

# CHARLES WRIGHT AND THE CUBAN PALMS

## 8. UPDATE OF *COPERNICIA GLABRESCENS*

### CHARLES WRIGHT Y LAS PALMAS CUBANA 8. ACTUALIZACIÓN DE *COPERNICIA GLABRESCENS*

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#### Abstract

The nomenclature of *Copernicia glabrescens*, based on *Wright 3968*, is updated. The geographic and biogeographic distribution is reported. Second-step lectotypification of the variety *C. glabrescens* var. *havanensis* is designated.

#### Resumen

Se actualiza la nomenclatura de *Copernicia glabrescens*, basada en *Wright 3968*. Se informa la distribución geográfica y fitogeográfica de la especie. Se designa lectotipo en segundo paso de la variedad *C. glabrescens* var. *havanensis*.

#### Introduction

This paper is the eighth contribution of the author about the role of Charles Wright in our knowledge of Cuban palms (Moya 2020a, 2020b [published as preprint], 2020c [published as preprint], 2021a, 2022; Moya and Méndez 2018; Moya and Zona 2018; Moya et al. 2021).

Charles 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), and other angiosperms (Grisebach 1862, 1866), including palms.

The Arecaceae family, commonly known as palms, is composed of flowering, woody, perennials plants with varying life habits. About 180 genera and 2,600 species comprise the family (Dransfield et al. 2008), and is one of the most conspicuous plant families of the tropics and subtropics but occurs only rarely in temperate regions (Cuenca and Asmussen-Lange 2007). Palms are important components and most species diverse in many tropical ecosystems (Henderson et al. 1995). They are easy to recognize, and throughout their range are one of the most useful groups of plants for forest dwellers, rural farmers, villagers, and tropical populations in general (Torre et al. 2009).

In Cuba, 15 genera and 98 infrageneric taxa are reported for the Arecaceae: 79 species; 10 infraspecific taxa; and 9 hybrids. Of the total, 85 infrageneric taxa are endemic (86.7 %), one of the highest rates among the plant families in the country (Moya 2021b).

*Copernicia* is a neotropical genus of the tribe Trachycarpeae of the subfamily Coryphoideae (Dransfield et al. 2008) and contains about 22 species, one variety, and eight hybrids (Govaerts et al. 2022). Of the 22 species, three are found on the South America, two are confined to Hispaniola (Haiti and Dominican Republic) and the remainder are endemic to Cuba (Dahlgren and Glassman 1961, 1963). The most recent monograph of *Copernicia* (Dahlgren and Glassman (1963) recognized 23 species, one variety, and six natural hybrids in Cuba. Moya (2021b) recognized 16 species, two varieties, and eight natural hybrids in Cuba.

Of the Cuban species, *Copernicia glabrescens* is one of three that Beccari (1907) named and described (the other two were *C. curtissii* and *C. macroglossa*).

The main objective of this work is to provide an update on the identification and disposition of all of Wright's specimens relating to *Copernicia glabrescens* and the type materials associated with that name and discuss its geographical and biogeographic distribution.

## **Materials and Methods**

I examined the protologue, description, and status of *Copernicia glabrescens* and associated taxa in Sauvalle (1871, 1873), Gómez de la Maza (1893), Beccari (1907), León (1936), Dahlgren and Glassman (1963), and Liogier (1969). I paid particular attention to nomenclature and type

specimens. I also reviewed Beccari (1913), Dahlgren (1936), Leon (1931, 1946), Glassman (1972), and Cuccuini and Nepi (2006).

I found 40 specimens of *Copernicia glabrescens* or *C. glabrescens* var. *havanensis* with some category of type status in 16 herbaria: A, B, BH, BRU, F, FI, FTG, GH, HAC, HAN, K, MICH, MT, NY, P, and US (all herbaria acronyms from Thiers 2016). I also reviewed 33 additional specimens that are paratypes or have no type status in 14 herbaria: A, B, BH, FI, G, GH, HAC, LE, MA, MO, P, S, UC, YU. Two of Wright's collections, 3216 and 3217, sometimes were mixed or not, and consisted of *C. glabrescens*, *C. hospita*, and *Acoelorrhaphe wrightii*. For example, I found 18 specimens of *C. hospita* that Wright collected (Wright 3216) but without type status in eight herbaria: A, B, BH, BRU, G, GH, MA, P, and two in K without identification. Also, I found 32 specimens of *Acoelorrhaphe wrightii* that Wright collected (Wright 3217) but without type status in 16 herbaria: A, B, BRU, F, FI, G, GH, HAC, LE, MA, MO, NY, P, S, UC, and YU, in addition to the four types that Moya (2019) had identified.

