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Untangling the nomenclatural and botanical history of the Cuban endemic palm *Copernicia macroglossa* Schaedtler

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Abstract. The complex nomenclature of the Cuban endemic palm *Copernicia macroglossa* Schaedtler is revisited. The research involved looking into six validly published names and resulted in a revision of the lectotypification of *C.* ×*macroglossa* H.Wendl. ex Becc. (accepted name *C.* ×*escarzana* León) and a reevaluation of previous typification accounts for *C.* ×*escarzana* León, *C.* ×*burretiana* León, and *C. torreana* León.

Keywords: Arecaceae, Greater Antilles, Neotropics, Odoardo Beccari, plant systematics, typification.

INTRODUCTION

The Caribbean Islands harbor a rich taxonomic diversity of palms (~251 species in 26 genera; Dransfield et al. 2008: Table 7.1); and, within this region, Cuba has the highest number of endemic species of the Arecaceae Bercht. & J. Presl. The genus *Copernicia* Mart. ex Endl., placed in the subfamily Coryphoideae Burnett, tribe Trachycarpeae Satake, has 21 species, of which ~16 endemic species are found in this island (Moya 2021a). Among them, *Copernicia macroglossa* Schaedtler (Cuban petticoat palm) has reached the horticulture trade because of its unique morphology in which its very short-petiolate leaves form a wide skirt along the trunk when they die (Figs. 1–2). The species is a relatively common element of gardens of South Florida including Montgomery Botanical Center and Fairchild Tropical Botanic Gardens which are well-known for their unique living collections of palms.

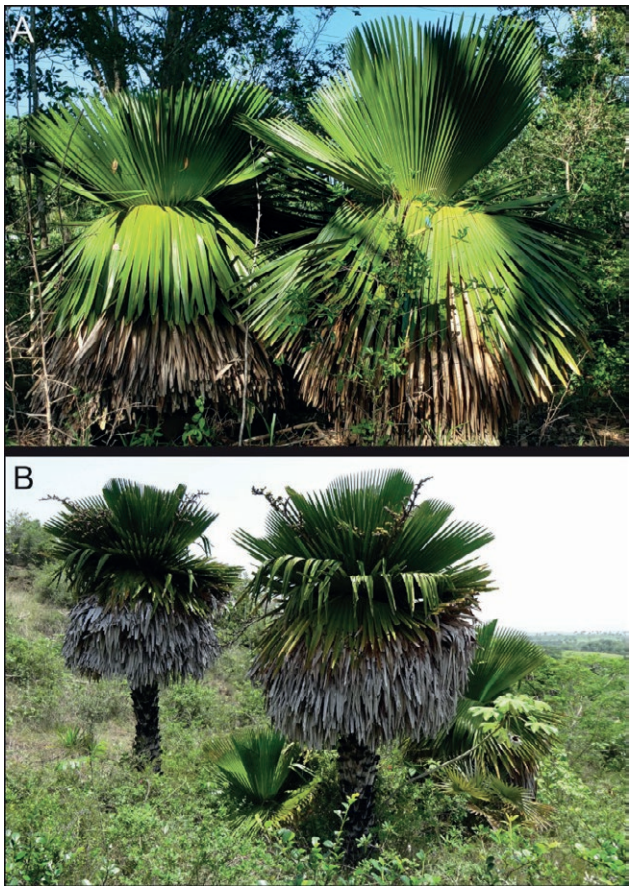

Figure 1. Individuals of *Copernicia macroglossa* in habitat. **A.** El Roque-La Cerveceria, Manacas, Santo Domingo municipality, Province of Santa Clara. **B.** Highly disturbed area in La Chivera, Minas-Bajurayabo. Guanábana municipality. Province of La Habana. Photos: Ramona Oviedo.

Figure 2. Adult individuals of *Copernicia macroglossa* in cultivation. **A.** Plant in Montgomery Botanical Center. Selvyn Valenzuela as reference. **B.** Plants with unmatured fruits in the Palmetum of Florida International University. **C.** Plant in the Palmetum of Florida International University showing the folding leaf pattern characteristic of this species. Photos: A. Vickie Murphy. B-C. Javier Francisco-Ortega.

Recently, Naranjo et al. (2025) published a "plant portrait" paper on this species, in which this name was neotypified and a detailed description was provided to clarify the vague descriptive account found in its protologue (Schaedtler 1875). When the preceding paper was prepared, it was found that not only Schaedtler's (1875) original description was ambiguous and based on juvenile plants, but that the nomenclature pertaining to this species has also been challenging and problematic. Indeed, the nomenclature history of this Cuban palm has involved six names, and it has been addressed in 13 different taxonomic publications (i.e., Sauvalle 1871; Schaedtler 1875; Beccari 1907, 1931; León 1931, 1936; Dahlgren 1936; Dahlgren and Glassman 1958, 1963; Moya et al. 2019; Moya 2021a, 2023b, 2025). Of these contributions, the most recent nomenclatural revisions were by Moya (2021a, 2023b, 2025), which provide a comprehensive account of herbarium specimens available for typifications. The preceding three works also reviewed the historical difficulties regarding the nomenclature of this name and included typification proposals. Moya's (2021a, 2023b, 2025) research led us to clarify nomenclature issues that were not previously addressed. However, we assert that Moya's (2021a, 2023b) nomenclatural assessments had a few oversights that are addressed here for the correct application of this name. The key issues pertain to the first valid publication of this species' name and subsequent type designations which we elaborate in this paper.

