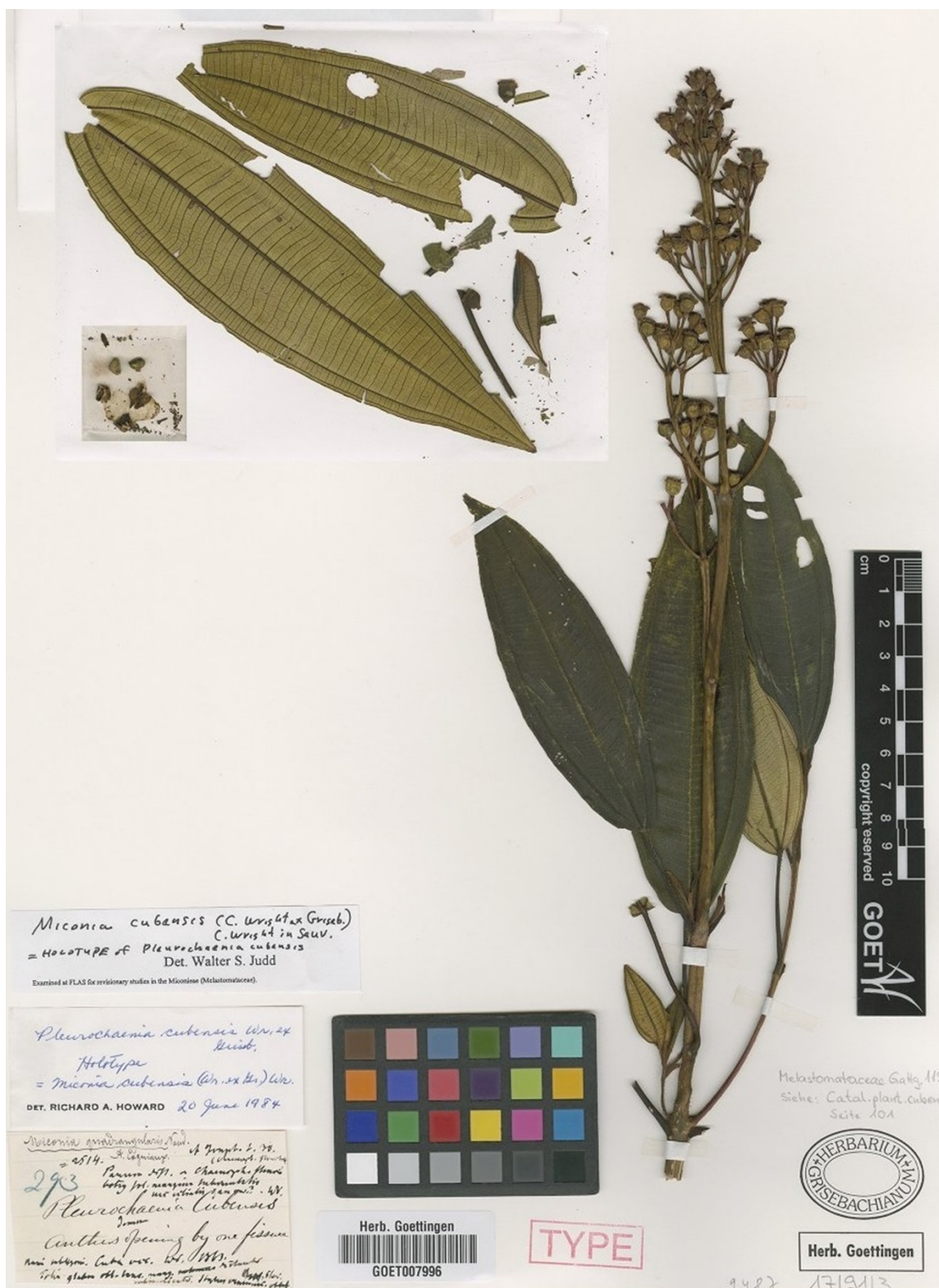
8. *Eugenia camarioca* C. Wright, in Sauvalle 1869. C. Wright 3552. Myrtaceae. Matamoros, Holguín. (© J.L. Gómez).

Recommended citation for Sauvalle's *Flora Cubana* series of nine journal articles and book reprint:

The correct citations for Sauvalle's *Flora Cubana*, originally published as a series of nine articles (39 parts total) in the journal *Anales de la Academia de Ciencias Médicas Físicas y Naturales de la Habana* (volumes 5 to 9 from 1868 to 1872), and published a year later as a book reprint in 1873, are listed in the Literature Cited below.



9. *Melochia manducata* C. Wright, in Sauvalle 1867. C. Wright 3510 (© K380963).



10. *Miconia cubensis* (C. Wright ex Griseb.) C. Wright, in Sauvalle 1869. C. Wright 2514. (© GOET7996).



11. *Stigmaphyllon faustinum* C. Wright, in Sauvalle 1868. = ***Stigmaphyllon sagraenum*** A. Juss. C. Wright 3522. Malpighiaceae. Cerro Galano, Holguín. (© P. A. González Gutiérrez).