I also reviewed all pertinent material in the National Herbarium of Cuba "Onaney Muñiz" of the Institute of Ecology and Systematics (HAC). All specimens cited were examined from high-resolution photographs except for those at HAC, which I examined in person. For the citation of specimens from HAC, I followed Regalado et al. (2008). All material previously stored in the HAC as ECA refer to Central Agronomic Station; EEAB, to C. F. Baker Agronomic Experimental Station, both at Santiago de Las Vegas; HABA, to the series of the Academy of Medical, Physical and Natural Sciences of Havana; IM, to the Secondary Education Institute of Matanzas (Jimeno herbarium); and LS, to the series of the Colegio de La Salle in Vedado (Havana). Specimens seen by the author are marked with "!", those not seen with "[n.v.]," and those without such designations were seen as digital images.

For typification of the names, 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."

Borhidi and Muñiz (1986, 1996) discussed and outlined the biogeography of Cuba, which I follow here. The geographical distribution information includes the country in uppercase letters, followed in alphabetical order by the province with the municipalities in parentheses. The biogeographical information includes the province in uppercase letters, followed by the subprovince and the corresponding sector, with the districts in parentheses. The origin of the information used for each municipality or district is denoted by adding the superscripts "H" for herbarium specimen, "R" for bibliographic reference, "A" for author field observations, and "P" for personal communications.



**1.** *Copernicia glabrescens* in dry forest on white sand substrate, Reserva Florística Manejada San Ubaldo-Sabanalamar, Guane, Pinar de Río. ©2017 D. R. Hodel.



**2.** *Copernicia glabrescens* exposed in disturbed, shrubby vegetation on white sand substrate, Guane, Pinar de Río. ©2017 D. R. Hodel.

The author has maintained field observation records for the last 25 years, which relate the natural distribution of the species. His field observation number system is in this format: *Serie Moya* XXXX.

## Results and Discussion

*Copernicia glabrescens* was the second species of the genus described for Cuba. It has the peculiarity of being the only *Copernicia* species that Wright collected although in some cases his specimens were mixed with two other species, *Acoelorrhaphe wrightii* or *C. hospita*. Three Wright collections, 3216, 3217, and 3968 comprise *C. glabrescens* although the former two were sometimes mixed. Here I propose to resolve the name that corresponds to each of those mixed collections, adding capital letters to each of the collection numbers 'pro parte' (p. p.) with different characteristics.

## Taxonomic Treatment

***Copernicia glabrescens*** Becc., *Webbia* 2: 170. 1907.

Type: CUBA. [Unknown locality, no date], *Wright 3968* (**Fig. 3**) (lectotype, Dahlgren and Glassman 1963: 125, A, specified here: A 00028318; isolectotypes: B [destr.], BRU 00054977, BRU 00054978, F 0075033, F 0075034, F 248561 [photo of HAN], F 279241 [photo of A, n.v.], FI ex G.DC.1 [n.v.], FI ex G.DC.2 [n.v.], FTG 10204 [photo of F248561], FTG 63885 [photo of US87463], GH 00028316, GH 00028317, HAC 28904! [photo of US87463], HAC28909! [photo of US87464], HAN [n.v.], K 000432904, K 000432905, MICH 1138439 [n.v.], NY 00071168, NY 00071169, NY 1662338, P 00725589, US 00087463, US 00087464).

Syntype: CUBA. Pinar del Río province, Consolación del Sur municipality, Herradura, 16 Sep. 1905, *Hermann 904* (B [destr.], HAC ex ECA.1!, HAC ex ECA.2!, FI ex HAC (ECA) [n.v.]).

= *Copernicia glabrescens* var. *havanensis* León, *Mem. Soc. Cub. Hist. Nat. "Felipe Poey"* 10: 217. 1936.

Type. CUBA. Mayabeque province, Batabanó municipality, "*Finca San Francisco, no lejos de Batabanó, Habana*," 15 Jan. 1931, *León 14756* (**Fig. 4**), (lectotype, [first step] Dahlgren and Glassman 1963: 125, LS, [second step] designated here: HAC ex LS!; isolectotypes: F 0075035 ex LS4600, FTG 63884 [photo of US87465], HAC ex EEAB!, HAC ex LS4599!, MT 00116891.1,

MT 00116891.2, NY 00071170 ex LS, NY 00071171, P 01796418, P 01796419, US00087465 ex LS, BH [n.v.], F 279242 [photo of NY, n.v.].