FROM FRANCISCO A. SAUVALLE TO GEORG SCHAEDTLER AND ODOARDO BECCARI

The name *Copernicia macroglossa* was first published by Sauvalle (1871, 1873), and he cited the author-

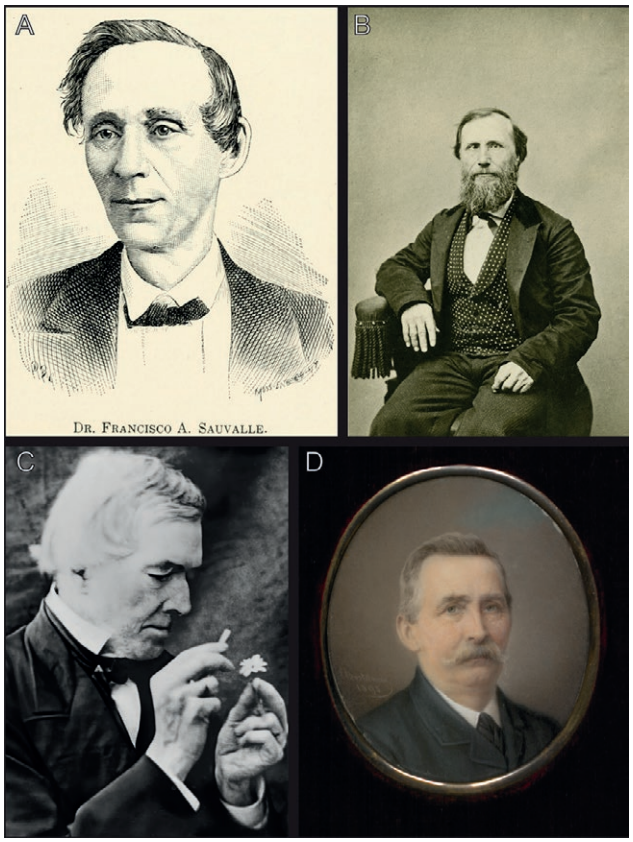

Figure 3. Naturalists involved in the early botanical history of *Copernicia macroclossa*, when it was published as an invalid name by Sauvalle (1871, 1873). **A.** Francisco Sauvalle [from Trelles (1916)], courtesy of the New York Botanical Garden. **B.** Charles Wright, courtesy of Archives of the Gray Herbarium, Harvard University. **C.** August Grisebach, courtesy of the Göttingen University Herbarium. **D.** Hermann Wendland, courtesy of the Gottfried Wilhelm Leibniz Bibliothek – Niedersächsische Landesbibliohek, Hannover, Germany.

ship as "Gris. & Wendl." Francisco A. Sauvalle (1807–1879; Fig. 3) was an American botanist who settled in Havana, Cuba in 1824, and until his death, he lived in this city (Ramos 1879; Moya 2020). The authors ascribed to this species name are two German botanists; viz., August Grisebach (1814–1879; Fig. 3) from the University of Göttingen, and Hermann Wendland (1825–1903; Fig. 3) from the Royal Gardens of Herrenhausen in Hanover. Grisebach was one of the most important plant taxonomists who worked in the Caribbean Islands (Stearn 1965), and Wendland is well known among Arecaceae specialists for his extensive contributions to the taxonomy of this plant family (Dowe 2019; Dowe et al. 2022). "*Copernicia macroglossa* Gris. & Wendl." as published by Sauvalle (1871, 1873) made reference to a specimen (number 3969) that was gathered by Charles Wright (1811–1885; Fig. 3); however, the species name was not validly published as it did not have any description or diagnosis. In this regard, the title of the article and the protologue of "*Copernicia macroglossa* Grisb. & H. Wendl." are quoted below.

> Title (vol. 5: 196. 1868): "*Flora Cubana: Revisio catalogi grisebachiani vel index plantarum cubensium ad catalogum cl: Grisebachii anno 1866 editum attemperata, pluribus Wrightianis novis speciebus aucta, valde quoque emendata, à cl: C. Wright; omnia pro Annalibus Regiae Academiae Scientiarum Havanensis digesta, nominibusque adjectis cubensibus vulgo receptis à Francisco A. Sauvalle*" [= Flora Cubana: Revision of the Grisebachian catalog or Index of Cuban plants accommodated to the catalog of the most illustrious Grisebach published in the year 1866, enlarged with many new Wrightian species, also greatly emended, by the most renowned C. Wright; all arranged for the Annals of the Royal Havana Academy of Sciences, with commonly accepted Cuban names added by Francisco A. Sauville]. Protologue: "[No.] 2368 COPERNICIA MACROGLOSSA Gris. & Wendl. ([C. Wright No.] 3969)."

The above work was published in thirty-nine parts in the journal *Anales de la Real Academia de Ciencias Médicas, Físicas y Naturales de La Habana. Revista Científica* in volumes 5–9 during 1868–1872. But eventually, Sauvalle (1873) compiled these parts together and published a single book, titled *Flora Cubana*.

It is evident from the above title, especially from the wording "[...] *pluribus Wrightianis novis speciebus aucta* [...]," and protologue, that Charles Wright is the author of the articles, that Sauvalle acted as a compiler and an editor, and that "*Copernicia macroglossa* Grisb. & H.Wendl. ex C.Wright" was not validly published.

