

An Annotated Checklist of Cuban Palms
2. *Coccothrinax*, Pt. 1: 1816–1939
Nomenclature, Typification, and Distribution

Una Lista Anotada de Palmas de Cuba
2. *Coccothrinax*, Pt. 1: 1816–1939
Nomenclatura, Tipificación y Distribución

CELIO E. MOYA LÓPEZ

Abstract

The nomenclature, typification, and distribution up to and including León (1939) for 30 taxa of the genus *Coccothrinax* in Cuba are reviewed and updated. Of the total of 331 types, 25 lectotypes and 247 isolectotypes are designated in second step, 4 holotypes and 2 isotypes are identified, and 5 lectotypes and 48 isolectotypes are ratified. Also, the change of authors and type of *Coccothrinax crinita* is argued.

Resumen

Se revisa y actualiza la nomenclatura, tipificación y distribución hasta León (1939) inclusive para 30 taxones del género *Coccothrinax* en Cuba. Del total de 331 tipos, se designan en segundo paso 25 lectotipos y 247 isolectotipos, se identifican 4 holotipos y 2 isotipos y se ratifican 5 lectotipos y 48 isolectotipos. Además se argumenta el cambio de autores y tipo de *Coccothrinax crinita*.

Introduction

Arecaceae (Palmae) family is represented in Cuba by 15 genera and 98 infrageneric taxa: 80 species; 10 infraspecific taxa; and 8 hybrids. Of the total, 85 infrageneric taxa are endemic (86.7 %), one of the highest proportions among the plant families in the country (Moya and Leiva 2000, Moya 2020 unpublished).

Dransfield et al. (2008) placed *Coccothrinax* in the Cryosophileae tribe of the subfamily Coryphoideae. Lewis and Zona (2008), in a molecular analysis of closely related Caribbean genera, found that *Coccothrinax* is distinct and does not include *Zombia*. They resurrected the genus *Hemithrinax* and they proposed a new genus *Leucothrinax*. Roncal et al. (2008) found that *Coccothrinax* is monophyletic with support for a clade that also includes *Hemithrinax*, *Leucothrinax*, and *Zombia*. *Coccothrinax* differs from *Hemithrinax*, *Leucothrinax* and *Thrinax* in the leaf sheaths strongly open or split longitudinally in an inverted V-form (Read 1975).

Coccothrinax is widely distributed in the Caribbean basin throughout the Greater and Lesser Antilles as well Trinidad and Tobago, Florida, Bahamas, the Yucatan Peninsula of Mexico, Belize, northeastern Venezuela (Govaerts et al. 2020), and the Swan Islands of Honduras and the Providencia Islands of Colombia, the latter two island groups in the western Caribbean Sea that belong administratively to their respective countries but are not reported from mainland of each country.

Coccothrinax includes about 56 species with 7 subspecies and 1 natural hybrid (Govaerts et al. 2020, which omits *C. savannarum*). Cuba is richest for *Coccothrinax*, with about 40 species and a total of 47 taxa, all of them endemic except *C. fragrans* (Moya 2020 unpublished). Dransfield et al. (2008) noted that *Coccothrinax* is restricted to limestone or serpentine rocks, and occurs from sea level into the mountains.

More than 20 years ago, Johnson (1996) determined that Cuba was an important center of *Coccothrinax* diversity. He noted that the limits of the species are not well defined and there was no modern monograph for the phylogenetic study of the genus. Therefore, he proposed a multidisciplinary analysis that includes monographic, systematic, phylogenetic, population genetic, ecological, biogeographical, and ethnobotanical studies of *Coccothrinax*. Dransfield et al. (2008) noted that a new treatment of *Coccothrinax* is much needed, and the same can be said today.

Moya (2019) published the first part of the list of palms in Cuba by updating the nomenclature and types of the genera *Hemithrinax*, *Leucothrinax*, and *Thrinax*. The main objective of this paper is to update the nomenclature, typification, and distribution for Cuban *Coccothrinax* up to and including the publication of León in 1939. Part 2 of this paper will discuss the *Coccothrinax* discovered after León (1939). These two papers will form the basis for a future monograph of *Coccothrinax* in Cuba, the center of its diversity.

Materials and Methods

I examined the protologues, description, combinations, and status changes for all taxa of Cuban *Coccothrinax* up to and including the publication of León in 1939, including Kunth (1816, 1841), Richard (1850), Martius (1853), Grisebach (1866), Sauvalle (1871, 1873), Kerchove (1878), Hoyt (1894), Beccari (1907, 1913, 1931), Burret (1929), Bailey (1939), León (1939), Cook (1941), Borhidi and Muñiz (1971, 1972), Muñiz and Borhidi (1981, 1982), Moya (2018), and Moya and Méndez (2018). Particular attention was paid to matters of nomenclature and the designation and disposition of type specimens.

Also, I consulted other taxonomic and nomenclatural work, including Gómez de la Maza (1893), Dahlgren (1936), León (1946), Hawkes (1949), Moore (1963), Glassman (1972), Henderson et al. (1995), Moya and Leiva (2000), Govaerts and Dransfield (2005), Acevedo and Strong (2012), GBIF (2020), Greuter and Rankin (2017), Stauffer and Stauffer (2017), Quattrocchi (2017), Govaerts et al. (2020), Palmweb (2020), and Trópicos (2020).

Leon (1939) and Glassman (1972), when designating or noting type specimens, referred to a complete collection without specifying which individual specimen is designated as the actual type, thus creating syntypes. Furthermore, Leon (1939) wrote "Type" on different sheets of the same collection number, which is of no value because he did not state it in the protologue.

For the 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). Article 8.3 states that a specimen may be mounted as more than one preparation, as long as the parts are clearly labelled as being part of that same specimen..., original label in common, otherwise they are duplicates. Article 9.1 of the Code states that the holotype is "the one specimen or illustration (a) indicated by the author(s) as the nomenclatural type or (b) used by the author(s) when no type was indicated; the holotype does not need to be explicitly designated. Article 9.2 of the Code states that "a designation of holotype made in the protologue of the name of a taxon is later found to contain errors, these errors are to be corrected provided that the intent of the original author(s) is not changed", when it is corrected here the word "identified" is added. Article 9.3 of the Code states that "a lectotype is one specimen or illustration designated from the original material as the nomenclatural type, if the name was published without a holotype...". Article 9.6 of the Code states that a syntype is "any specimen cited in the protologue when there is no holotype, or any one of two or more specimens simultaneously designated in the protologue as type. Reference to an entire gathering, or a part thereof, is considered citation of the included specimens." Article 9.17 states that "A designation of a lectotype... that later is found to refer to a single gathering but to more than one specimen

must nevertheless be accepted . . . but may be further narrowed to a single one of these specimens by way of a subsequent lectotypification...” Designation of a lectotype (first-step) that later is found to refer to a single gathering but to more than one specimen can be further refined by selecting one of them as the second-step lectotype.

I found a total of 331 specimens of the genus *Coccothrinax* collected in Cuba before 1940 with some category of type designation in 25 herbaria: A, AJBC, BH, BRU, CM, F, FI, FTG, G, GH, GOET, HAC, HAJB, K, LE, M, MICH, MO, MT, NY, P, S, US, VT and YU. I also reviewed additional specimens that have no type category in these herbaria: HMC, ULV, and herbarium of Holguin Botanic Garden (all herbaria acronyms from Thiers 2016). For BH I considered the Reveal and Nixon (2013) information. 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. Specimens seen by the authors are marked with"!”, those not seen with” [n.v.]”, and those without marks were seen as digital images.

The first 7 collectors are related to 34 collector numbers corresponding to 25 species and 5 infraspecific taxa out of a total of 30 valid taxa of the genus *Coccothrinax* in Cuba.

For the citation of specimens from HAC (National Herbarium of Cuba "Onaney Muñiz"), where collections of different Cuban historical herbaria are currently kept, I followed Regalado et al. (2008). Thus: EEAB refers to the numbering of C. F. Baker at the Santiago de las Vegas Agronomic Experimental Station; HABA, to the series of the Academy of Medical, Physical and Natural Sciences of Havana; LS, to the series of the Colegio de La Salle in Vedado (Havana); and UO, to the University of Oriente (for which, also, the labels that distinguish the Plants of Cuba are indicated, with the initials PC). Because sometime other numbers were added to the number assigned by the collector at the time of entering the specimen in herbaria that eventually became part of HAC, the number is still cited as being at HAC but is specified by adding “ex”, followed by the acronym and the digits referring to the corresponding series, if any. Until HAC has barcodes, we use, based on the Shenzhen Code 9C.1 (Thurland et al. 2018), any available number that permanently identifies the specimen. For those copies with a similar label without anything that differentiates them, a period “.”, and consecutive numbers are added to the sheet number series.

Henderson et al. (1995) considered numerous *Coccothrinax* taxa as synonyms, which I note under the corresponding taxon. I generally disagree with their erroneous and overly expansive synonymy because they did not study these taxa extensively in the field; therefore, I reject most of his findings for the genus *Coccothrinax*.

I have maintained field observation records for the last 25 years. My field observation number system is in this format: *Serie Moya XXXX*.