Paratypes: CUBA. Mayabeque province, Batabanó municipality, sabanas, cerca de Batabanó, 11 Jun. 1930, *León 14581* (HAC ex LS4603!, BH [n.v.]); Finca Gutiérrez, Batabanó, 26 Jun. 1930, *León 14586* (HAC ex LS4598!, HAC ex LS4608!, BH [n.v.]).

Sauvalle (1871) first listed *Copernicia glabrescens* H. Wendl. ex C. Wright, citing *Wright 3968* with the name but without any description; therefore, it must be regarded as a *nomen nudum*. Shortly thereafter, Sauvalle (1873) considered it as a later isonym, which has no nomenclatural status. Gómez de la Maza (1893) listed *Copernicia glabrescens* (H. Wendl.) M. Gómez but again without a description; it, too, must be regarded as a *nomen nudum*. Kerchove (1878) and Salomon (1887) overlooked the name *C. glabrescens*.

When publishing *Copernicia glabrescens*, Beccari (1907) attributed the name to “Wendl., named in Wright Pl. Cub.”. This reference to the unpublished binary designation “*Copernicia glabrescens* H. Wendl. ex C. Wright” is not ascription of *C. glabrescens* to H. Wendl. ex C. Wright, and furthermore, Wendland did not provided a validating description; thus, the name is cited as *Copernicia glabrescens* Becc., not *C. glabrescens* (H. Wendl. ex C. Wright) ex Becc., according to Articles 46.4 and 46.5 of the Code.

Beccari (1907) did not indicate any type in the protologue of *Copernicia glabrescens*. For the description he used two specimens, *Wright 3968* and *Hermann 904*, both at B, creating syntypes, according to article 9.6 of the Code. Dahlgren and Glassman (1963) designated *Wright 3968* at A (**Fig. 3**) as the lectotype, which is specified here.

León (1936) offered a valid publication of the name *Copernicia glabrescens* var. *havanensis*, accompanied with the description, and he designated *León 14756* as the type, referring to a complete collection, thus creating syntypes. Dahlgren and Glassman (1963) also cited *León 14756* at LS as the type (**Fig. 4**), referring to a complete collection, thus creating syntypes, too, which here I consider as lectotype [first-step]. I designate *León 14756* at HAC ex LS as the lectotype [second step] and designate as isolectotypes the 13 duplicates at F, FTG, HAC, MT, NY, P, and US.