Wright was an American botanist, and one of the most famous historical plant collectors of Cuba, wherein he travelled extensively between 1856 and 1867 (Howard 1988). Grisebach studied most of his collections, which served as the basis for the description of several Cuban endemics (Reinke 1879), and he also was in contact with Sauvalle (Moya 2021b). As a field botanist, Wright's collection numbers can be difficult to interpret as many of them are composed of two or more gatherings from different localities and therefore consist of mixed collections (Howard 1988: vii, 66, 87). Wright's unorthodox numbering system is one of the reasons that led to problems in associating the name *Copernicia macroglossa* with an appropriate specimen belonging to *C. Wright 3969*. It is worth noting, that the earliest known collection of *C. macroglossa* was made by Ramón de la Sagra (1798–1871, Fig. 4) in 1829 [Beccari 1907; *R. de la Sagra 101* (G: 00005833, photo!)] forty-two years before the name "*Copernicia macroglossa*" was proposed by Grisebach and

Figure 4. Naturalists involved in the botanical history of *Copernicia macroclossa*, between 1829 and 1931. **A.** Ramón de la Sagra, courtesy of Archivo y Biblioteca de las Cortes Generales, Madrid, Spain. **B.** Odoardo Beccari [from the frontispiece of the journal *Webbia* (volume 5, 1921)], courtesy of Centro Studi Erbario Tropicale (Herbarium FT), University of Florence, Italy, through Riccardo M. Baldini. **C.** Brother León, standing near wild plants of *C. macroglossa* at Madruga municipality, province of Mayabeque, courtesy of Division de la gestion de documents et des archives, University of Montreal, Canada.

Wendland. Ramón de la Sagra was a Spanish naturalist who lived in Cuba between 1823 and 1835, where he served as the director of the Botanic Garden of Havana in 1824 (Puig-Samper and Naranjo Orovio 2016).

Four years after Grisebach and Wendland's invalid publication of "*Copernicia macroglossa*", Schaedtler (1875: 160) validly published the name *Copernicia macroglossa*. Unfortunately, the protologue has a brief account in German and does not make mention of any precise locality. Furthermore, Schaedtler neither cited any collection nor referred to any herbarium specimen, resulting in uncertainty of the application of his species name; the translated protologue is mentioned below:

> *Copernicia macroglossa* -. The noble *Copernicia*. Without development of a stem, with disproportionately large fans, that almost arise out of the earth. It makes a more peculiar than beautiful impression through its dwarf growth with a vivid leaf-green color.[1]

Little is known about Georg Schaedtler except for an obituary which mentioned that he passed away in 1896 (Anonymous 1896) and short notes that suggest that he was based in Hannover, Germany (Schaedtler 1895; Anonymous 1896). It appears that there are no portraits of him (Dowe pers. comm.), and that he was not primarily a plant taxonomist but a horticulturist. In the same issue of this journal (i.e., *Hamburger Garten-Blumenzeitung*), he also proposed the name of a new palm genus (*Colpothrinax* Schaedtler) and the names of three new palm species (*Bactris subglobosa* Lindl. ex Schaedtler, *Colpothrinax wrightii* Schaedtler, and *Nenga pumila* H.Wendl. ex Schaedtler), and for the most part the relevant protologues show the same pattern of having brief morphological descriptions, without making a reference to herbarium vouchers or localities. As stated by Dowe (2019: 89): "Many of the [palm] names included in this publication [= *Hamburger Garten-Blumenzeitung*] were based on provisional and/or tag names provided by Wendland [...]." Because Wendland and Schaedtler worked together, Naranjo et al. (2025) interpreted the name *C. macroglossa* Schaedtler to refer to the same taxon invalidly published by Sauvalle as "*Copernicia macroglossa* Gris. & Wendl." As indicated above, Naranjo et al. (2025) not only amended Schaedtler's description but also designated a neotype for this species.

It is noted here that later works either were not aware of Schaedtler's publication of *Copernicia macroglossa* (Beccari 1907) or treated it as not validly published (Moya 2021a, 2023b). Subsequent to Schaedtler's (1875) work, Beccari (1907) published the next treatment pertinent to this Cuban palm, as he described the species "*C. macroglossa* H.Wendl. ex Becc." He coined this species name from Kerchove de Denterghem's (1878: 241) book on palms, in which "*C. macroglossa* Wendl." is mentioned without any description as part of the "Index Général" of this work. Beccari was not aware of Schaedtler's (1875) publication; nevertheless, *C.* ×*macroglossa* H.Wendl. ex Becc., is a later homonym and an illegitimate name (non *C. macroglossa* Schaedtler) as we discuss below. Most of the floristic studies of Cuba, as well as previous nomenclatural accounts have been using Beccari's author's name for this species (e.g., Craft

[1] German text reads as: *Copernicia macroglossa–. Die großzüngige Copernicia. Ohne Stammbildung, mit unverhältnißmäßig großen Fächern, die fast aus der Erde hervorstehen. Sie macht durch ihren zwerghaften Wuchs bei lebhafter Färbung des Blattgrüns einen mehr seltsamen, als schönen Eindruck.*

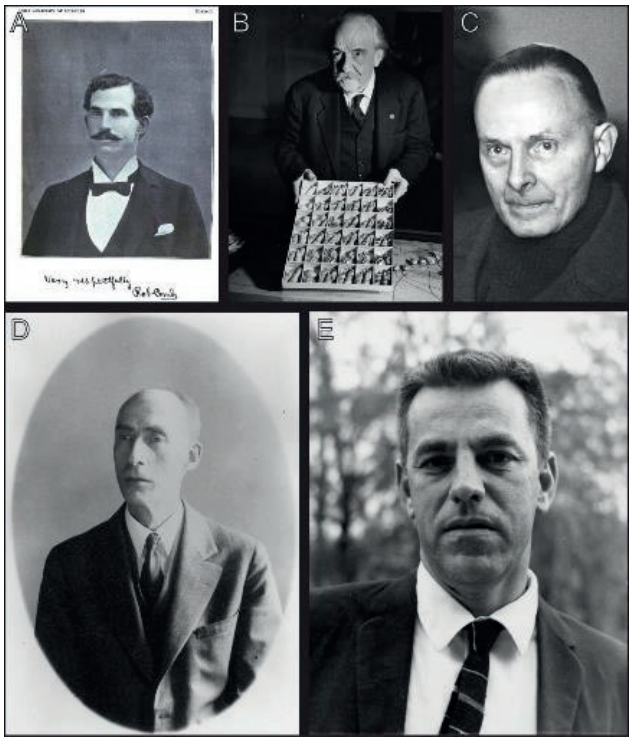

Figure 5. Naturalists involved in the botanical history of *Copernicia macroglossa*, after it was validly published by Schaedtler (1875). **A.** Robert Combs [from Pammel (1899)], courtesy of Hunt Institute *for* Botanical Documentation. **B.** Carlos de la Torre, courtesy of Smithsonian Institution Archives. **C.** Max Burret, courtesy of Library and Science History Collection, Botanic Garden and Botanical Museum Berlin. **D.** Bror Dahlgren, courtesy of Hunt Institute for Botanical Documentation. **E.** Sidney Glassman, courtesy of Hunt Institute for Botanical Documentation.

