CHARLES WRIGHT AND THE CUBAN PALMS
4. THE *WRIGHT 3221* COLLECTION

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4. LA *WRIGHT 3221* COLECCIÓN

CELIO E. MOYA LÓPEZ

Abstract

The *Wright 3221* collection is identified as *Coccothrinax moaensis* with no type status. A lectotype is here proposed for the name *Coccothrinax moaensis* at HAC. The geographic distribution is extended to the Mayarí Municipality and the phytogeographic distribution to the Nipense District.

Resumen

Se identifica la colecta *Wright 3221* como *Coccothrinax moaensis* sin categoría de tipo. Se propone lectotipo para el nombre *Coccothrinax moaensis* en HAC. Se amplía la distribución geográfica al municipio Mayarí y la fitogeográfica al distrito Nipense.

Introduction

The Arecaceae (Palmae) family, commonly known as palms, is composed of flowering, mostly woody, perennials plants with varying life habits. About 180 genera and 2,600 species comprise the family (Dransfield et al. 2008).

In Cuba, the Arecaceae family has 15 genera and 98 infrageneric taxa: 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 2021).

I have published a preprint of the information presented here as an installment of my contribution to the study of the palms of the Caribbean in the Repository of Environmental Information of Cuba (Moya 2020b). It was the fourth contribution about the role of Charles

Wright in our knowledge of Cuban palms (Moya 2020a, Moya and Méndez 2018, Moya and Zona 2018).

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 mid19th 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).

Here I provide an update to the identification and disposition of all *Wright 3221* specimens, designated the lectotype of *Coccothrinax moaensis*, and define its geographical and biogeographic distribution.

Materials and Methods

I examined the protologues, descriptions, and status changes related to *Coccothrinax moaensis* (Borhidi & O. Muñiz) O. Muñiz (**Fig. 1**) and *Coccothrinax orientalis* (León) O. Muñiz & Borhidi, which is cited in the protologue as being related to the former species (Borhidi and Muñiz 1972, León 1939, Muñiz and Borhidi 1982). I also examined other publications that referred to *Wright 3221* (Beccari 1907, 1913, 1931; Grisebach 1866; Sauvalle 1871, 1873).

I found a total of 22 specimens associated with the taxa under study in nine herbaria: BP, FI, G, GH, HAC, MA, MO, P, and YU (acronyms from Thiers 2016).

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 Academy of Medical, Physical and Natural Sciences of Havana and transferred to HAC is noted as HABA, and labels from EEAB refer to C. F. Baker at the Santiago de Las Vegas Agronomic Experimental Station. 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".

1. *Coccothrinax moaensis* in habitat, Yamanigüey, Moa Municipality, Holguín Province, eastern Cuba, *MR1712*. ©2017 Donald R. Hodel.

Borhidi and Muñiz (1986 and 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.

Results

Here I discuss the history and identification of the *Wright 3221* collection and lectotypification of *Coccothrinax moaensis*.