Borhidi (1996) and Cano et al. (2017) discussed and outlined the biogeography of Cuba and Hispaniola, respectively, which we 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 and Discussion

A total of 30 accepted *Coccothrinax* taxa described up to and including León (1939) are listed and annotated, updating their nomenclature, taxonomy, types, and geographical and biogeographical distribution.

***Coccothrinax acuminata* Becc., Webbia. 2: 313 (1907). Figs. 1–2.**

Type. CUBA. Artemisa province, San Cristóbal municipality, Balestena. ft., 23 Feb. 1862 or 1864. *Wright 3966* (lectotype, Moya & Méndez 2018: 47, K 462859; isolectotypes: BRU 00055644, BRU 00055645, F 92098.1, F 92098.2, F 92098.3, FI 051879 ex K, GH 0028253, GH 0028254, GH 0028255, K 000462858, NY 00073060, NY 00073076, NY 00073077, NY 00073078, NY 00073079, P 00725688, P 00725689, US 00087368, US 00087369).

= *Coccothrinax miraguama* var. *novo-geronensis* Becc., Ann. Roy. Bot. Gard. Calcutta 13: 336 (1931).

≡ *Coccothrinax miraguama* [without rank] (*novo-geronensis*) Becc., Pomona Coll. J. Econ. Bot. 3: 409 (1913).

Type. CUBA. Municipio Isla de la Juventud, dry ground of poor quality near Nueva Gerona, Isla de Pinos, W.I., Apr. [ft.] - 1 May [fl.] 1904, *Curtiss 423* (lectotype, Moya & Méndez 2018: 48, FI 051884; isolectotypes: CM 422028, CM 422029, G 00305367 [n.v.], K 000632580, K 000632581, LE 793, HAC!, M 0208181, MO 559592 [n.v.], MO 559593 [n.v.], NY 1661902, NY 1662094, NY 1662095, NY 1662105, US 00014965, VT 117062).

= *Coccothrinax miraguama* subsp. *arenicola* (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 175 (1971).



1. *Coccothrinax acuminata* growing exposed on Isla de La Juventud, Cuba. Compare with Figure 2. *Serie Moya 1863b*. (© 2020 by C. E. Moya).



2. *Coccothrinax accuminata* growing in semi-shade of dryland forest at or near the type locality in Pinar del Río, Cuba. Compare with Figure 1. (©2017 by D. R. Hodel).

≡ *Coccothrinax miraguama* var. *arenicola* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 114 (1939).

Type. CUBA. Pinar del Río province, Guane municipality, sabana arenosa, hacienda Sabanalamar, El Sábalo (Pinar del Río), ft., 20 Aug. 1934, *León 16146* (lectotype [first-step]: Glassman 1972: 84, LS; lectotype [second-step]: Moya & Méndez 2018: 48, HAC ex LS4387!; isolectotypes: HAC ex UO.1!, HAC ex UO.2! HAC ex UO.3!, US 00014992 ex LS, US 00014993, US 00014994, US 00014995).

Geographical Distribution. CUBA. Provinces Artemisa (San Cristóbal^H) and Pinar del Río (Consolación del Sur^H, Guane^H, Mantua^R, Pinar del Río^R, Sandino^H, San Juan y Martínez^R and San Luis^H) and Isla de la Juventud^H municipality.

Biogeographical Distribution. Subprovince Western Cuba, sectors Peninsularicum (Guanahacabibense^H), Pinaricum (Geronense^H, Indionense^R, Pinarense^R and Sabaloense^R) and Rosaricum (Viñalense^R) (Moya & Méndez 2018).

Moya and Méndez (2018) updated of the nomenclature, taxonomy, and geographical distribution, except for the lectotype of *Coccothrinax miraguama* var. *arenicola*, which I update here: León (1939) designated *León 16146* as the type of *Coccothrinax miraguama* var. *arenicola*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16146* at LS, now considered as lectotype [first-step]. Therefore, the designation of Moya and Méndez (2018) becomes the lectotype [second-step] and the isolectotypes are the seven duplicates at HAC and US.

Henderson et al. (1995) list *Coccothrinax acuminata* as a synonym of *C. miraguama*.

In summary, the following names are *nomen nudum* or incorrect citation of author(s): *Thrinax acuminata* Griseb. & H. Wendl., in Sauvalle, Anales Acad. Ci. Med. Habana, 8: 563 (1871), *nom. nud.* Sauvalle (1873), Gómez de la Maza (1893), Sargent (1899), and Moya and Méndez (2018) also list the name as a *nomen nudum*.

Coccothrinax acuminata (Griseb. & H. Wendl.) Sarg. ex Becc., Webbia 2: 313 (1907), in León (1939) and Muñiz and Borhidi (1982), is an incorrect citation of authors.

***Coccothrinax acunana* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 128 (1939). Fig. 3.**



3. *Coccothrinax acunana* at or near the type locality, Pico Turquino, Santiago de Cuba, Cuba. (©2017 by D. R. Hodel).

Type. CUBA. [Santiago de Cuba province, Guamá municipality], en la selva, a 1000 m de altitud, cerca de la Cueva del Aura, en la proximidad del Pico Turquino, 1000 m, fl., Jun. 1935, *León 16749*, collected by J. Acuña y J. P. Carabia (lectotype [first-step]: Glassman 1972: 81, LS; lectotype [second-step]: designated here, HAC ex LS4223!; isolectotypes, A 00028256 ex LS, AJBC ex LS, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, HAC 28945-picture of US 00087370!, MICH 192596 ex LS, US 00087370 ex LS, US 1269013 ex LS).

Geographical Distribution. CUBA. Province Santiago de Cuba (Guamá^H, SW Pico Turquino). (Suárez, Rodríguez, Moya and Hodel 2018).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Maesticum (Turquinense^H) (Borhidi 1996).

León (1939) designated *León 16749* as the type of *Coccothrinax acunana*. In doing so he referred to a complete collection, thus creating syntypes, but did not note herbaria where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16749* at LS, now considered as lectotypes [first-step]. Here I designate HAC ex LS4223 as the lectotype [second-step] and designate as isolectotypes the nine duplicates at A, AJBC, HAC, MICH and US.

The date on the labels of *León 16749* varies in the different specimens; we accept June 1935 because it is the most prevalent.

Henderson et al. (1995) list *Coccothrinax acunana* as a synonym of *C. miraguama*.

Coccothrinax alexandri León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 122 (1939).

Type. CUBA. [Guantánamo province, Maisí municipality], en los pedregales de Maisí, Baracoa (Oriente), ft., Oct. 1934, *León 16191*, collected by A. López and P. Bermúdez (lectotype [first-step]: Glassman 1972: 81, LS; lectotype [second-step]: designated here, HAC ex LS.1!; isolectotypes: A 00028257 ex LS, AJBC ex LS, GH 0028258 ex LS, HAC ex LS4224!, HAC ex LS.2!, HAC ex LS.3!, HAC ex LS.4!, HAC ex LS.5!, HAC 28848-picture of US87371!, HAC 28854-picture of US87372!, MICH 1002562A ex LS, MICH 1002562B ex LS, MT 116863 ex LS, US 00087371 ex LS, US 00087372, US 1269014 ex LS).

Geographical Distribution. CUBA. Province Guantánamo (Baracoa^H and Maisí^H).



4. *Coccothrinax alexandri* subsp. *nitida* south of Baracoa, Guantánamo, Cuba.
(©2016 by D. R. Hodel).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagicum (Guantanamense^H) (Borhidi 1996).

León (1939) designated *León 16191*, consisting of leaf and fruit, as the type of *Coccothrinax alexandri*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16191* at LS, now considered as lectotype [first-step]. Here I designate HAC ex LS.1 as the lectotype [second-step] and designate as isolectotypes the 16 duplicates at A, AJBC, HAC, MICH and US.

León (1939) reported *Coccothrinax alexandri* at Punta Piedra, near Antilla, Holguín province for the collection *Britton 12452* at NY, but the identification is uncertain. Hopefully, this *Coccothrinax* species will be identified.

Henderson et al. (1995) list *Coccothrinax alexandri* and its subtaxa as synonyms of *C. miraguama*.

Coccothrinax alexandri* subsp. *nitida (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 175 (1971). **Fig. 4.**

≡ *Coccothrinax alexandri* subsp. *nitida* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 123 (1939).

Type. CUBA. [Guantánamo province, Imías municipality], lomas de Imías al sur de Baracoa, ft., Jul. 1932, *León 15822*, collected by J. Pérez (lectotype [first-step]: Glassman 1972: 81, LS; lectotype [second-step]: designated here, HAC ex LS4235.1!; isolectotypes, HAC ex LS4234!, HAC ex LS4235.2!, HAC ex LS.1!, HAC ex LS.2!, HAC 28948-picture of US87373!, MICH 192597, US 00087373, US 1269015).

Geographical Distribution. CUBA. Province Guantánamo (Imías^H, Maisí^H).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Moanicum (Purialense^H).

León (1939) designated *León 15822* as the type of *Coccothrinax alexandri* var. *nitida*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens



5. *Coccothrinax bermudezii* near Baracoa, Guantánamo, Cuba. (©2017 by D. R. Hodel).

were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 15822* at LS, now considered as the lectotype [first-step]. Here I designate one of them, HAC ex LS4235.1 as the lectotype [second-step] and designate as isolectotypes the eight duplicates at HAC, MICH, and US.