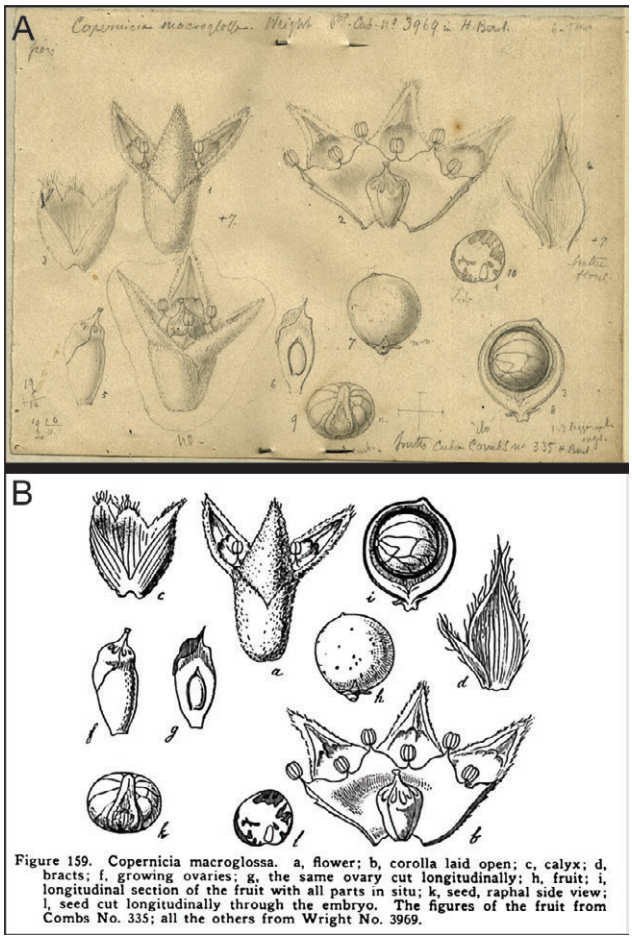

Figure 6. Illustrations of reproductive parts of *Copernicia macroglossa*. **A:** Pencil illustrations found in Beccari's herbarium (FI), courtesy of Natural History Museum Herbarium, University of Florence. **B.** Reproduction of pencil illustration shown in A as published by Beccari (1913: Fig. 159), courtesy of Harvard University Herbaria and Library.

2018: 164; Moya 2021a, 2023b; Greuter and Rankin Rodríguez 2022;). The Italian botanist Odoardo Beccari (1843–1920; Fig. 4), was a recognized and prestigious tropical plant taxonomist and palm specialist (Martelli 1921); therefore, it is not surprising that his publication was rapidly accepted by Caribbean botanists and Arecaceae biologists. Beccari's description was based on three syntypes: the two aforementioned *C. Wright 3969* and *de la Sagra 101* (G: 00005833, photo!), as well as *R. Combs 335* (FI: 072423, photo!; NY: 1662393, photo!; GH: 01109341, photo!; K: 000462347, photo!). Robert Combs (1872–1899, Fig. 5), an American chemist and field botanist, made collections in Cuba during 1895 and 1896. He worked for sugar companies established on the island and, during that time, he became interested in the medicinal plants of Cuba (Combs 1897; Pammel 1899; Lanjouw and Stafleu 1954). Beccari treated *C. macroglossa* in two additional publications pertinent to Cuban palms (Beccari 1913) or in systematics of the Coryphoideae (Beccari 1931). These two accounts did not have new descriptions for the species but included illustrations with flower and fruit details (Beccari 1913: Fig. 159, 1931: Plate 25-II). These illustrations were based on pencil drawings which are housed in the Natural History Museum Herbarium, University of Florence (Fig. 6).

HERMANO LEÓN'S CONTRIBUTIONS

The French clergyman and plant taxonomist Brother [Hermano] León (1871–1955; Fig. 4) provided the next taxonomic interpretation for this species; furthermore, he was the first botanist who discussed the nomenclature issues of *Copernicia* ×*macroglossa* H.Wendl. ex Becc. (León 1931, 1936). León was a member of the De La

Salle Catholic religious order (Fratres Scholarum Christianarum), and one of the most important botanists who studied the flora of Cuba (from 1905 and his death in Havana). León developed his career as a plant taxonomist in the herbarium of the Museo de Historia Natural del Colegio "De La Salle" (LS). This museum was one with the facilities of a school that was run by De La Salle brothers in El Vedado neighborhood, Havana. After the 1959 Cuban Revolution, the LS herbarium was moved to different localities, but currently it is part of HAC (herbarium of the Instituto de Ecología y Sistemática de Cuba) collections (Regalado et al. 2008).