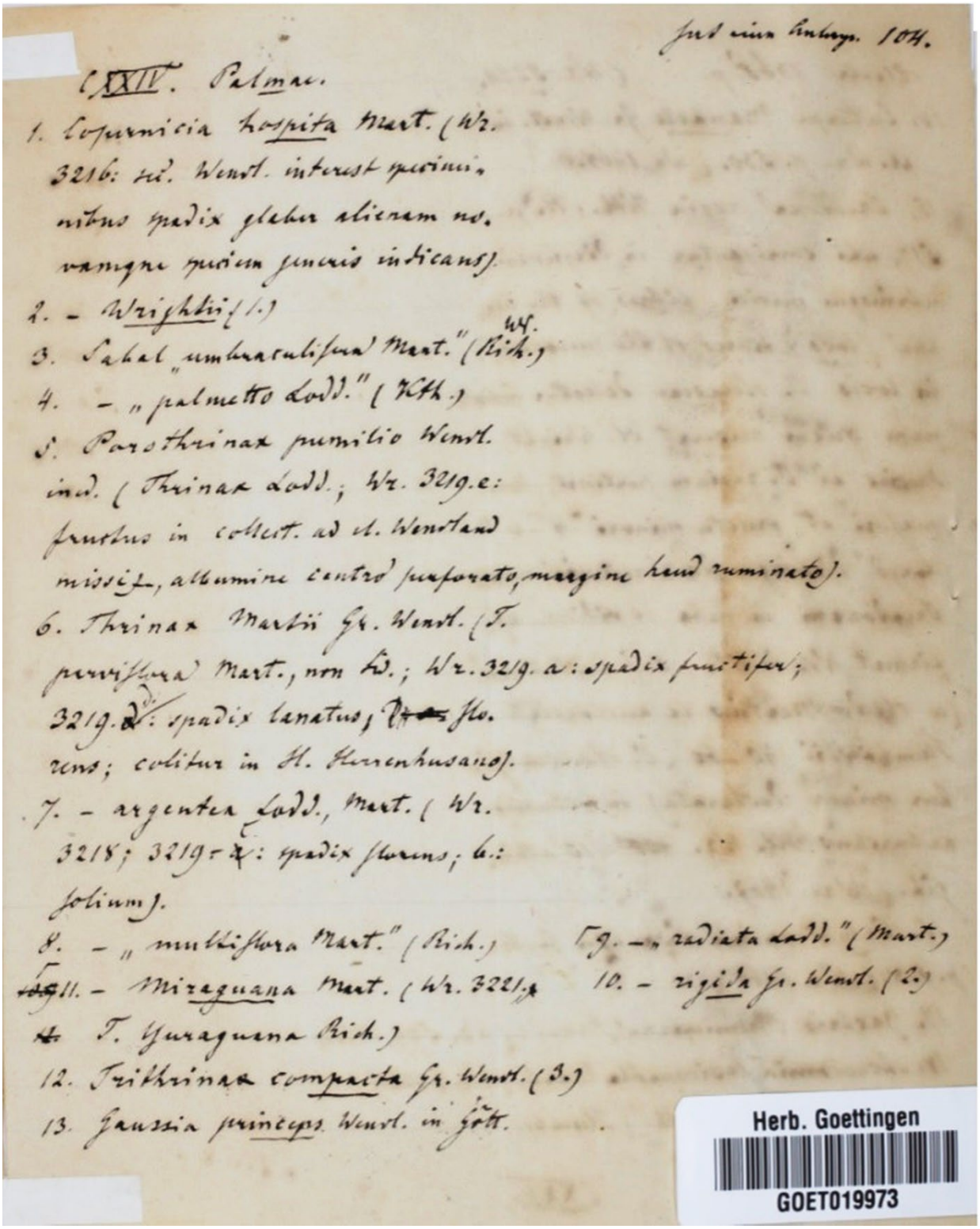
Historical Background of the *Wright 3221* Collection

I base the locality and collection date of *Wright 3221* on the specimen GH549105 (**Fig. 2**), where Wright annotated the specimen with "Pinal Mayari abajo Aug 6." This note reaffirms what is written in Appendix 2 of Howard (1988), where he infers that Wright was between "Cayo del Rey" and "Mayarí abajo" from August 1 to 10, 1860. Thus, the collection date of *Wright 3221* is August 6, 1860, which was during Wright's second expedition to Cuba. Pezuela (1867) noted that San Gregorio de Mayarí Abajo was the current Mayarí. At present the location should be identified as the plateau of "Pinares de Mayarí" (J.L. Gómez, pers. comm.), who also notes that Mayarí Abajo is the current city of Mayarí, municipal seat of the Holguín province. The palm collected in "Pinal Mayari abajo" was distributed as *Wright 3221* to eight herbaria and comprises 17 separate specimens.