The distribution of *Coccothrinax alexandri* var. *nitida* was expanded to Imías municipality in 2016 when Raúl Verdecia and I collected this subspecies in the Imías hills (*Moya 1662*, HMC).

Coccothrinax bermudezii León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 124 (1939). **Fig. 5.**

Type. CUBA. [Guantánamo province, Baracoa municipality], Paso de Cuba, Baracoa (Oriente), ft., Jul. 1935, *León 16290*, collected by P. Bermúdez and A. López (lectotype [first-step]: Glassman 1972: 82, LS; lectotype [second-step]: designated here, HAC ex LS4248!; isolectotypes, A 00028262 ex LS, AJBC ex LS, FTG 82426 ex LS, GH 0028261 ex LS, HAC ex LS4249!, HAC ex LS4250!, HAC ex LS.1!, HAC ex LS.2!, HAC 28855-picture of US87379!, MICH 1002564A ex LS, MICH 1002564B ex LS, MT 116865 ex LS, US 00087379 ex LS, US 1269012 ex LS).

Geographical Distribution. CUBA. Province Guantánamo (Baracoa^H, Maisí^H).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagum (Guantanamense^H).

León (1939) designated *León 16290* as the type of *Coccothrinax bermudezii*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16290* at LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4248 as the lectotype [second-step] and designate as isolectotypes the 14 duplicates at A, AJBC, FTG, GH, HAC, MICH, MT and US.

Henderson et al. (1995) list *Coccothrinax bermudezii* as a synonym of *C. miraguama*.

Coccothrinax clarensis León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 147 (1939).

Type. CUBA. [Provincia Villa Clara, municipality Santa Clara], terreno serpentinoso arido, en las orillas del rio Primero, al este de la ciudad de Sta. Clara, fl., 27 Mar. 1937, *León 16080*

(lectotype [first-step]: Glassman 1972: 82, LS; lectotype [second-step]: designated here, HAC ex LS4255!; isolectotypes, A 00028264, BH [n.v.], FTG 28288, GH 0028263, HAC ex LS4254!, HAC ex EEAB!, HAC28857-picture of US87380!, HAC28943-picture of US87381!, MICH 1002565A, MICH 1002565B, MT 116866 [n.v.], US 00087380, US 00087381).

León (1939) designated *León 16080* as the type of *Coccothrinax clarensis*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16080* at LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4255 as the lectotype [second-step] and designate as isolectotypes the 13 duplicates at A, BH, FTG, GH, HAC, MICH, MT, and US.

= *Coccothrinax clarensis* var. *perrigida* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 149 (1939).

≡ *Coccothrinax clarensis* subsp. *perrigida* (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 176 (1971).

Type. CUBA. [Sancti Spíritus province, Jatibonico municipality], cerca de la carretera central, entre Jatibonico y Ciego de Ávila, ft., 28 Dec. 1938, *León & M. Victorin 18603* (lectotype [first-step]: Glassman 1972: 83, LS; lectotype [second-step]: designated here, HAC ex LS4262!; isolectotypes, A 00028267, A 00028268, BH [n.v.], HAC ex LS4261!, HAC ex EEAB.1!, HAC ex EEAB.2!, MICH 1050268A, MICH 1050268B, MICH 1050268C, US 1269017).

León (1939) designated *León 18603* as the type of *Coccothrinax clarensis* var. *perrigida*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 18603* at LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4262 as the lectotype [second-step] and designate as isolectotypes the 10 duplicates at A, BH, HAC, MICH, and US.

I observed this variety on several occasions on a small hill south of Barquero, 700 m from the "carretera Central," in the current Jatibonico municipality of Sancti Spíritus province (7 Oct. 2018, *Serie Moya 1893*; 25 Jan. 2019, *Serie Moya 1916*; and 29 Sep. 2019, *Serie Moya 1940*).

Geographical Distribution. CUBA. Provinces Camagüey (Florida^H) (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017). Ciego de Ávila (Florencia^A), Sancti Spíritus (Cabaiguán^H, Jatibonico^H, Sancti Spíritus^H and Yaguajay^H), and Villa Clara (Santa Clara^H).



6. *Coccothrinax clarensis* subsp. *brevifolia* at or near the type locality, Sancti Spíritus, Cuba. MR 1801. (©2018 by D. R. Hodel).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Camagüeyense^H, Claraense^H, and Sagüense^H).

Henderson et al. (1995) list *Coccothrinax clarensis* as a synonym of *C. gundlachii* and *Coccothrinax clarensis* var. *perrigida* as a synonym of *C. pauciramosa*.

Coccothrinax clarensis* subsp. *brevifolia (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 176 (1971). **Fig. 6.**

≡ *Coccothrinax clarensis* var. *brevifolia* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 148 (1939).

Type. CUBA. [Sancti Spíritus province, municipio Yaguajay municipality], falda serpentina del Cerro de Jobosí (Camagüey), 2 Jul. 1937, *León 16928* (lectotype [first-step]: Glassman 1972: 82, LS; lectotype [second-step]: designated here, HAC ex LS4260!; isolectotypes, A 00028265 ex LS, A 00028266, BH 100673.1 ex LS, BH 100673.2, BH100673.3, BH 100673.4, HAC ex LS4259!, HAC ex EEAB!, MICH 1002566A ex LS, MICH 1002566B ex LS, US 1269016 ex LS).

Geographical Distribution. CUBA. Province Sancti Spíritus (Yaguajay^H: Cerro de Jobosí).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Claraense^H).

León (1939) designated *León 16928* as the type of *Coccothrinax clarensis* var. *brevifolia*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16928* at LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4260, as the lectotype [second-step] and designate as isolectotypes the 11 duplicates at A, BH, HAC, MICH, and US.

In 1937 the Jobosí area where León collected the type was in the province of Camagüey.

Henderson et al. (1995) list *Coccothrinax clarensis* subsp. *brevifolia* as a synonym of *C. pauciramosa*.

Coccothrinax crinita (R. D. Hoyt) Becc. Webbia 2: 334 (1907). **Fig. 7.**

≡ *Thrinax crinita* R. D. Hoyt, Gardening (Chicago) 2(46): 369 (1894).

≡ *Antia crinita* (Becc.) O. F. Cook, Natl. Hort. Mag. 20: 50 (1941).



7. *Coccothrinax crinita* subsp. *crinita* at or near the type locality, Bahía Honda, Artemisa, Cuba. MR 1701. (©2018 by D. R. Hodel).

Type. CUBA. [Artemisa province, Bahía Honda municipality], 14 miles San Cristóbal [Mar. 1894], (holotype, identified here, picture “*Palms in Florida*” (to the center), in Hoyt (1894).

Geographical Distribution. CUBA. Province Artemisa (Bahía Honda^H: Las Pozas).

Biogeographical Distribution. CUBA province, Western Cuba subprovince: sector Rosaricum (Cajalbanense^H) (Borhidi 1996).

Surprisingly, much confusion has surrounded the nomenclature and typification of this amazingly distinct species. Hoyt (1894) provided the first name for it when he stated that in March 1894 he visited Cuba where he collected a palm 14 miles [22.5 km] north of San Cristobal in the current municipality of Bahia Honda of Artemisa province. There, he had found this palm growing on an old coffee plantation in the mountains and had it carefully moved to his establishment, naming it *Thrinax crinita*. He also provided a diagnosis of the species and related it not only to the collected palm but also to a photograph in his article, writing, “In this photograph of a group of palms [Fig. n] one, *T. crinita*, is a great curiosity,” and this Fig. n validates the name according to the article 38.8 (Thurland et al. 2018). Although no type was indicated, this unmistakable illustration constitutes the holotype, according to article 9.1 (b) (Thurland et al. 2018). Later, Hoyt (1897) even sent a letter to Sir William Thiselton-Dyer, third director of the Royal Botanic Gardens, Kew, offering him a reasonable price for a *T. crinita* plant, with a recent photograph of the specimen.

However, Hoyt’s *Thrinax crinita* was overlooked by several authors as the appropriate basionym for *Coccothrinax crinita*. Sauvalle (1871) made the first listing of the name, citing it as *Thrinax crinita* Gris. & H. Wendl. (referring to *Wright 3967*, a collection of the American botanist Charles Wright [1811-1885]), which was until recently the accepted basionym of *C. crinita*. However, that basionym was without description or diagnosis or reference to a previously and effectively published description or diagnosis, making it a *nomen nudum* according to article 38 (Thurland et al. 2018). Sauvalle (1873), Kerchove (1878), and Gómez de la Masa (1893) also listed the name as *dis* Sauvalle (1871). Until recently it was even mistakenly thought that the name of this taxon was *Thrinax crinita* Griseb. & H. Wendl. ex Kerch. (Kerchove 1878).