Recommendations for the citation of authors and the publication of names:

According to IPNI:

Standard form of publication for articles (1868–1872): *Anales Real Acad. Ci. Méd. Fís. Nat. Habana Revista Ci.*

Publication title for articles (1868–1872): *Anales de la Academia de Ciencias Médicas, Físicas y Naturales de la Habana*. Revista científica. Habana.

Standard form of publication for the book (1873): *Flora Cubana* [Sauvalle].



12. *Stigmaphyllon rhombifolium* C. Wright, in Sauvalle 1868. = *Stigmaphyllon diversifolium* (Kunth) A. Juss. *C. Wright* 2153. Malpighiaceae. Holguín city. (© P. A. González Gutiérrez).

I recommend:

Standard form of article names (1868–1872): *Flora Cubana*.

Do not use standard form for names that appear in the book (Sauvalle 1873), as all names are later isonyms and should be ignored.

Main botanical families in Cuba in *Flora Cubana*, by number of species or degree of endemism:

Arecaeae [Palmae]. Sauvalle (1871a). *Flora Cubana* 7: 560–566.

Asteraceae. Sauvalle (1869b). *Flora Cubana* 6: 174–182. Sauvalle (1870a). *Flora Cubana* 6: 209–213.

Bignoniaceae. Sauvalle (1870a). *Flora Cubana* 6: 318–322.



13. "*Thrinax crinita*" in Sauvalle 1871, nom. nud. = ***Coccothrinax crinita*** (R. D. Hoyt) Becc. 1907. C. Wright 3967. Arecaceae. Artemisa. (© D.R. Hodel).

Boraginaceae [Cordiaceae]. Sauvalle (1870b). *Flora Cubana* 7: 37–53.
Bromeliaceae. Sauvalle (1871b). *Flora Cubana* 8: 48–54, 73–88,
Buxaceae. Sauvalle (1870b). *Flora Cubana* 7: 194–200.
Convolvulaceae. Sauvalle (1870b). *Flora Cubana* 7: 37–53.
Cyperaceae. Sauvalle (1871b). *Flora Cubana* 8: 73–88, 152–158.
Ericaceae. Sauvalle (1870a). *Flora Cubana* 6: 249–251.
Euphorbiaceae. Sauvalle (1870b). *Flora Cubana* 7: 100–110, 149–156, 194–200.
Fabaceae [Leguminosae]. Sauvalle (1869a). *Flora Cubana* 5: 332–338, 403–410.
Malvaceae. Sauvalle (1868). *Flora Cubana* 5: 237–245.
Melastomataceae. Sauvalle (1869a). *Flora Cubana* 5: 428–436, 464–466. Sauvalle (1869b). *Flora Cubana* 6: 71–77.
Myrtaceae. Sauvalle (1869a). *Flora Cubana* 5: 403–410, 428–436.
Orchidaceae. Sauvalle (1872b). *Flora Cubana* 9: 126–128, 216, 245–248.
Piperaceae. Sauvalle (1870b). *Flora Cubana* 7: 459–460. Sauvalle (1871a). *Flora Cubana* 7: 510–514.
Poaceae [Gramineae]. Sauvalle (1871b). *Flora Cubana* 8: 152–158,
Rubiaceae. Sauvalle (1869b). *Flora Cubana* 6: 95–102, 121–126, 146–150, 174–182.
Verbenaceae. Sauvalle (1870b). *Flora Cubana* 7: 37–53.

Ferns and allied plants. Sauvalle (1872a). *Flora Cubana* 8: 413–415, 471–474, 534–537, 584–588.
Misprints. Sauvalle (1872a). *Flora Cubana* 8: 650–655.

Conclusions

The correct citation for the new names described by Wright in Sauvalle's *Flora Cubana* is the one referring to the series of nine articles published in the journal *Annals of the Academy of Physical and Natural Medical Sciences of Havana* from 1868 to 1872.

All the new names described by Wright in Sauvalle's book reprint *Flora Cubana* in 1873 are considered later isonyms.

Recommendations

Update the citation of Sauvalle's *Flora Cubana* according to the information presented here in new publications and existing web pages.

For new publications, cite only the original journal volume and the part where it was published, not the book reprint, when referring to a species or a particular family.

Acknowledgements

I am grateful to Donald R. Hodel for carefully reviewing the manuscript, providing photographs, and improving the English and Pedro A. González Gutiérrez for photos of *Stigmaphyllon* in habitat and the PDF of Malpighiaceae, José Luis Gómez Hechavarría for photos of *Lyonia glandulosa* and *Eugenia camarioca* in habitat, and Rosalina Berazaín Iturralde for photo of *Lyonia latifolia* and the PDF of Ericaceae. I also thank the herbaria GOET, K, and P for making images available the respective teams of the Biodiversity Heritage Library (BHL), International Plant Names Index (IPNI), and Tropicos from Missouri Botanical Garden for the on-line facilities and valuable information.

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