León had a significant understanding of the endemic flora of this island (Alain 1956; Méndez Santos 2016). As a result, after examining specimens collected by Wright and interpreting Beccari's (1907, 1913) accounts for *Copernicia macroglossa*, León (1931, 1936) assessed that Wright´s collection under number 3969 was a mixture of two *Copernicia* species differing in leaf and inflorescence traits. One part has robust-petiolate leaves armed with spines on the margin and narrow panicle-branchlets (0.3–0.8 cm in diam.). The other part exhibits short-petiolate leaves and wide panicle-branchlets (0.8–2 cm in diam.). The two other syntype collections mentioned by Beccari (i.e., *C. de la Sagra 101* and *R. Combs 335*) are of the same morphological form with wide panicle-branchlets (reviewed by Moya 2021a).

León (1931, 1936) also noticed that Beccari's (1907) description of *Copernicia macroglossa* matched the mixed collection made by Wright, as it was for a taxon with robust-petiolate leaves with spines [*picciolo corto e robusto,* [...] *fittamente armato ai margini da cima a fondo di forti spine dentiformi*; Beccari (1907: 177–178)] and with wide inflorescence branchlets defined as "thick as a little finger" [*della grossezza di un dito mignolo* (Beccari 1907: 179)].

León's (1931: 39) translated remarks for the material that he initially studied are quoted below, as they help us to understand his assessment of Wright's mixed collection:

> These observations led me to believe that Beccari's description of *Copernicia macroglossa* published in Webbia was inadvertently based on two different species. I could examine the co-type [= syntype] of Robert Combs No. 335 and of Ch. Wright No. 3969 from the Botanic Garden of New York, as well as photos of the type [= lectotype] specimens from Berlin[2]

Furthermore, León (1931: 41) stated in this taxonomic treatment:

> In the co-type [= isotype] specimen of Wright 3969, from the Torrey Herbarium of New York, the leaf is of the same species, but of the two branches of the inflorescence, one is *C. macroglossa*, and the other appears to be *C. torreana* [as *Torrena*]. This confusion on Wright's part is explainable, since it is striking that in the ten years he was in Cuba, he collected at least 4,000 gatherings. He did not indicate, many times, the locality from which they came, and it is most likely that he gathered under the same number the specimens that he believed were of the same species, although they came from different localities. It is understandable that, being palms as similar as the two we are dealing with, he could have gathered inflorescences of different species. Since this second mixture of material to which I refer does not affect the type [= lectotype], Wright 3969, from Berlin, which served as a basis for Wendland to establish the binomial "*Copernicia macroglossa*", it seems to me that said name can persist, amending Beccari's description.[3]

Based on these accounts it was clear that León (1931) studied material that was housed in B and NY, but only had access to photos of *Wright 3969* specimens housed in B. It is therefore evident from León's (1931) remarks that he: (1) found that the material housed in NY was composed of gatherings from two different species, and that he (2) was convinced that, unlike those in NY, the specimens housed in B belonged to a single homogenous gathering and pertained to a single species. He concluded that the B material was only for plants with robust-petiolate leaves armed with spines on the margin, and having narrow panicle-branchlets, and this was the material that he interpreted to be *C. macroglossa* H.Wendl. ex Becc. Specimens under *Wright 3969* that have robust-petiolate leaves and narrow inflorescence branchlets have been identified by Moya (2021a) to be hybrids between *C. macroglossa* Becc. and *C. hospita* Mart. (see further discussion in hybrids below).

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[2] Spanish text reads: *Estas observaciones me indujeron a creer que Beccari, en su descripción de la* Copernicia macroglossa *en* Webbia*, podía haber utilizado, sin darse cuenta, el material de dos especies distintas. Pude examinar los ejemplares co-tipos de Robert Combs No. 335 y de Ch. Wright 3969, del Jardín Botánico de New York, así como fotografías de los ejemplares tipos de Berlín,* [...].

[3] Spanish text reads: *En el ejemplar co-tipo de Wright 3969, del Torrey Herbarium de New York, la hoja es de la misma especie, pero de las dos ramas de la inflorescencia, una es de* C. macroglossa*, y la otra parece ser de* C. torreana [as Torreana]. *Esta confusión de Wright es explicable, pues llama la atención el hecho de que en diez años que estuvo en Cuba, haya recolectado menos de 4000* [it should read "*al menos 4000*"] *números. No indicaba, muchas veces, la localidad de donde procedían, y lo más probable es que reunía bajo el mismo número los ejemplares que creía fueran de la misma especie, aunque provinieran de localidades distintas. Se comprende que, tratándose de palmas tan parecidas como las dos de que tratamos, haya podido reunir inflorescencias de especies distintas. Como esta segunda mezcla de material a que me refiero no afecta al tipo,* Wright 3969*, de Berlín, que sirvió de base a Wendland para establecer el binomio* Copernicia macroglossa*, me parece que dicho nombre puede subsistir, enmendando la descripción de Beccari.*

León (1931) was familiar with the work of Sauvalle (1871) and knew that Wright's collection number 3969 was the material on which Wendland coined "*Copernicia macroglossa*", a palm species name that was invalidly published by Sauvalle (1871) for the first time. Therefore, León inferred that specimens of *Wright 3969*, housed in B, were examined by Wendland. Thus, León (1931: 41) concluded that because the B specimens belonged to a single gathering, then they were suitable to typify the name *Copernicia* ×*macroglossa* H. Wendl. ex Becc. as he clearly stated [translated from Spanish} "Since this second mixture of material to which I refer does not affect the type, Wright 3969, from Berlin, which served as a basis for Wendland to establish the binomial *Copernicia macroglossa*, it seems to me that said name can persist, amending Beccari's description."[4]

In conclusion, León´s (1931) interpretation of *Wright 3969* specimens found in B, led him to characterize *Copernicia* ×*macroglossa* H.Wendl. ex Becc. as *Con pecíolo robusto armada de fuertes espinas; bracteolas aovadas de 2–3 cm de largo; flores 4–5 mm de largo* (León 1931: 36) [= With robust petiole armed with strong spines; bracteoles oviform 2–3 cm in length, flowers 4–5 mm in length], and separated what he considered as non *C. macroglossa* elements (characterized as: *Sin pecíolo* [it should read "*con pecíolo my corto*", as palm leaves are always petiolate]*; bracteolas lanceoladas de 5–7 mm. de largo; flores de 6–8 mm. de largo* [= With very short petiole, bracteoles lanceolate 5–7 mm in length; flowers 6–8 mm in length]), and proposed *C. torreana* as the name of a new species and typified it with a specimen collected by him: "Lomas de la Jata, Guanabacoa (Habana), No. 14297 tipo" (see above).