Even the well respected, great Italian palm botanist Beccari (1907), when he made the transfer to *Coccothrinax*, establishing *C. crinita* (Griseb. & H. Wendl) Becc. as the new combination, was unaware that *T. crinita* Gris. & H. Wendl. was illegitimate and could not serve as the basionym. In doing so, Beccari also cited *Wright 3967*, even though the term “type” or its equivalent was not used in the protologue. Beccari (1913, 1931), Burret (1929), León (1939, 1946), Hawkes

(1949), Dahlgren (1936), Moore (1963), Glassman (1972), Muñiz and Borhidi (1981, 1982), and IPNI (2020), also followed the incorrect author citation of *C. crinita* (Griseb. & H. Wendl) Becc.

The annotation “in C. Wright” has also led to some confusion although Beccari never ascribed it to Wright when he cited as the basionym *T. crinita* Griseb. & H. Wendl. “in Wright” for his new combination. Henderson et al. (1995), Govaerts and Dransfield (2005), Bisby et al. (2010), Quattrocchi (2017), EOL (2020), Palmweb (2020), and The Plant List (2020) cited it as *Coccothrinax crinita* (Griseb. & H. Wendl. ex C. H. Wright) Becc., erroneously changing the “in” to “ex,” the latter of which does convey ascription, and incorrectly cited the English botanist Charles Henry Wright (1864-1941) instead of the American botanist Charles Wright. Acevedo and Strong (2012), Greuter and Rankin (2017), and Moya and Leiva (2000) did cite correctly *C. Wright* when they listed the species as *Coccothrinax crinita* (Griseb. & H. Wendl. ex C. Wright) Becc. yet this is also still an error because Beccari never ascribed the name to any Wright, and Article 46.2 (Thurland et al. 2018) states that “A name of a new taxon is attributed to the author to whom the name was ascribed.” Tropicos (2020), which ascribed the name of the basionym to Kerchove, is also incorrect.

Recently, Govaerts et al. (2020) and IPNI (2020), listed the basionym correctly as *Thrinax crinita* R. D. Hoyt (1894) and the combination correctly as *Coccothrinax crinita* (R. D. Hoyt) Becc.

In summary, the following names are *nomen nudum* and/or incorrect citation of author(s): *Thrinax crinita* Griseb. & H. Wendl., in *Anales Acad. Ci. Med. Habana* 7: 563. 1871, *nom. nud.* Sauvalle (1873), Kerchove (1878), and Gómez de la Maza (1893) also list the name as a *nomen nudum*.

Coccothrinax crinita (Griseb. & H. Wendl.) Becc., *Webbia* 2: 334 (1907), in Beccari (1907, 1913, 1931), Dahlgren (1936), León (1939, 1946), and Muñiz and Borhidi (1982), is an incorrect citation of authors.

Coccothrinax crinita Becc., in *Webbia* 2: 334 (1907), in Burret (1929), Hawkes (1949), Moore (1963), Glassman (1972), and Muñiz and Borhidi (1981), is an incorrect citation of authors.

Coccothrinax crinita (Griseb. & H. Wendl.) Becc., *Webbia* 2: 334 (1907), is an incorrect citation of authors.

Coccothrinax crinita (Griseb. & H. Wendl. ex C. H. Wright) Becc., in Henderson et al. (1995), Govaerts & Dransfield (2005), Quattrocchi (2017), and Palmweb (2020), incorrectly

ascribed the authority to the Englishman Charles Henry Wright (C. H. Wright) instead of the American Charles Wright (C. Wright).

Coccothrinax crinita (Griseb. & H. Wendl. ex C. Wright) Becc., in Moya and Leiva (2000), Acevedo and Strong (2012), and Greuter and Rankin (2017), they ascribed the name to C. Wright, which is an incorrect citation of authors.

Coccothrinax crinita (Griseb. & H. Wendl. ex Kerch.) Becc., in Trópicos (2020) it is ascribed to Kerchov (1878), which is a *nomen nudum* and incorrect citation of authors.

Coccothrinax cupularis (León) O. Muñiz & Borhidi, Acta Bot. Acad. Sci. Hung. 27: 449 (1981 publ. 1982). **Fig. 8.**

≡ *Coccothrinax miraguama* var. *cupularis* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 117 (1939).

≡ *Coccothrinax miraguama* subsp. *cupularis* (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 175 (1971).

Type. CUBA. [Cienfuegos province, Cienfuegos municipality], sobre roca caliza de diente de perro, en los montes de la costa sur de Zapata Oriental, al sur del Castillo de Jagua, Cienfuegos, Santa Clara, 21 Jun. 1932, *León 15595* (holotype, HAC ex LS4391!).

Geographical Distribution. CUBA. Provinces Cienfuegos (Cienfuegos^p, Cumanayagua^h) and Matanzas (Ciénaga de Zapata^h).

Biogeographical Distribution. CUBA province, Western Cuba subprovince: sector Peninsularicum (Zapatense^h) and Central Cuba province: sector Havanicum (Casildense^h).

León (1939) designated *León 15595* as the type of *Coccothrinax miraguama* var. *cupularis*, but did not note where specimens were deposited; because only one specimen of this collection is at HAC, it is the holotype.

In 1932 Castillo de Jagua was included in Santa Clara province; currently it is in Cienfuegos province.

Henderson et al. (1995) list *Coccothrinax cupularis* as a synonym of *C. miraguama*.



8. *Coccothrinax cupularis* at the coast, Río Hondo, Cienfuegos, Cuba. (©2016 by D. R. Hodel).



9. *Coccothrinax fragrans*, Parque Nacional de Baconao, Santiago de Cuba, Cuba.
(©2017 by D. R. Hodel).

Coccothrinax fragrans Burret, Kongl. Svenska Vetensk. Acad. Handl., ser. 3, 6(7): 15 (1929). **Fig. 9.**

Type: CUBA. [Santiago de Cuba province, Santiago de Cuba municipality], ad Santiago Bay, in locis rupestribus, Santiago de Cuba, Oriente, "*yuraguano*", fl., 21 Oct. 1916, *Ekman 8031* (holotype, S-R-1196).

Geographical Distribution. CUBA. Province Santiago de Cuba (Santiago de Cuba^H). HAITI. Department Nord-Ouest (Port-de-Paux^H: Île de la Tortue). DOMINICAN REPUBLIC. Provinces Dajabón^P, La Vega^P, Santiago^H, Santiago Rodríguez^P and Valverde^P (Mera, pers. com., 2020).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagicum (Guantanamense) (Borhidi 1996); HISPANIOLA province, subprovince Caribbean-Atlantic, sector Neiba-Matheux-North-eastern (Tortuga Island^H) and sector Northern (Northern Cordillera^H).

Burret (1929) designated *Ekman 8031* as the type of *Coccothrinax fragrans*, but did not note where specimens were deposited; because only one specimen of this collection is at S, it is the holotype.

Henderson et al. (1995) list *Coccothrinax fragrans* as a synonym of *C. argentata*.

Coccothrinax garciana León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 143 (1939). **Fig. 10.**

Type. CUBA. [Holguín province, Holguín municipality], terrenos silíceos áridos, Cerrito del Fraile, Holguín, Oriente, fl., ft., 17 Mar. 1932, *León & J. A. García 15476* (lectotype [first-step]: Glassman 1972: 83, LS; lectotype [second-step]: designated here, HAC ex LS4283!; isolectotypes: A 00028275, GH 0028273, GH 0028274, HAC ex LS4282!, HAC ex LS.1!, HAC ex LS.2!, HAC 28926-picture of US131425!, HAC 28940-picture of US87387!, MICH 192598, MT 116869 [n.v.], US 00087387, US 131425).

Geographical Distribution. CUBA. Province Holguín (Báguanos^P, Gibara^P, Holguín^H and Rafael Freyre^P).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Holguinense^H) (Borhidi 1996).

León (1939) designated *León 15476* as the type of *Coccothrinax garciana*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens



10. *Coccothrinax garciana* at or near the type locality, Cerrito del Fraile, Holguín, Cuba. (©2016 by D. R. Hodel).



11. *Coccothrinax guantanamensis*, lectotype, León 16100 (HAC), Guantánamo Bay, Guantánamo, Cuba. (©2020 by C. E. Moya).

were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 15476* at LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4283, as the lectotype [second-step] and designate as isolectotypes the 12 duplicates at A, GH, HAC, MICH, and US.

Henderson et al. (1995) list *Coccothrinax garciana* as a synonym of *C. pauciramosa*.

***Coccothrinax guantanamensis* (León) O. Muñiz & Borhidi, Acta Bot. Acad. Sci.**

Hung. 27: 449 (1981 publ. 1982). **Fig. 11.**

≡ *Coccothrinax argentea* var. *guantanamensis* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 134 (1939).

≡ *Coccothrinax argentea* subsp. *guantanamensis* (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 176 (1971).

Type. CUBA. [Guantánamo province, "US Naval Base, illegally occupied territory"], no lejos de la boca del río Guantánamo [Fort Condé], Oriente, 31 Mar. 1934, *León 16100*, collected by Hno. Hioram (lectotype [first-step]: Glassman 1972: 82, LS; lectotype [second-step]: designated here, HAC ex LS4243!; isolectotypes: A 00028259 ex LS, AJBC.1 ex LS, AJBC.2 ex LS, GH 0028260 ex LS, HAC ex LS4242!, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, HAC 28879-picture of US87378!, MICH 1002563A, MICH 1002563B, NY 6221069 ex LS, US 00087378 ex LS).