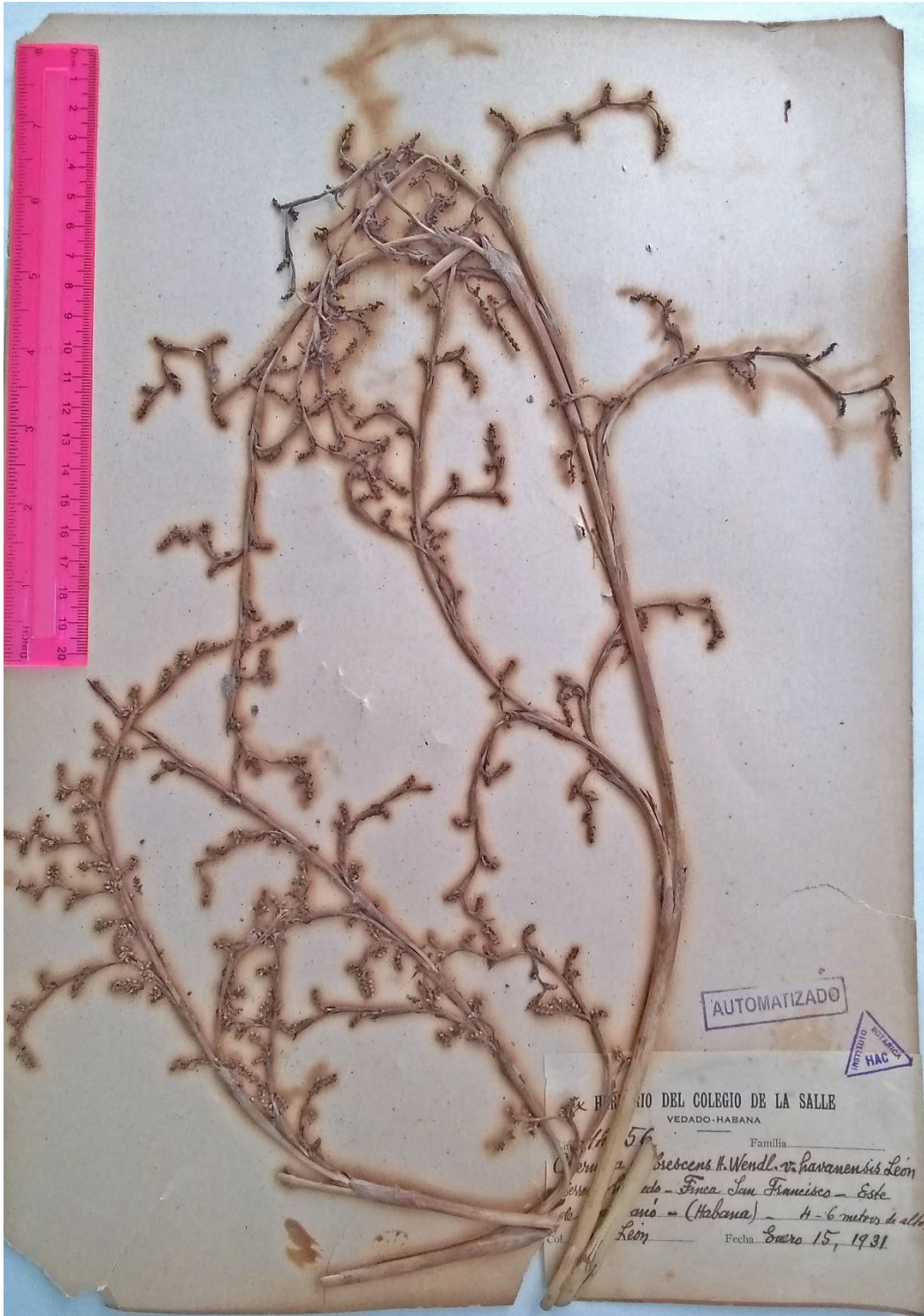
Leon (1936) noted in the protologue that *León 14581* and *León 14586* are from the same locality as the type, and I consider them as paratypes.

Liogier (1969) reduced *Copernicia glabrescens* var. *havanensis* to synonymy with the species.



3. Lectotype of *Copernicia glabrescens*, Wright 3968, (A 00028318). Photo © 2022 and courtesy of Herbarium of Arnold Arboretum, Harvard University.





4. Lectotype of *Copernicia glabrescens* var. *havanensis*, León 14756, (HAC ex LS). Photo by Jovani Rojas © 2022 and courtesy of Instituto de Ecología y Sistemática, Havana.

I consider *Copernicia glabrescens* var. *ramosissima* and its basionym *C. ramosissima* as a variety of *C. glabrescens*. I (Moya 2021b) ignored the proposal of Liogier (1969) and others up to the present who considered it a synonym of *C. glabrescens*.

### Distribution

**Moya field observations.** CUBA. Pinar del Río province. La Palma municipality: Cajalbana, 26 Oct. 2016, *Serie Moya1697a*. Sandino municipality: carretera a Cortés, 27 Oct. 2016, *Serie Moya1697b*.

Ramona Oviedo (pers. comm., 13 February 2019) reported *Copernicia glabrescens* in wetlands of southern of Güines and Melena del Sur municipalities, both in Mayabeque province.

**Geographical Distribution.** CUBA. Provinces Artemisa (Artemisa<sup>H</sup>, Bahía Honda<sup>H</sup>, Candelaria<sup>H</sup>, San Cristóbal<sup>H</sup>), Mayabeque (Batabanó<sup>H</sup>, Bejucal<sup>H</sup>, Güines<sup>P</sup>, Melena del Sur<sup>P</sup>), and Pinar del Río (Consolación del Sur<sup>H</sup>, Guane<sup>H</sup>, La Palma<sup>H</sup>, Mantua<sup>R</sup>, Pinar del Río<sup>H</sup>, Sandino<sup>H</sup>) (**Figs. 5–6**).

**Biogeographical Distribution.** CUBA province, Western Cuba subprovince: sector Peninsularicum (Guanahacabibense<sup>H</sup>, Zapatense<sup>H</sup>), sector Pinaricum (Sabaloense<sup>H</sup>, Pinarense<sup>H</sup>), sector Rosaricum (Cajalbanense<sup>H</sup>); subprovince Central Cuba, sector Havanicum (Havanense<sup>H</sup>).