Grisebach annotated a specimen at GOET (GOET19973) (**Fig. 3**) "11. – [*Thrinax*] *miraguana* Mart. (Wr. 3221. *T. yuraguana* Rich.)," which is the same that he (Grisebach 1866) published later for the first time when referring to the *Wright 3221* collection. Sauvalle (1871) provided the vernacular names "*miraguano*," "*yuraguano*," and "*guanichiche*," associating them with *Thrinax miraguano* Mart., with his number 2378, quoting by mistake *Wright 3224* instead of *3221*. Beccari (1907) associated *Wright 3221* with *Coccothrinax miraguano* Becc., mentioning that he reviewed the specimens in G-Boisser and G-DC. Beccari (1913) provided a drawing of rachilla, flower, fruit, and seed (**Fig. 4**) from *Wright 3221*, which he also included in Beccari (1931).

The composition of each specimen of the *Wright 3221* collection is listed in Table 1.

2. The original *Wright 3221* collection at GH, GH549105, where Wright annotated the specimen with “Pinal Mayari abajo Aug 6.” ©2022 GH.

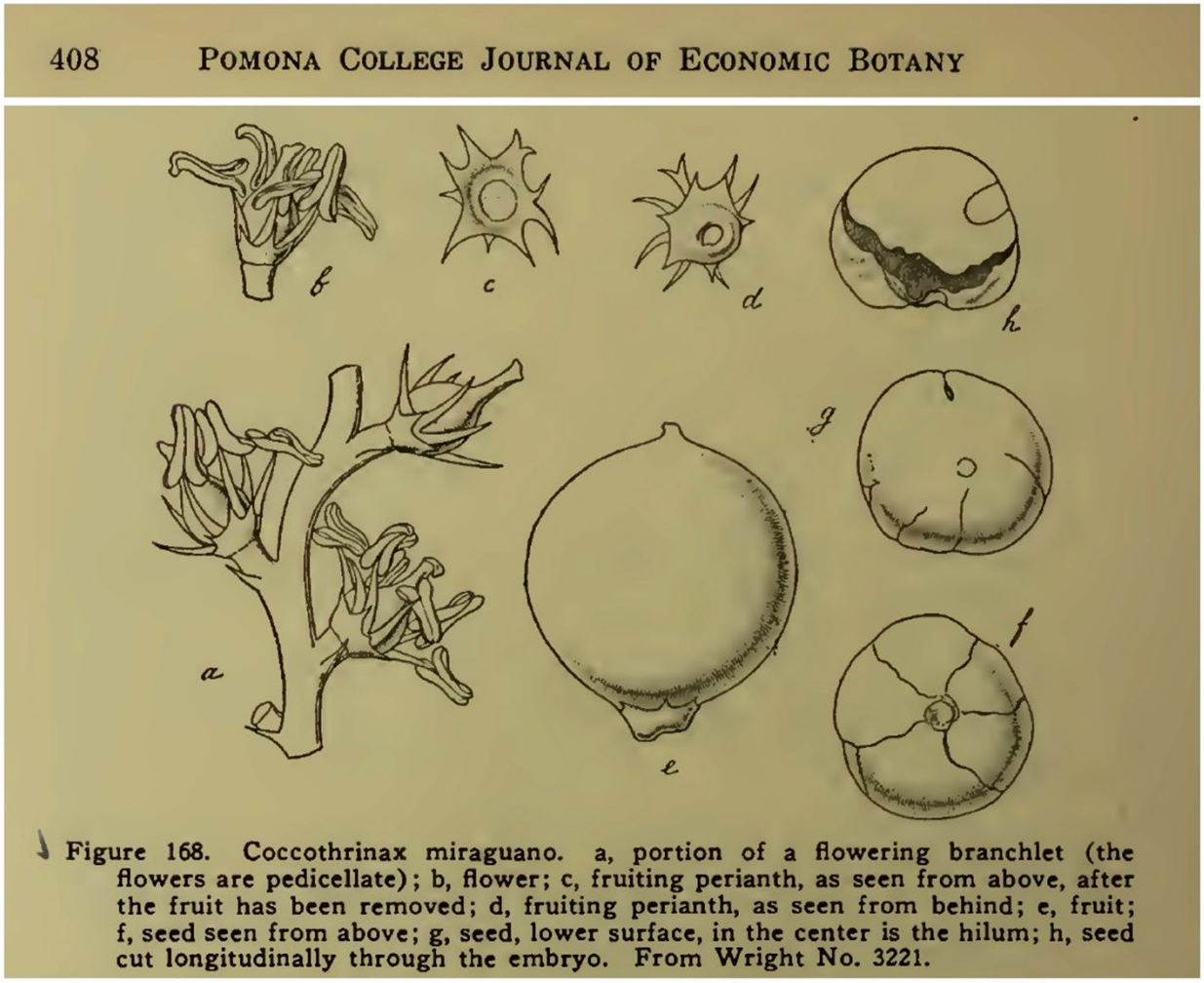


3. Original text from Grisebach (1866) at GOET, 019973.c, where Grisebach wrote "– [*Thrinax*] *miraguana* Mart. (Wr. 3221. *T. yuraguana* Rich.)" © 2022 GOET.

Table 1. Composition of Each Specimen (Sheet) of the *Wright 3221* Collection.

Herbarium	Sheet No.	Description
GH	49104	Leaf, petiole and apical part of leaf sheath.
GH	549105	Inflorescence with flowers, fruits, and seeds and annotated by Wright "Pinal Mayari abajo Aug 6."
G	301706.1	Leaf, petiole, and apical part of leaf sheath.
G	355863.2	Leaf, petiole, and apical part of leaf sheath.
G	301706.2	Fragments of inflorescence with flowers and fruits, annotated by Beccari in 1907 with the name "*Coccothrinax miraguano* (Mart.) Becc."
G	355863.1	Fragments of inflorescence with flowers and fruits, annotated by Beccari in 1907 with the name "*Coccothrinax miraguano* (Mart.) Becc."