As a result of these observations, León (1931: 41) chose to emend Beccari's description of *Copernicia* ×*macroglossa* and cited the name as "Copernicia Macroglossa H.Wendl. ex Becc. in Webbia 2: 177. 1907. (ex parte), emend." Thus, León's emended description applies to a hybrid, and consequently, following Moya's (2021a) research on hybrids of this species complex, we interpret in here that León's (1931) emended description pertains to a hybrid between *C. macroglossa* Schaedtler and *C. hospita*, albeit León did not treat *Copernicia macroglossa* Schaedtler as a hybrid.

León's (1931) work has two other components, which added additional complexity to this nomenclatural problem. First, he published the aforementioned *Copernicia torreana* to describe the morph with short-petiolate leaves that correspond to *C. macroglossa* Schaedtler; and secondly, he published *C.* ×*escarzana*, to account as the hybrid between *C. macroglossa* and *C. hospita*. Moya (2021a) provided an extensive taxonomic review regarding the two additional hybrid species names between *C. macroglossa* and *C. hospita*, as they (*C.* ×*burretiana* León, and *C.* ×*leoniana* Dahlgren & Glassman) were described by León (1936) and Dahlgren & Glassman (1958), respectively.

Due to inexplicable reasons, for "Copernicia Macroglossa H.Wendl. ex Becc. in Webbia 2: 177. 1907. (ex parte), emend.", León (1931) did not mention *Wright 3969* collections from B as the lectotype but cited his own gathering to lectotipify this name. Because of the citation of his collection as the type, one may argue that León created a later homonym, i.e., "*C. macroglossa* León, non H.Wendl. ex Becc. 1907)." However, it is emphasized here that León (1931: 41), in spite of emending Beccari's description, continued to cite the authorship of this taxon's name as "H.Wendl. ex Becc." In other words, although León did not refer to *Wright 3969*, his authorship citation indicates that León did not exclude Wright's collection from the Beccari name. Consequently, the Beccari name was inadvertently lectotypified by the B specimen, and León's citation of one of his collections ("Antón Recio (Sta. Clara): flores en Diciembre [*H. León and J. I. Pérez*] 14730) as the type is treated as superfluous and rejected because it was not an original material and cannot be used to typify the "H. Wendland ex Beccari name;" Furthermore, León's emended description actually pertains to a new species, viz., *C.* ×*burretiana* León (cf., Art. 7 Ex. 1) that he published later (León 1936: 208). Since León (1931) adopted the existing name *C.* ×*macroglossa* H.Wendl. ex Becc. and did not exclude its lectotype inadvertently designated by him, he did not create a later homonym (cf., Art. 48.1). Therefore, there was no "*C.* ×*macroglossa* León (1931)" and what was published as "*Copernicia burretiana* nom. nov." is corrected to "*Copernicia burretiana* sp. nov.", which is typified by León's own collection: "Antón Recio (Sta. Clara): flores en Diciembre, [H. León & J. I. Pérez] 14730." In this regard, Wendy Applequist (MO), Werner Greuter (B), John McNeill (E), and John W. Wiersema (US) were consulted, and they are of the same opinion.

Although León did not mention which specimen found in B was the actual lectotype, his reference to the photos of the B specimen does indicate the relevant material. Unfortunately among the studied material we were unable to find photos sent to León from B before 1931. For a valid publication of pre-1958 names, it was not mandatory to cite a type collection and of pre-1990 names, and it was not needed to designate a particular specimen as type (i.e., holotype); however, León explicitly mentioned that the "H. Wendland ex Beccari name" was typified by a

[4] *Como esta segunda mezcla de material a que me refiero no afecta al tipo, Wright 3969, de Berlín, que sirvió de base a Wendland para establecer el binomio* Copernicia macroglossa*, me parece que dicho nombre puede subsistir, enmendando la descripción de Beccari.*

specimen under *Wright 3969* that was housed in B and that bears robust-petiolate leaves and narrow branchlet panicles. Unfortunately, this material, along thousands of other specimens, was destroyed during the Second War World (WW2), and a new lectotype designation was needed.

It is emphasized here that extant duplicates, of the lost lectotype collected by Wright (no. 3969 p.p.), that have the same morphological traits showing robust-petiolate leaves and narrow branchlet inflorescences are isolectotypes, are eligible for a new lectotypification [duplicates listed by Moya (2021a: 17)]. It is worth mentioning that León, after he published his emended description, received three fragments from B; one of the fragments, labeled as X3 (HAC 4535), is a narrow inflorescence and is inside an envelope. The other two fragments that were mailed from B, labelled as X1 and X2 (both mounted in HAC 4536), bear thick panicle branchlets (shown in Moya 2021a: Fig. 4). Glassman (1958) was the next botanist to typify the hybrid between *Copernicia macroglossa* and *C. hospital* (= *C.* ×*leoniana*), having *Wright 3969* [A 00028320, 00028323 (specimen mounted in two sheets), photos!] as the type. We have selected this specimen as the lectotype of *C.* ×*macroglossa* H.Wendl. ex Becc.