### Other Charles Wright Collections Associated with *Copernicia glabrescens* but without Type Status

Here I list specimens mixed or not with *Wright 3216* and *3217* and considered 'pro parte'. All are without type status. To differentiate each case from one another, an uppercase letter is added after a period following the collection number.

The specimens of *Wright 3216* 'pro parte' do not have type status for *Copernicia hospita* or *C. glabrescens*.

Cuba. Locality and date unknown. *Wright 3216* p. p. A. Not a type of *C. hospita*. (A 549144, A 549146, B [destr.], BH 38847.a [frag. ex B], BH 38847.b[frag. ex B], BH 38847.c [photo of B], BRU 55669, BRU 55670, BRU 55671, FI ex G.CD [n.v.], G 302590.1, GH 549143, MA 607609, P 725591, P 725592).



5. *Copernicia glabrescens* exposed in cleared pasture on white sand substrate, Guane, Pinar de Río. ©2017 D. R. Hodel.



6. *Copernicia glabrescens* in disturbed, low forest on serpentine substrate, Cajalbana, Pinar de Río. ©2017 D. R. Hodel.

Cuba. Locality and date unknown. *Wright 3216 p. p. B.* Not a type of *C. glabrescens*. (FI ex G.DC [n.v.], G00302587.1, G00302587.2, G00302589.2, G00302589.3 [frag.], G00302590.2, G00302590.3, LE [n.v.], MO [n.v.], P01796420, S11-24594, S11-24595, UC937034).

Cuba. Matanzas province, Calimete municipality, “Hanabana”, 29 Mar. 1862, *Wright 3216 p. p. C.* Mixed with *C. glabrescens*. Not a type of *C. hospita*.

Note. Wright wrote on the specimen GH549141, “Hanabana Mar. 29.” Howard (1988) noted that Wright visited Hanabana in March, 1862. In Pichardo (1875) I identified a site, “Hanabana,” southwest Amarillas (**Fig. 7**), now in the municipality of Calimete, province of Matanzas.

Cuba. Artemisa province, San Cristóbal municipality, “savanna Charco de Toro”, 7 Apr. 1864, *Wright 3216 p. p. D.* Mixed with *C. hospita*. Not a type of *C. glabrescens*

Note. Wright wrote on the specimen GH549142, “Apr. 7 Savanas Charco de Toro, jurisdicción San Cristobal.” Howard (1988) noted that Wright visited Charco de Toro in April, 1864. In Pichardo (1875) I identified a site, “Charco de Toro,” southeastern Los Palacios (**Fig. 8**), now in the municipality of San Cristóbal, province of Artemisa.

Cuba. Locality and date unknown. *Wright 3216 p. p. E.* Mixed with *C. glabrescens*. Not a type of *C. hospita* (G 302589.1a, HAC ex IM.a, MA 886548.a, P 1796421).

Cuba. Locality and date unknown. *Wright 3216 p. p. F.* Mixed with *C. hospita*. Not a type of *C. glabrescens* (G 302589.1b, HAC ex IM.b, MA 886548.b, P 4021665).

Cuba. Locality and date unknown. *Wright 3216 p. p. G. Copernicia sp.* (K 209143 [n.v.], K 209144 [n.v.]).

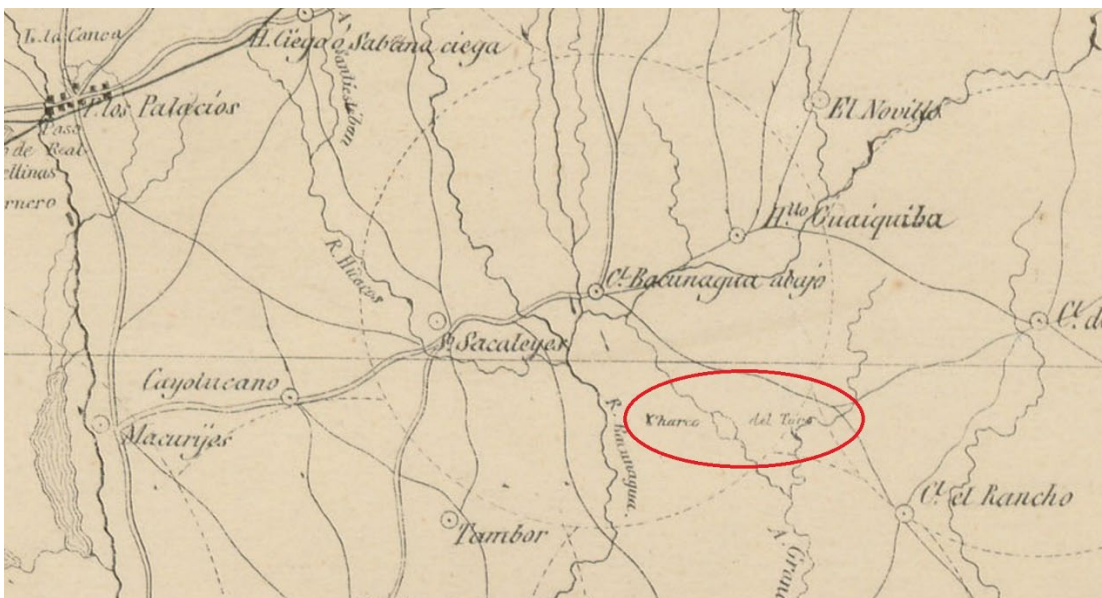
Moya (2019) discussed the different variants of *Wright 3217*. Here I annotate them by adding a letter to ‘pro parte’. Only the ‘pro parte A’ has type status.