FI	51883	Fragments of leaf, rachilla, flowers, and fruits from the specimen at G-DC.
FI	51889	Drawings of rachilla, flowers, fruits, and seeds.
MA	607605	Leaf, petiole, apical part of leaf sheath, and portion of inflorescence.
MO	636606	Portions of inflorescence with flowers and fruits.
MO	636607	Leaf, petiole, and apical part of leaf sheath.
P	1794331	Portions of inflorescence with flowers and fruits.
P	1794333	Leaf, petiole, and apical part of leaf sheath.
YU	34633	Portions of petiole, apical part of leaf sheath, and inflorescence with flowers.
YU	34634	Portions of petiole, apical part of leaf sheath, and inflorescence with flowers.
HAC ex HABA	1	Leaf and portion of inflorescence with flowers and fruits.*
HAC ex HABA	2	Leaf, leaf sheath with new leaf, and inflorescence.*

* These two specimens have on the label "Sauvalle No. 2373 *Thrinax miraguano*" and León annotated both on the cardboard "*Coccothrinax yuraguana* (A. Rich.) León."



4. Drawings of rachilla, flower, fruit, and seeds of *Wright 3221* taken from Beccari 1913.

Identification of the *Wright 3221* Collection

Coccothrinax moaensis is distinguished by a combination of characters, including the habit of 2–3 m tall (**Fig. 6**) (or to 6 m tall in much older specimens [**Fig. 1**]) and loose distal portion of the leaf sheath with fibers 1–1.5 mm thick (**Fig. 5**); leaves with 8–22 segments (**Fig. 6**), short and hanging inflorescences with 1–4, close-set partial inflorescences (**Fig. 5**), and flower and fruit pedicels 1–2 mm long (Borhidi and Muñiz 1972).

Based on these characters, I identified the *Wright 3221* collection as *Coccothrinax moaensis*, which had been assigned variously to *Thrinax miraguama*, now *C. miraguama*, and *Thrinax yuraguana*, now *C. yuraguana*, neither of which corresponds to *C. moaensis*.