Geographical Distribution. CUBA. Province Guantánamo (US Naval Base^H, illegally occupied territory).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagum (Guantanamense^H) (Borhidi 1996).

León (1939) designated *León 16100* as the type of *Coccothrinax argentea* var. *guantanamensis*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all the duplicates of *León 16100* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4243, as the lectotype [second-step] and designate as isolectotypes the 13 duplicates at A, AJBC, GH, HAC, MICH, NY, and US.

Coccothrinax guantanamensis was only collected inside the illegally occupied US Naval Base, in 1920 as Hioram 3950 (HACx3) and in 1933 as León 16005 (HAC, MT) and 16006 (HAC).



12. *Coccothrinax gundlachii* along the southern coast, Uvero, Santiago de Cuba, Cuba. (©2017 by D. R. Hodel).

Henderson et al. (1995) list *Coccothrinax guantanamensis* as a synonym of *C. hioramii*.

Coccothrinax gundlachii León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 149 (1939). **Fig. 12.**

Type. CUBA. [Santiago de Cuba province, Guamá municipality], Bella Pluma, cerca de El Dean, en la costa sur del Pico Turquino, fl., ft., Jul. 1935, *Roig, Acuña & Bucher 6725* (lectotype [first-step]: Glassman 1972: 83, LS; lectotype [second-step]: designated here, HAC ex LS4296; isolectotypes: A 00028276, GH 0028277, HAC ex LS4290!, HAC ex LS4291!, HAC ex LS4292!, HAC ex LS4293!, HAC ex LS!, HAC 28934-picture of US87389!, HAC 28944-picture of US87388!, MICH 1002567A, MICH 1002567B, MT 116870 [n.v.], US 00087388, US 00087389).

Geographical Distribution. CUBA. Provinces Granma (Pilón^H) and Santiago de Cuba (Guamá^H and Santiago de Cuba^H).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sectors Maesticum (Turquinense^H) and Santiagicum (Uveroëense^H) (Borhidi 1996).

León (1939) designated *Roig, Acuña y Bucher 6725* as the type of *Coccothrinax gundlachii*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *Roig, Acuña y Bucher 6725* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4296, as the lectotype [second-step] and designate as isolectotypes the 14 duplicates at A, GH, HAC, MICH, MT, and US.

On three labels (HAC ex LS4292, HAC ex LS4293 and HAC ex LS4296) León wrote "Type" at the top right and "Núm." (number) "16413" [León] at the top left, but he also wrote "Col." [collector] "J.T. Roig, J. Acuña y J.G. Bucher 6725." I consider these isolectotypes. In the following labels A28776 ex LS, GH28777 ex LS, HAC ex LS4290, HAC ex LS, MICH1002567A ex LS, and US87388 ex LS, León wrote in Spanish, French or English "type except sheath / inflorescence which are No. 16774." These are also considered isolectotypes. Specimens of *León 16774* at HAC ex LS4294, HAC ex LS4295, and GH28278 are paratypes.

Raúl Verdecia expanded the distribution of *Coccothrinax gundlachii* when he collected it in Pilón municipality in Granma province, Uveroëense district of Santiagicum sector, to the northeast of Camarón Grande. He deposited his collection at HMC.



13. *Coccothrinax hioramii* along the southern coast, Tortuguilla, Guantánamo, Cuba. (©2018 by D. R. Hodel).

Coccothrinax hioramii León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 135 (1939) '*hiorami*'. **Fig. 13.**

Type. CUBA. [Guantánamo province, Caimanera municipality], loma baja al oeste de la Caimanera, Guantánamo, Oriente, fl., ft., 31 Mar. 1934, *León 16099*, collected by Hno. Hioram (lectotype [first-step]: Glassman 1972: 83, LS; lectotype [second-step]: designated here, HAC ex LS4297!; isolectotypes: A 00028279 ex LS, AJBC.1 ex LS, AJBC.2 ex LS, AJBC.3 ex LS, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, HAC ex LS4298!, HAC ex LS4304!, HAC 28945-picture of US87391!, HAC 28948-picture of US87390!, MICH 192599 ex LS, US 00087390 ex LS, US 000878391, US 1269019 ex LS).

Geographical Distribution. CUBA. Province Guantánamo (Caimanera^H, Niceto Pérez^H and US Naval Base^H, illegally occupied territory).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagum (Guantanamense^H) (Borhidi 1996).

León (1939) designated *de León 16099* as the type of *Coccothrinax hioramii*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *de León 16099* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4297 as the lectotype [second-step] and designate as isolectotypes the 15 duplicates at A, AJBC, HAC, MICH and US.

Coccothrinax hioramii has also been collected within the illegally occupied US Naval Base, coincidentally on the beach Conde Beach, type locality of *C. guantanamensis*, in 1936 as *León 16751* (HACx2, MT) and in Hicacos Beach in 1936 as *León 16715* (HAC, USx3).

Govaerts et al. (2020) corrected the spelling of the specific name "*hiorami*" to '*hioramii*'.

Coccothrinax litoralis León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 138 (1939). **Fig. 14.**

Type. CUBA. [Las Tunas province, municipio Manatí municipality], en la arena, playa de Muertos, Manatí (Oriente), fl., 29 Dec. 1933, *León 16017* (lectotype [first-step]: Glassman 1972: 84, LS; lectotype [second-step]: designated here, HAC ex LS4313!; isolectotypes: HAC ex LS4314!, HAC ex LS!, MT 116872 [n.v.]).



14. *Coccothrinax littoralis* on the northern coast, Santa Lucía, Camagüey, Cuba.
(©2017 by D. R. Hodel).

Geographical Distribution. CUBA. Provinces from Pinar del Río to Las Tunas (Borhidi 1996), Camagüey (Esmeralda^H, Nuevitas^H and Sierra de Cubitas^H) (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017). Ciego de Ávila (Morón^H), Cienfuegos, Las Tunas (Jesús Menéndez^H and Manatí^H), Matanzas (Cárdenas^H and Martí^P), Sancti Spíritus (Sancti Spíritus^H, Trinidad^H and Yaguajay^R), Villa Clara (Caibarién^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sectors Havanicum (Havanense^H and Casildense^H) and Camagüeyicum (Sagüense^H, Guaimarensis^H and Gibarensis^H). León (1939) designated *León 16017* as the type of *Coccothrinax litoralis*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16017* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4313 as the lectotype [second-step] and designate as isolectotypes the three duplicates at HAC and MT.

León wrote “Type” on some specimens of *León 16799* but these are now considered paratypes: A28281 ex LS, GH28282 ex LS, GH28283 ex LS, HAC ex LS4319, HAC ex LS4320, HAC ex LS, MICH1002568A ex LS, MICH1002568B ex PC, US87404 ex PC, US87405 ex LS and US87406 ex PC.

Burret (1929) referred the collections Ekman 17149 from Varadero and Ekman 18555 from Cayo Francés to *Coccothrinax jucunda* Sarg., León (1946) considered as misapplied name *C. jucunda* auct. non Burret in Kongl. Svenska Vetensk. Acad. Handl., ser. 3, 6(7): 15. 1929, as synonymous with *C. litoralis*.

Raúl Verdecia expanded the distribution of *Coccothrinax litoralis* when he collected it at playa La Genovesa, Jesús Menéndez municipality, Las Tunas province. He deposited his collection at HMC.

Henderson et al. (1995) list *Coccothrinax litoralis* as a synonym of *C. argentata*.

The following names are misapplied or misapplied synonyms:

Coccothrinax jucunda Sarg., in Burret, Kongl. Svenska Vetensk. Acad. Handl., ser. 3, 6(7): 15. 1929, corresponds to *C. litoralis* León.

Coccothrinax jucunda Burret, no Sarg., in León (1946), is a synonym of *C. litoralis*.



15. *Coccothrinax macroglossa* east of Camagüey city, Camagüey, Cuba. (©2016 by D. R. Hodel).

***Coccothrinax macroglossa* (León) O. Muñiz & Borhidi, Acta Bot. Acad. Sci. Hung. 27: 450 (1981 publ. 1982). Fig. 15.**

≡ *Coccothrinax miraguama* var. *macroglossa* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 118 (1939).

≡ *Coccothrinax miraguama* subsp. *macroglossa* (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 175 (1971).

Type. CUBA. [Las Tunas province, Manatí municipality], Sabana de palmas entre Dumañuecos y Manatí, Oriente, ft., 23 Jul. 1937, *León 16869* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4393!; isolectotypes: HAC ex EEAB!, US 1269023 ex LS).

Geographical Distribution. CUBA. Provinces Camagüey, Holguín and Las Tunas (Muñiz & Borhidi, 1981), Camagüey (Camagüey^H, Minas^H, Nuevitas^H and Sierra de Cubitas^H) (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017). Holguín (Cacocúm^H and Holguín^H) and Las Tunas (Manatí^H and Las Tunas^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: Camagüeyicum (Camagüeyense^H, Gibarense^H, Guaimarense^H, Holguinense^H).

León (1939) designated *León 16869* as the type of *Coccothrinax miraguama* var. *macroglossa*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16869* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4293 as the lectotype [second-step] and designate as isolectotypes the two duplicates at HAC and US.