Lectotype of *Acoelorrhaphe wrightii*. Type: CUBA. Matanzas Province, Calimete Municipality, Hanábana, 13 Mar. 1862, fl., *Wright 3217 p. p. A, emend. Moya*, lectotype, Moya 2019: 5, GOET 009313, GOET 009316, GOET 009317; isolectotype GH 00028340.

The following specimens of *Wright 3217 ‘pro parte’* do not have type status for *Acoelorrhaphe wrightii* or *Copernicia glabrescens* (Moya 2019).



7. Map 20 from Pichardo (1875). The red circle indicates the location of *Wright* 3216 *p. p.* at Hanabana. © 2022 by Catálogo de la Carpoteca del Instituto de Geografía Nacional de Cuba.



8. Map 23 from Pichardo (1875). The red circle indicates the location of *Wright* 3216 *p. p.* at Charco del Toro. © 2022 by Catálogo de la Carpoteca del Instituto de Geografía Nacional de Cuba.

Cuba. Pinar del Río province, Los Palacios municipality, “Dayanigua,” *Wright 3217 p. p. B*. Not a type of *Acoelorrhaphe wrightii* (GH 28339).

Cuba. Pinar del Río province, Mantua municipality, “El Salado,” *Wright 3217 p. p. C*. Not a type of *Acoelorrhaphe wrightii* (F78917.1, F78917.2).

Cuba. Locality and date unknown. *Wright 3217 p. p. D*. Not type of *Acoelorrhaphe wrightii* (B [destr.], BRU 54981, BRU 54982, BRU5 4983, FI 52576 (frag.) ex G-DC, FI 52577 (frag.) ex G-DC, FI 52578 (frag.) ex G-Boiss., G 5835, G 5835a, G 5835b, G 420227, HAC ex HABA.1, HAC ex HABA.2, LE 803, MO 104336, NY 1662257, NY 1662258, P 725613, P 725630, P 725631, S 06-2457, S 06-2458, UC 937005, YU 34580).

Cuba. Pinar del Río province, date unknown. *Wright 3217 p. p. E*. Mixed with *Copernicia glabrescens*. Not type of *Acoelorrhaphe wrightii* (A.a [n.v.], LE 804.a, MA 607607.a, MO 104335.a, P 725614, and YU 34581.a).

Note. Pinar del Río province is indicated here because *Copernicia glabrescens* is not reported for Matanzas province.

Cuba. Pinar del Río province, date unknown. *Wright 3217 p. p. F*. Mixed with *Acoelorrhaphe wrightii*. Not a type of *C. glabrescens* (A.b [n.v.], LE 804.b, MA 607607.b, MO 104335.b, P 725612, and YU 34581.b).

Note. Pinar del Río province is indicated here because *Copernicia glabrescens* is not reported for Matanzas province.

### **Excluded names:**

“*Copernicia glabrescens*” H. Wendl. ex C. Wright, in Sauvalle, Anales Real Acad. Ci. Méd. Fís. Nat. Habana Revista Ci. 7: 562. 1871, nom. nud.

“*Copernicia glabrescens*” H. Wendl. ex C. Wright, in Sauvalle, Fl. Cub.: 152. 1873, later isonym.

“*Copernicia glabrescens*” (H. Wendl.) M. Gómez, Noc. Bot. Sist. 50. 1893, nom. nud.

“*Copernicia glabrescens*” H. Wendl. ex Becc., Webbia 2: 170. 1907, incorrect author citation.

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