5. *Coccothrinax moaensis* in habitat. Leaf sheath with loose distal fibers 1–1.5 mm thick. © 2022 Duanny Suárez.

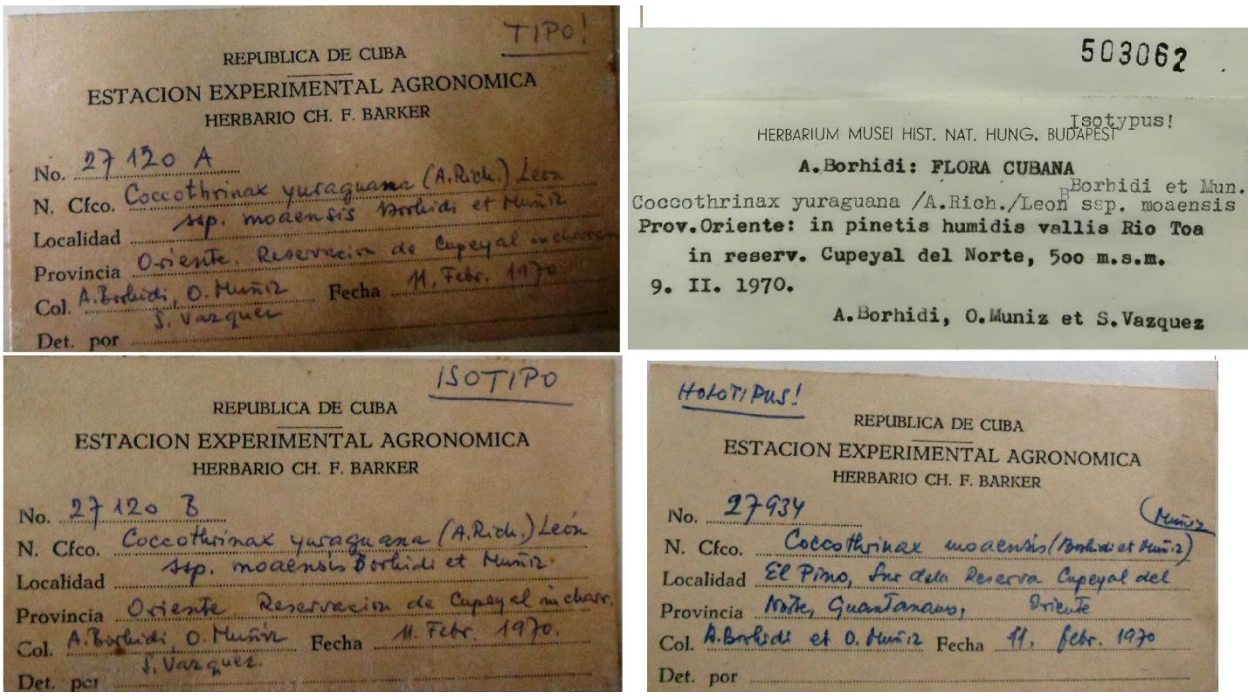
The *Wright 3221* collection does not have type status and must be cited as:

Coccothrinax moaensis (Borhidi & O. Muñiz) O. Muñiz. CUBA. Holguín province, Mayarí municipality, Pinal Mayari abajo [Meseta de Pinares de Mayarí], 6.VIII.1860, *Wright 3221* (FI 051883 [frag. ex G-DC], FI 051889 [drawing], G 00301706.1, G 00301706.2, G 00355863.1, G 00355863.2, GH 00549104, GH 00549105, HAC ex HABA.1!, HAC ex HABA.2!, MA607605, MO636606, MO636607, P 01794331, P 01794333, YU 034633, YU 034634).

Lectotipificación de *Coccothrinax moaensis*

Coccothrinax moaensis (Borhidi & O. Muñiz) O. Muñiz, Acta Bot. Acad. Sci. Hung. 27: 451. 1981 publ. 1982. ≡ *Coccothrinax yuraguana* subsp. *moaensis* Borhidi & O. Muñiz, Acta Bot. Acad. Sci. Hung. 17: 1. 1971 publ. 1972.