Raúl Verdecia expanded the distribution of *Coccothrinax macroglossa* when he collected it in Sarandico, Las Tunas municipality. He deposited his collection at HMC.

Henderson et al. (1995) list *Coccothrinax macroglossa* as a synonym of *C. miraguama*.

***Coccothrinax miraguama* (Kunth) Becc., Webbia 2: 295 (1907) 'miraguano'. Fig. 16.**

≡ *Corypha miraguama* Kunth, Nov. Gen. Sp. [H.B.K.] 1: 298 (1816).

≡ *Copernicia miraguama* (Kunth) Kunth, Enum. Pl. 3: 244 (1841).

≡ *Thrinax miraguama* (Kunth) Mart. Hist. Nat. Palm. 3: 320 (1853) 'miraguano'.



16. *Coccothrinax miraguama* subsp. *miraguama* near La Trinidad, Sancti Spíritus, Cuba. (©2016 by D. R. Hodel).

Type: CUBA. [Sancti Spíritus province, municipio Trinidad municipality], “Crescit in maritimis Insulæ Cubæ inter urbem la Trinidad, Puerto Casilda et ostia fluminis Guaurabo”, [14 Mar. 1801], *Bonpland & Humboldt 1356*, (lectotype [first-step]: Glassman 1972: 102, P; lectotype [second-step]: *Stauffer & Stauffer 2017*: 18, P 000669605; isolectotype P 00725687).

Geographical Distribution. CUBA. Provinces from Matanzas to Santiago de Cuba (León, 1939), Camagüey (Camagüey^H, Céspedes^R, Esmeralda^R, Florida^H, Guáimaro^R, Jimaguayú^H, Minas^H, Najasa^H and Sierra de Cubitas^H) (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017). Ciego de Ávila, Cienfuegos, Matanzas, Sancti Spíritus (La Sierpe^A, Sancti Spíritus^H and Trinidad^H) and Villa Clara.

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sectors Havanicum (Cascajalense^R and Güinense^R), Trinidadicum (Spirituense^R and Trinidadense^H) and Camagüeyicum (Camagüeyense^H, Claraense^H, Gibarense^H, Guaimarense^H, Holguinense^H, Sagüense^R).

Kunth (1816) did not designate type in the protologue of *Corypha miraguama*. Glassman (1972) referred to a complete collection of Humboldt and Bonpland deposited in P, now considered as lectotype [first-step]. Stauffer & Stauffer (2017) noted that P-Bonpl. 000669605 was the holotype; however, it is now considered as the lectotype [second-step], and the duplicate at P is an isolectotype.

Stauffer and Stauffer (2017) noted that Knuth’s original publication did not provide a collector number but one is on what appears to be the original label, *Bonpland & Humboldt 1356*, along with a notation of “miraguama” as vernacular name of the species. They also wrote that O. Durbin determined the holotype in 2010, which is incorrect because Durbin only left a label on one specimen at P stating as such.

Humboldt (1827) wrote about his first trip to Cuba from December 1800 to mid-March 1801. “on March 14 we entered the Guaurabo river ...” and he added “. . . about four miles from the mouth of the Guaurabo river to Trinidad ... the path passes through a plain ... which has a particular character, because of the Miraguama, which is a palm with silver leaves that we saw there for the first time.” Here I confirm for the first time that the date of collection of *Corypha miraguama* was 14 March 1801.

The name *Coccothrinax acuminata* was once considered a synonym of *C. miraguama*. Moya and Méndez (2018) determined that Sauvalle (1871) initially used the name *Thrinax acuminata* but

it was a *nomen nudum*. They added that *Coccothrinax acuminata* Becc. is a valid name but that neither it nor *Thrinax acuminata* are synonyms of *Coccothrinax miraguama*.

The International Plant Names Index (IPNI) lists Nov. Gen. Sp. [H.B.K.] as the standard form for Nova Genera et Species Plantarum (Kunth 1816) (IPNI 2020).

The following name is illegitimate:

Thrinax miraguama (Kunth) Walp. Ann. Bot. Syst. (Walpers) 5: 818 (1858), *nom. illeg.*

***Coccothrinax miraguama* subsp. *havanensis* (León) Borhidi & O. Muñiz, Bot.**

Közlem. 58: 175 (1971).

≡ *Coccothrinax miraguama* var. *havanensis* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 116 (1939).

Type. CUBA. [La Habana province, Santa Cruz del Norte municipality], loma caliza del Cerrote, playa de Jibacoa (Habana), fl., ft., 13 May 1937, *León 16834* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4405!; isolectotypes: HAC ex LS4401!, HAC ex LS!, HAC 28935-picture of US87407!, HAC 28939-picture of US87408!, US 00087407 ex LS, US 00087408 ex PC).

Geographical Distribution. CUBA. La Habana province (Guanabacoa^H, Habana del Este^H), Mayabeque (Santa Cruz del Norte^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Havanicum (Jarucoense^H, Havanense^H).

León (1939) designated *León 16834* as the type of *Coccothrinax miraguama* var. *havanensis*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16834* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4297 as the lectotype [second-step] and designate as isolectotypes the six duplicates distributed at HAC and US.

***Coccothrinax miraguama* subsp. *roseocarpa* (León) Borhidi & O. Muñiz, Bot.**

Közlem. 58: 175 (1971).

≡ *Coccothrinax miraguama* var. *roseocarpa* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 117 (1939).

Type. CUBA. [Matanzas province, Cardenas municipality], lomas siliceas de los Botinos y Camarioca, (Matanzas), fl., ft., 27 Aug. 1937, *León & Alban 16958* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4412!; isolectotypes: AJBC ex LS, HAC ex LS4411!, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, HAC 28923-picture of US87410!, HAC 28933-picture of US87409!, MICH 1002569A ex LS, MICH 1002569B, MT 116873 [n.v.], US 00087409 ex LS, US 000874109, US 01269011 ex LS).

Geographical Distribution. CUBA. Province Matanzas (Cardenas^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Havanicum (Jarucoense^H) Borhidi (1996).

León (1939) designated *León 16958* as the type of *Coccothrinax miraguama* var. *roseocarpa*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16958* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4412 as the lectotype [second-step] and designate as isolectotypes the 13 duplicates distributed at HAC, MICH, MT, and US.

Henderson et al. (1995) list the subtaxa of *Coccothrinax miraguama* as synonyms of *C. miraguama*.

Coccothrinax muricata León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 129 (1939). **Fig. 17.**

Type. CUBA. [Camagüey province, Najasa municipality], en rocas abruptas de diente de perro, Sierra del Chorrillo, Camagüey, 100 m, fl., ft., 31 Dec. 1932, *León 15892* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4420!; isolectotypes: A 00028284 ex LS, AJBC.1 ex LS, AJBC.2 ex LS, GH 00028285 ex LS, HAC ex LS4419!, HAC ex LS4420!, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, HAC 28922-picture of US87411!, MICH 1192600 ex LS, US 00087411 ex LS).

Geographical Distribution. CUBA. Province Camagüey (Najasa^H and Sierra de Cubitas^H). (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Guaimarense^H and Gibarense^H) Borhidi (1996).



17. *Coccothrinax muricata* in the Sierra de Cubitas, Camagüey, Cuba. (©2016 by D. R. Hodel).



18. *Coccothrinax orientalis* near or at the type locality, Sierra de Nipe, Mayarí, Holguín, Cuba. (©2017 by D. R. Hodel).

León (1939) designated *León 15892* as the type of *Coccothrinax muricata*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all the duplicates of *León 15892* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4420 as the lectotype [second-step] and designate as isolectotypes the 11 duplicates at A, GH, HAC, MICH, and US.

Henderson et al. (1995) list *Coccothrinax muricata* as a synonym of *C. pauciramosa*.

Coccothrinax orientalis (León) O. Muñiz & Borhidi, Acta Bot. Acad. Sci. Hung. 27: 451 (1981 publ. 1982). **Fig. 18.**

≡ *Coccothrinax yuraguana* var. *orientalis* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 121 (1939).

≡ *Coccothrinax yuraguana* subsp. *orientalis* (León) Borhidi, Acta Bot. Acad. Sci. Hung. 17: 2 (1971 publ. 1972).

Type. CUBA. [Holguín province, Mayarí municipality], pinares a 500-650 m alt., Sierra de Nipe, cerca de Woodfred, Oriente, 500-600 m, ft., 18 Dec. 1909, *Shafer 3217* (lectotype [first-step]: Glassman 1972: 86, NY; lectotype [second-step]: designated here, NY 1662043; isolectotypes: HAC 28936-picture of US87418!, HAC 28937-picture of US87419!, NY 1662042, US 00087418, US 00087418).

Geographical Distribution. CUBA. Provinces Holguín (Mayarí^H, Moa^H, Sagua de Tánamo ¿?) and Guantánamo (Toa^R) (Muñiz and Borhidi 1982). Santiago de Cuba (Mella ¿?)

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Moanicum (Nipense^H, Cristalense^H and Moaëense^H).

León (1939) designated *Shafer 3217* as the type of *Coccothrinax yuraguana* var. *orientalis*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *Shafer 3217* deposited in LS, now considered as lectotype [first-step]. Here I designate NY1662043 as the lectotype [second-step] and designate as isolectotypes the five duplicates at HAC, NY, and US.