Based on his observations on the mixed collections under *Wright 3969*, León (1931: 40), as previously mentioned, described *Copernicia torreana* as a new species to refer to the morph with shorth-petiolate leaves and wide panicle-branchlets, and he cited "*C. macroglossa* H. Wendl. ex Becc. in Webbia 2: 177, 1907. (ex parte), et in Pomona Coll. Journ. 3: 395, 1913, Fig.158" as the synonym of *C. torreana*. León cited one of his own collections ("Lomas de la Jata, Guanabacoa (Habana), [*H. León*] No. 14297 tipo") as the type; his citation did not mention a specific collection date or name of the herbarium housing this specimen. He also included several paratype collections. Subsequently, for *C. torreana*, Moya (2021a: 11) cited the type information as "Type. CUBA. [La Habana Province, Guanabacoa municipality], "Loma de la Jata, Guanabacoa, Habana," 30 Mar. 1930, *León 14297* (lectotype, [first-step]: Dahlgren 1936: 131, [second-step]: designated here, HAC ex LS 4701!" However, for the type of *C. torreana*, Dahlgren (1936: 131) merely mentioned "Torreana León, l.c. (1931) 10.– Cuba: Habana, Lomas de la Jata, Guanabacoa [León 14297]." It is evident that Dahlgren did not refer to any herbarium or date of collection; therefore, what Dahlgren (1936: 131) cited is hardly different from what was published by León (1931: 40). In contrast, for the type of *C. torreana,* Glassman (1972: 101) mentioned "Cuba: Habana (León 14297 – LS)." Although Glassman did cite the LS herbarium as housing *León 14297*, it was found that León's collection number 14297 pertains to at least four gatherings. Most of the specimens under this collection number show the date "Marzo 1930" on their labels; however, one of them (housed in F [V0092058F]) was collected in February 1930, another one (found in HAC [4698]) bears the date February 1931, and finally the fourth gathering (two specimens found in P [P725607 and P725608] have labels stating "Reçu le 15 Juin 1932". Since LS had different gatherings of *León 14297*, and because Glassman did not mention a specific date of collection, his citation is not construed here as an inadvertent act of lectotypification. In other words, neither Dahlgren (1936: 131) nor Glassman (1972: 101) did Step I process of the lectotypification of the name *C. torreana*. Therefore, it is also construed here that Moya's (2021a: 11) designation Step II process is an advertent act of lectotypification. Accordingly, Moya's (2021a: 11) citation is revised here as: Type. CUBA. [La Habana province, Guanabacoa municipality], Loma de la Jata, Guanabacoa, Habana, 30 Mar. 1930, *León 14297* (lectotype designated by Moya (2021a: 11): HAC 4701)].

In this second work, León (1936: 209) also revisited his initial assessment on his earlier typification of *Copernicia* ×*macroglossa* H.Wendl. ex Becc. as he had access to actual herbarium material that he received from B, and that he did not study when he published his treatment of 1931. In his second publication, León (1936) realized that B also housed a mixed collection composed of two different species under *Wright 3969*. From this 1936 work, it is asserted here that in León's mind, his 1931 concept of *C.* ×*macroglossa* H.Wendl. ex Becc. was incorrect as in his 1936 publication he clearly stated (translated):

> My attention was drawn to the fact that Beccari, who described *C. macroglossa* with the aforementioned material housed in Berlin, indicated that it bears flowers that are 6.5 to 7 mm. long. These dimensions match those of the flowers of *C. torreana* [*Torreana*]. As an explanation for this, I believed the Berlin Herbarium housed specimens with flowers of these two species under Wright 3969. It seems unlikely for this to happen to a collector of Wright's stature; however, it is very understandable for the reasons given in my first contribution, and for the fact that the two species are very similar in their foliage, and they often grow together within a short distance of each other. These assumptions have been confirmed by Dr. Burret, an eminent authority on the subject, who was also kind enough to send me photographs and corresponding material for verification, the binomial *Copernicia macroglossa* does not correspond to any defined species, as it is based on a double species confusion, and should be treated as "*nomen confusum*."[5]

[5] Spanish text reads: [...] *me llamó la atención el hecho de que Beccari que describió* C. macroglossa *con el arriba mencionado material de Berlín, da las flores como de 6.5 a 7 mm. de largo, dimensiones que corresponden a las flores de* C. torreana [Torreana]. *Pensé entonces que no*

It is emphasized here that based on an individual botanist's opinion, a plant name cannot be rejected as a *nomen confusum* and that a proposal to the Code Committee for a rejection of the species name, and a subsequent approval from the Code Committee are required.

León's (1936: 209) new assessment on the Berlin specimens led him to propose the aforementioned *Copernicia* ×*burretiana* as a "nom. nov." for "*Copernicia* ×*macroglossa* H.Wendl. ex Becc. emend. León," and he applied this "new name" for the plants possessing armed and robust-petiolate leaves and narrow panicle-branchlets. The same reference also provides the type citation (aforementioned collection *H. León & J. I. Pérez 14730*). Later, Dahlgren and Glassman (1963: 84) mentioned the type as "Antón Recio, Las Villas, León [& J. I. Pérez] 14730 (LS)" (sic), but without specific information on the actual sheet bearing the type.

Subsequently, Moya (2021a) designated LS.1 (housed in HAC without sheet number) as the lectotype, and this specimen label shows "H. León y J. I. Perez" as the collectors and "Diciembre 1930" as the collection date. We add that Moya (2021a) located eight specimens of *C.* ×*burretiana* from the type locality (Antón Recio) which bear the number 14730. The specimens are housed in BH, HAC, and US, and we interpret that these specimens originally belonged to the LS holdings. Of the eight specimens, six were collected in December 1930 and have "H. León and J. I. Perez" as the collectors. The remaining two specimens have only H. León as the collector and were gathered on December 23, 1930 (HAC 4538, photo!) and December 15, 1930 (BH 000038100, photo!). We do not consider these two gatherings as original material and do not treat them as isolectotypes.