6. *Coccothrinax moaensis* in habitat. Note leaves with less than 25 segments and relatively short habit. Moa, Holguín, eastern Cuba. ©2016 Donald R. Hodel.



7. Labels of type. Top left, lectotype of *Coccothrinax yuraguana* subsp. *moaensis* at HAC. Isolectotypes: Top right, with protologue date at BP. Below, two at HAC.

Type: CUBA. [Guantánamo province, Yateras municipality], "*Reservacion Cupeyal pr. pag. Yateras in fruticetis sempervirentibus serpentinosis ad rivum Toa, prov. Oriente*," 500 m, ft., 9.II.1970, *Borhidi, O. Muñiz & Vázquez s.n.* (lectotype, designated here, HAC27120A!; isolectotypes: HAC27120B!, HAC27934!, BP503062, BP503066).

HAC has three specimens of this collection with EEAB labels that were entered in the Accessions Record Book with different numbers, but Borhidi (**Fig. 7**) wrote the same basic information on the labels for all of them; thus, I consider them the same collection. Additional information was annotated as follows: Borhidi wrote on specimen 27120A "*Coccothrinax yuraguana* (A. Rich.) ssp. *moaensis* Borhidi & Muñiz;" an anonymous person(s) wrote on specimen 27120A "TIPO!" and on 27120B "ISOTIPO;" and Borhidi wrote on specimen 27934 "*Coccothrinax moaensis* (Borhidi & Muñiz) Muñiz" and "HOLOTIPUS!" I assumed that he wrote it in 1981 when they raised the variety to a species because something similar is written in the HAC Accessions Record Book.

Borhidi & Muñiz (1972) designated *Borhidi, O. Muñiz & Vázquez s.n.* as the type of *C. yuraguana* subsp. *moaensis*; they then wrote "Typus: SV" (**Fig. 8**), which corresponds to HAC27120A according to the Accessions Record Book and label. For that reason, here, I designate HAC27120A (**Fig. 9**) as lectotype, the remaining four duplicates are isolectotypes, including the specimen HAC27934, which they (**Fig. 7**) never cited, and I found during my review at HAC.

Fam.: **Arecaceae**

Coccothrinax yuraguana (A. Rich.) Leon ssp. **moaënsis** Borhidi et Muñiz ssp. nova

Palma usque 4 m alta: caudex 8 cm in diam. Frondis vagina tenuis flexibilisque, pars libera subtruncata, emarginata vel incisa, 4—5 cm longa, fibris tenuibus usque 1 mm crassis. Petiolum 30—32 cm longum, 7 mm latum, lamina orbicularis subtus argentea punctis palli-

* Abbreviations:
LS — Herbario del Colegio de La Salle.
Bp — Herbarium Musei Hist. Nat. Hungariae, Budapest.
SV — Herbario del Estacion Esperimental de Agronomia, Santiago de las Vegas.
UO — Herbario de la Universidad de Oriente, Santiago de Cuba.

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dis; segmenta 18—20, centralia 23—24 cm longa, basi 2—3 cm connata, apice rotundata, ligula 6 mm longa.

Inflorescentia incurvata, cernua, 20—25 cm longa, ramuli fructiferi usque 3 cm longi; pedicelli 1—1,5 mm longi, apice valde incrassati, fructus glaber, 6—7 mm in diametro.

Typus: Prov. Oriente: Reservacion Cupeyal pr. pag. Yateras in fruticetis sempervirentibus serpentinosis ad rivum Toa. Leg.: A. Borhidi, O. Muñiz et S. Vazquez 9. 2. 1970. Typus: SV; isotypus: Bp. 503062.