Govaerts and Dransfield (2005) and Govaerts et al. (2020) cite the description of the variety on page 119 of León (1939).



19. *Coccothrinax pauciramosa* in the Sierra de Nipe, Holguín, Cuba. (©2016 by D. R. Hodel).

Henderson et al. (1995) list *Coccothrinax orientalis* as a synonym of *C. miraguama*.

Coccothrinax pauciramosa Burret, Kongl. Svenska Vetensk. Acad. Handl., ser. 3, 6(7): 12 (1929). **Fig. 19.**

Type: CUBA. [Santiago de Cuba province, Mella municipality], in Sabana Risueña, prope Bayate, Sierra de Nipe, Oriente, fl., 18 Jul. 1914, *Ekman 2021* (holotype S-R-1200; isotypes, HAC4425-frag. ex B!, HAC-photo of B!).

Geographical Distribution. CUBA. Provinces Holguín (Mayarí^H) and Santiago de Cuba (Mella^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Guaimarensis^H) and Eastern Cuba subprovince: sector Moanicum (Nipense^H) (Borhidi 1996).

Burret (1929) designated *Ekman 2021* as the type of *Coccothrinax pauciramosa*, but did not note where specimens were deposited. Because only one is at S, it is automatically the holotype. A specimen at HAC labeled *Ekman 2021*, consisting of a rachilla fragment and the photo of the specimen accompanied by the protologue, sent by Burret to León is considered an isotype.

Coccothrinax pseudorigida León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 145 (1939). **Fig. 20.**

Type: CUBA. [Camagüey province, Camagüey municipality], cayo de monte bajo, Santayana, al este de la ciudad de Camagüey, fl., ft. 9 Jul. 1932, *León 15795* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4427!; isolectotypes: A 00028289 ex LS, GH 0028287 ex LS, GH 0028288 ex LS, HAC ex LS4428!, MICH 1922601 ex LS, US 1269022 ex LS).

León (1939) designated *León 15795* as the type of *Coccothrinax pseudorigida*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 15795* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4427 as the lectotype [second-step] and designate as isolectotypes the six duplicates at A, GH, HAC, MICH, and US.

= *Coccothrinax pseudorigida* var. *acaulis* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 146 (1939).



20. *Coccothrinax pseudorigida* east of Camagüey city, Camagüey, Cuba. (©2017 by D. R. Hodel).

Type. CUBA. [Camagüey province, Camagüey municipality], sabana de la Punta, camino de Cubitas, N.O. de la capital de Camagüey, 8 Aug. 1932, *León 15779* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS 4430!; isolectotypes: A 00028291, AJBC ex LS, GH 0028290, HAC ex LS 4429!, HAC ex LS 4430!, HAC ex LS!, HAC 28925-picture of US87413!, MICH 1922602, MT 116877 [n.v.], US 00087413).

León (1939) designated *León 15779* as the type of *Coccothrinax pseudorigida* var. *acaulis*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 15779* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4430 as the lectotype [second-step] and designate as isolectotypes the 10 duplicates at A, AJBC, GH, HAC, MICH, MT, and US.

On the label of *León 15779* (HAC ex LS4430) León wrote “arid savannah west of the hill of Yucatán” and as a common name “yuraguanita vestida (dressed)” while in other labels he wrote “savannah Santa Teresa de Yucatán.”

Geographical Distribution. CUBA. Province Camagüey (Camagüey^H, Esmeralda^R, Florida^H, Jimaguayú^R and Sierra de Cubitas^R). (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Camagüeyense^H) Borhidi (1996).

Henderson et al. (1995) list *Coccothrinax pseudorigida* and *C. pseudorigida* var. *acaulis* as synonyms of *C. pauciramosa*.

***Coccothrinax rigida* (Griseb. & H. Wendl.) Becc., Webbia 2: 299 (1907). Fig. 21.**

≡ *Thrinax rigida* Griseb. & H. Wendl., Cat. Pl. Cub.: 221 (1866).

Type. CUBA. [Holguín province, Sagua de Tánamo municipality], Cuba or. [oriental], La Catalina, fl., 22 Mar. 1861, *Wright 3220* (lectotype [first-step]: Beccari 1907: 300, G-DC; lectotype [second-step]: designated here, G 00305375; isolectotypes, F 358404-picture of G305375, FI 051878 ex G-DC, G 00355869, GH 00028292, GOET 009333, GOET 009334, HAC ex Jimeno!, K 000462856, K 000462857, MO 104645, P 00725684, YU 034635, YU 034636).

Geographical Distribution. CUBA. Province Holguín (Moa^H and Sagua de Tánamo^H).



21. *Coccothrinax rigida* at the type locality atop a limestone monolith, Sagua de Tánamo, Holguín, Cuba. MR 1713. (©2017 by D. R. Hodel).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Moanicum (Cristalense^H and Moaëense^H).

Grisebach (1866) designated *Wright 3220* as the type of *Coccothrinax rigida*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Beccari (1907) did the same, designating as the type all the duplicates of *Wright 3220* deposited in G, now considered as lectotype [first-step]. Here I designate G305375 as the lectotype [second-step] which Beccari has annotated, and designate as isolectotypes the 13 duplicates at F, FI, G, GH, GOET, HAC, K, MO, P, and YU.

On specimen GH28292, Wright left a written note “Palm. Farallones La Catalina, near Sagua de Tánamo,... mar. 22.” While Howard (1988, in appendices 2 and 3) noted that Wright visited La Catalina, near Sagua de Tánamo in March 1861, here it is confirmed for the first time that the date of collection was 22 March 1861.

Pedro González recently expanded the distribution of *Coccothrinax rigida* to Moa municipality where he collected the species at the Moa cliffs. He deposited his collection at HAJB and at the herbarium of the Holguín Botanical Garden.



22. *Coccothrinax salvatoris* subsp. *salvatoris*, the glaucous-blue form, on the limestone monolith Cerro de la Cantera, Holguín, Cuba. (©2017 by D. R. Hodel).

Henderson et al. (1995) list *Coccothrinax rigida* (only as its basionym *Thrinax rigida*) as a synonym of *C. pauciramosa*.

Coccothrinax salvatoris León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 125 (1939). **Fig. 22.**

Type. CUBA. [Las Tunas province, Manatí municipality], manigua abierta, no lejos de la boca de la bahía de Manatí (Oriente), entre Mono Ciego y el Faro, fl., ft., 4 Jan. 1937, *León 16800* (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4442!; isolectotypes: HAC ex LS4441!, MICH 1002571A ex LS, MICH 1002571B, US 01269021 ex LS).

Geographical Distribution. CUBA. Province Camagüey (Esmeralda^H and Nuevitas^H) (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017). Provinces Ciego de Ávila (Primero de Enero^H), Holguín (Antilla^P, Cacocúm^H and Rafael Freyre^P) and Las Tunas (Manatí^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Gibarense^H, Guaimarense^H) (Borhidi 1996).

León (1939) designated *León 16800* as the type of *Coccothrinax salvatoris*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16800* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4442 as the lectotype [second-step] and designate as isolectotypes the four duplicates at HAC, MICH, and US.

Photos that Pedro González provided document *Coccothrinax salvatoris* at Carmona beach and Bahía Banes entrance lighthouse near Antilla, a new report for the Antilla municipality and the most eastern point of the species.

Coccothrinax salvatoris* subsp. *loricata (León) O. Muñiz & Borhidi, Acta Bot. Acad. Sci. Hung. 28: 322 (1982).

≡ *Coccothrinax salvatoris* var. *loricata* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 127 (1939).

Type. CUBA. [Camagüey province, Esmeralda municipality], loma caliza llamada Silla del Cayo Romano (Camagüey), ft., 4 Jan. 1936, *León 16489* (lectotype [first-step]: Glassman 1972: 86, LS; lectotype [second-step]: designated here, HAC ex LS4457!; isolectotype, A

00028293 ex LS, AJBC, GH 00028294 ex LS, HAC ex LS4456!, HAC ex LS!, HAC 28924-picture of US87416!, MICH 1002572A ex LS, MICH 1002572B, US 00087416).

Geographical Distribution. CUBA. Province Camagüey (Esmeralda^H: Silla del Cayo Romano) (Risco, Moya, Verdecia, Suárez and Rodríguez, 2017).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Gibarense^H).

Muñiz and Borhidi (1982) reported that *Coccothrinax salvatoris* subsp. *loricata* (León) Borhidi & O. Muñiz was published in Bot. Közlem. 58: 175 (1971), which is untrue and was noted by Moya and Leiva (2000), Acevedo and Strong (2012), Greuter and Rankin (2017), Govaerts et al. (2020), and Palmweb (2020). The correct date and authorities for this combination are *Coccothrinax salvatoris* subsp. *loricata* (León) O. Muñiz & Borhidi, Acta Bot. Acad. Sci. Hung. 28: 322 (1982).

León (1939) designated *León 16489* as the type of *Coccothrinax salvatoris* var. *loricata*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16489* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4457 as the lectotype [second-step] and designate as isolectotypes the nine duplicates at A, AJBC, GH, HAC, MICH, and US.

Henderson et al. (1995) list the subtaxa of *Coccothrinax salvatoris* as synonyms of *C. salvatoris*.

***Coccothrinax savannarum* (León) Borhidi & O. Muñiz, Acta Bot. Acad. Sci. Hung. 27: 452 (1981 publ. 1982). Fig. 23.**

≡ *Coccothrinax muricata* var. *savannarum* León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 130 (1939).

≡ *Coccothrinax muricata* subsp. *savannarum* (León) Borhidi & O. Muñiz, Bot. Közlem. 58: 176 (1971).

Type. CUBA. [Santiago de Cuba province, municipio Mella municipality], Sabana Risueña, próxima a la Sierra de Nipe, Bayate de Miranda, Oriente, ft., Jan. 1933, *León 15910*, collected by V. Held and O. Heimer (lectotype [first-step]: Glassman 1972: 85, LS; lectotype [second-step]: designated here, HAC ex LS4422!, isolectotypes: A 00028286 ex LS, AJBC.1 ex LS, AJBC.2 ex LS, HAC ex LS4421!, HAC ex LS.1!, HAC ex LS.2!, HAC 28941-picture of US87412!, MICH 1002570A ex LS, MICH 1002570B ex LS, US 00087412).



23. *Coccothrinax savannarum* in the Sierra de Nipe, Holguín, Cuba. (©2016 by D. R. Hodel).

Geographical Distribution. CUBA. Provinces Holguín (Mayarí^P) y Santiago de Cuba (Mella^H).

Biogeographical Distribution. CUBA province, Central Cuba subprovince: sector Camagüeyicum (Guaimarensis^H) and Eastern Cuba subprovince, sector Moanicum (Yaterense^H) (Borhidi 1996).

León (1939) designated *León 15910* as the type of *Coccothrinax muricata* var. *savannarum*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 15910* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4422 as the lectotype [second-step] and designate as isolectotypes the 10 duplicates at A, AJBC, HAC, MICH, and US.

Raúl Verdecia collected this species in a “mogote” complex at the junction of Pinar Redondo, Mella municipality of Santiago de Cuba province, expanding the biogeographic distribution of *Coccothrinax savannarum* to sector Yaterense. He deposited his collection at HMC. Also, José Luis Gómez provided photos of this species at La Chivera, expanding its distribution to Mayarí municipality, Holguín province.

Henderson et al. (1995) list *Coccothrinax savannarum* as a synonym of *C. pauciramosa*.

Coccothrinax saxicola León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 141 (1939). **Fig. 24.**

Type. CUBA. [Granma province, Niquero municipality], farallón del Dudoso y del Baño, al oeste del Central Cabo Cruz, Pílon (Oriente), ft. 30 Dec. 1938, *León & Marie Victorin 18618* (lectotype [first-step]: Glassman 1972: 86, LS; lectotype [second-step]: designated here, HAC ex LS.1!; isolectotypes: A 00028296 ex LS, AJBC ex LS, GH 0028295 ex LS, G H0028297 ex LS, GH 0028298 ex LS, HAC ex LS4462!, HAC ex LS4463!, HAC ex LS.2!, HAC 28938-picture of US87417, HAJB 000436 ex LS, HAJB 000437, MICH 192603 ex LS, MT 116879 [n.v.], US 00087417 ex LS).

Geographical Distribution. CUBA. Province Granma (Niquero^H).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagicum (Pilonense^H) (Borhidi 1996).

León (1939) designated *León 18618* as the type of *Coccothrinax saxicola*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were



24. *Coccothrinax saxicola* on karst limestone at or near the type locality, Parque Nacional Desembarco del Granma, Cuba. *MR 1703*. (©2016 by D. R. Hodel).

deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 18618* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS.1 as the lectotype [second-step] and designate as isolectotypes the 14 duplicates at A, AJBC, GH, HAC, MICH, MT, and US.

Henderson et al. (1995) list *Coccothrinax saxicola* as a synonym of *C. miraguama*.

Coccothrinax victorinii León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 139 (1939). '*victorini*'. **Fig. 25.**

Type. CUBA. [Granma province, Media Luna municipality], cerca de la orilla del mar, entre las dos bocas del río Tana, Media Luna (Oriente), fl. 29 Dec. 1938, *León & Marie Victorin 18604*, (lectotype [first-step]: Glassman 1972: 86, LS; lectotype [second-step]: designated here, HAC ex LS4465!; isolectotypes: A 00028299 ex LS, HAC ex LS4464!, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, MICH 192604 ex LS, US 01269020 ex LS).

Geographical Distribution. CUBA. Province Granma (Campechuela^R, Media Luna^H and Niquero^R) (Sariego and Cisneros, 2003).

Biogeographical Distribution. CUBA province, Eastern Cuba subprovince: sector Santiagicum (Pilonense^H). Central Cuba subprovince: sector Camagüeyicum (Guaimarensis^R) (Borhidi 1996).

León (1939) designated *León 18604* as the type of *Coccothrinax victorinii*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 18604* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4465 as the lectotype [second-step] and designate as isolectotypes the seven duplicates at A, HAC, MICH, and US.

Raúl Verdecia expanded the distribution of *Coccothrinax victorinii* when he collected it in Punta Casimba, Niquero municipality in Granma province. He deposited his collection at HMC. Sariego and Cisneros (2003) reported *C. victorinii* in West of Punta Guá, expanding the distribution to Campechuela municipality, also in Granma province. Both reports expanded the biogeographic distribution to Central Cuba, Guaimarensis district of Camagüeyicum sector.

Govaerts et al. (2020) corrected the termination of the specific name "*victorini*" to "*victorinii*." Henderson et al. (1995) list *Coccothrinax victorinii* as a possible synonym of *C. inaguensis*.



25. *Coccothrinax victorinii* during the height of the dry season at Playa Carenero, Niguero, Granma, Cuba. MR 1704. (©2017 by D. R. Hodel).



26. *Coccothrinax yuraguana* at or near the type locality, Bahía Honda, Artemisa, Cuba. (©2017 by D. R. Hodel).

Coccothrinax yuraguana León, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 13: 119 (1939). Fig. 26.

Type. CUBA. Artemisa province, Bahía Honda municipality, Finca Imposible, entre Pan de Guajaibón y Las Pozas (Pinar del Río), Apr. 1934, ft., *León 16103*, collected by G. Nateson (lectotype [first-step], Glassman 1972: 86, LS; lectotype [second-step]: Moya 2018: 47, HAC ex LS4471!; isolectotypes: AJBC, HAC ex LS.1!, HAC ex LS.2!, HAC ex LS.3!, US 01210480 [n.v.]).

Geographical Distribution. CUBA. Provinces Artemisa (Bahía Honda^H) and Pinar del Río (La Palma^H). (Moya 2018).

Biogeographical Distribution. CUBA province, Western Cuba subprovince: sector Rosaricum (Cajalbanense^H) (Moya 2018).

Moya (2018) provided the update of the nomenclature, taxonomy, and geographical distribution, except about the lectotype, which I update here. León (1939) designated *León 16103* as the type of *C. yuraguana*. In doing so he referred to a complete collection, thus creating syntypes, but did not note where specimens were deposited. Glassman (1972) did the same, designating as the type all duplicates of *León 16103* deposited in LS, now considered as lectotype [first-step]. Here I designate HAC ex LS4371 as the lectotype [second-step], and designate as isolectotypes the five duplicates at AJBC, HAC, and US.

Muñiz and Borhidi (1982) erroneously listed *Coccothrinax miraguano* Becc. as a synonym of *C. yuraguana*.

Moore (1963) pointed out that, due to a technicality, the name *Thrinax yuraguana* A. Rich. is illegitimate because Richard cited the previously published *Corypha miraguama* ("miraguana") as a synonym, which makes *T. yuraguana* a superfluous name that must be rejected and cannot be used as a basionym or considered a synonym. Thus, Moya (2018) selected from among several collections that León (1939) had cited to be the lectotype.

The distribution of *Coccothrinax yuraguana* is now also in Artemisia province.

Henderson et al. (1995) list *Coccothrinax yuraguana* as a synonym of *C. miraguana*.

The following name is illegitimate:

Thrinax yuraguana A. Rich., in R. de la Sagra, Hist. Fis. Cuba, Bot. 11: 278. 1850, *nom. illeg.*

Conclusions and Future Work

These results are based on my more than 20 years of work on Cuban palms. Here, I updated and annotated the typification and nomenclature of the Cuban species of *Coccothrinax* prior to 1940, which will help to form the basis for future studies of *Coccothrinax* species described after León. I hope that this information will help to increase the conservation actions for these species annotated here. Future specific work will focus on carrying out new herbarium and field studies to define better *Coccothrinax* taxa that share habitats and/or elucidate differences between them, including *Coccothrinax guantanamensis* and *Coccothrinax hioramii*; *Coccothrinax pauciramosa*, *Coccothrinax savannarum*, and *Coccothrinax nipensis*; *Coccothrinax orientalis* and *Coccothrinax moaensis*; *Coccothrinax miraguama*, *Coccothrinax acuminata*, *C. miraguama* subsp. *havanensis*, and *C. miraguama* subsp. *roseocarpa*.

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Celio E. Moya López is an independent researcher specializing in palm biology of the Cuban and Caribbean palms. celio.moya@gmail.com

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