Coccothrinax moaensis (Borhidi et Muñiz) Muñiz **status novus**

(Basionymon: *Coccothrinax yuraguana* (A. Rich.) León ssp. *moaënsis* Borhidi et Muñiz Acta Bot. Acad. Sci. Hung. **17:** 1. 1971)

Palma de 2–4 m de alto. Tronco cilindrico de hasta 8 cm de diámetro. Vaina de la hoja flexuosa, la porción libre de 4–5 cm de largo, subtruncada, emarginada o excisa, las fibras delgadas, densamente entretejidas, de hasta 1 mm de ancho. Peciolo de 30–35 cm de largo, y de 7–8 mm de ancho en la base. Limbo de la hoja oblicular, rigida, verde oscuro en el haz, plateado en el envés con puntos glanduliformes pálidos; segmentos de 18–22, los centrales de 22–25 cm de largo, muy apartados, en 2–3 cm connados en la base, el ápice corto, redondeado. Ligula de 6–7 mm de largo, redondeada a truncada. Inflorescencia colgante y encorvada, de 20–25 cm de largo, ramitas fructiferas de hasta 3 cm de largo. Pedicelos de 1–1.5 mm de largo, estambres 9. Fruto de 6–7 mm de diámetro, deprimido-globoso; pericarpio delgado. Semilla de 5–6 mm de diámetro, estrechamente surcado.

Esta espécie esta relacionada estrechamente a la espécie siguiente de la cual se difiere por su vaina mas delgada y flexible, por los numeros de los segmentos e indumento de las hojas, además por el numero de los estambres.

Esta distribuida en los latosoles erosionados poco profundos de las mesetas altas o sobre mocarreros de latosoles extramadamente pobres en nutrientes en matorrales siempreverdes, de la Sierra de Moa.

Coccothrinax orientalis (León) Muñiz et Borhidi **status novus**

(Basionymon: *Coccothrinax yuraguana* (A. Rich.) León var. *orientalis* León Mem. Soc. Cub. Hist. Nat. **13:** 121. 1939)

Acta Botanica Academiae Scientiarum Hungaricae 27, 1981

8. Protologue of *Coccothrinax yuraguana* subsp. *moaensis* in Borhidi and Muñiz (1972), which later became the new combination *Coccothrinax moaensis* in Muñiz and Borhidi (1982).

9. Lectotype of *Coccothrinax yuraguana* subsp. *moaensis*, *Borhidi, O. Muñiz & Vázquez s.n.,* 27120A, at HAC. © 2022 HAC.

10. *Coccothrinax moaensis* in habitat. Yamanigüey, Moa Municipality, Holguín Province, eastern Cuba. © 2022 Duanny Suárez.

Borhidi and Muñiz (1972) in the protologue wrote "9.2.1970" as the date of collection, which coincides with the two copies at BP, but differs from the HAC labels where it appears erroneously as "11 Febr. 1970" but the remainder of the information coincides with the protologue (**Fig. 8**).

Distribution

With the Wright collection, the geographical distribution of *Coccothrinax moaensis* extends to Mayarí Municipality in Holguín Province and the phytogeographic distribution to the Nipense District, also in Holguín Province. Photographs also document its presence in Yamanigüey in Moa Municipality (**Figs. 1, 10**).

Geographical Distribution. CUBA. Provinces Guantánamo (Yateras[H]) and Holguín (Moa[P] and Mayari[H]).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Moanicum (Moaënse[H] and Nipense[H]).

Other specimens identified as *Coccothrinax moaensis* at HMC do not belong to that species; the leaves have more than 20 segments, the palman is larger than 3 cm, and the pedicels are longer than 1.5 mm. They are from: Municipio Moa. Quemado del Negro, 6.IV.1991, *Brull s.n.* (HMC4158a, HMC4158b) and Playa La Vaca, 25.X.2009, *Bonet s.n*. (HMC8284a, (HMC8284b).

Coccothrinax moaensis has been accepted by most authors, except Henderson et al. (1995), who considered it a synonym of *Coccothrinax miraguama*.

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