CONTRIBUTIONS MADE AFTER HERMANO LEÓN'S STUDIES

León's (1931) treatment of "Copernicia Macroglossa H.Wendl. ex Becc. in Webbia 2: 177. 1907. (ex parte), emend." was not followed in the subsequent studies on the nomenclature and taxonomy of this species (e.g., Dahlgren and Glassman (1958, 1963), Moya et al. (2019), and Moya (2021a, 2023b, 2025).

Subsequent to León's studies on *Copernicia macroglossa* H.Wendl. ex Becc. and its allies, the next plant taxonomists to make significant contributions on this complex were Bror Eric Dahlgren (1877–1961; Fig. 5; Kitzke 1962) who was a Swiss born American botanist, and Sidney Frederick Glassman from USA (1919–2008; Fig. 5; Noblick 2009). Of these two authors, Dahlgren (1936: 129) indicated "Cuba [Wright 3969]" as the type for *C. macroglossa* H.Wendl. ex Becc., without citing the name of the herbarium housing the type. Since *Wright 3969* consists of a mixture, Dahlgren's citation does not constitute an act of inadvertent lectotypification of the Beccari name. Subsequently, these two authors published *C.* ×*leoniana* Dahlgren & Glassman as the name of a new species (Dahlgren and Glassman 1958: 103–105) and remarked that "León [1931, 1936] apparently intended to publish this species [= *C. leoniana*] as new; instead he published both *C.* ×*burretiana* León [as *Burretiana*] and *C. torreana* León [as *Torreana*] as synonyms of *C. macroglossa* (*Rev. Soc. Geogr. Cuba* IV, 2: 10–12. 1931; *Mem. Soc. Cubana Hist. Nat.* 10, 4; 208–209. 1936). We are describing this species in honor of Brother León, late Director of the Colegio de la Salle in Havana." It is asserted here that both Dahlgren and Glassman were partly correct about León's intention of describing a new species, but the authors erred in their remark. León (1931, 1936) published *C.* ×*burretiana* and *C. torreana* as the names of new species, but later León (1936) opted to reject the name *C. macroglossa*, because he treated this as "*nomen confusum*".

Dahlgren and Glassman (1958) assigned their intended new species name *Copernicia* ×*leoniana* to those plants with robust-petiolate leaves and narrow branchlet panicles. They were aware of the putative hybrid origin of *C.* ×*leoniana* (Dahlgren and Glassman 1963: 86); however, they did not recognize this taxon be a hybrid, as later it was suggested by Moya (2021a). They designated one specimen of *Wright 3969* housed in A (mounted in two sheets) as the type. One of the sheets shows an inflorescence in flower and young fruit [illustrated by Dahlgren and Glassman 1963: Figure 55, identified by Moya (2021a: 17) as A00028320], and the other sheet has a leaf [illustrated by Dahlgren and Glassman 1963: Figure 56, identified by Moya (2021a: 17) as A00028323].

In their second contribution, a major work on the West Indian species of *Copernicia*, Dahlgren and Glassman (1963: 84–95, 152–162) revisited their previous interpretation on *C.* ×*burretiana* and *C. torreana* and made two conclusions. Firstly, they (p. 84) treated *C.*

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había otra explicación del hecho sino la existencia en el Herbario de Berlín también, de flores de dos especies en el Nº. 3969 de Wright. Aunque esto parezca inverosímil de parte de un colector de la talla de Wright, es muy comprensible por las razones expuestas en mi primera contribución, y por el hecho de que las dos especies se parecen mucho en su follaje y a menudo crecen una a poca distancia de la otra. Como mi suposición ha sido confirmada por el doctor Burret, autoridad eminente en la materia, quien además tuvo la bondad de mandarme la comprobación en fotografias y material correspondiente, el binomio Copernicia macroglossa *no corresponde a ninguna especie definida, basado que está en una doble confusion, y debe pasar a la categoria de "*nomen confusum."

×*burretiana* as the accepted name included the following as synonyms: "*Copernicia macroglossa* Wendl. ex Becc., Webbia 2: 177. 1907, pro parte. *Copernicia macroglossa* of León, Rev. Soc. Geogr. Cuba 4: 41. 1931. *Copernicia Leoniana* Dahlgr. & Glassm., Principes 2: 103. 1958".

Secondly, they (pp. 152–153) listed *C. macroglossa* H.Wendl. ex Becc. (in Webbia 2: 177. 1907) as an accepted name and cited *C. torreana* (short-petiolate leaf individuals) as a synonym; they interpreted the Beccari name as referring to those morphs with short-petiolate leaves, and thus they inadvertently emended Beccari's (1907) description, so that it did not encompass individuals with robust-petiolate leaves.

Furthermore, Dahlgren and Glassman (1963: 153) typified *C. macroglossa* H.Wendl. ex Becc., selecting a specimen from one of *Wright 3969* gatherings housed in A that exhibits wide panicle branchlets as the lectotype ("Type: Trinidad, Las Villas, Wright 3969, in part (B, holotype [destroyed]; A, lectotype)"). Dahlgren and Glassman (1963: Figure 119, left fragment) published a photo of this specimen. During our research, we could not locate this sheet; therefore, it is regarded as misplaced or lost. Unfortunately, even if the relevant specimen were to exist, its morph (with short-petiolate leaves) is contrary to León's (1931: 40) designation of a morph comprising leaves with robust petioles. Therefore, Dahlgren and Glassman's designation is rejected.

Subsequently, Glassman (1972: 99) listed "*Copernicia macroglossa* Wendland ex Beccari, Webbia 2: 177. 1907; 1913; t. 23, 2, 1931; León, 1931; Dalgren & Glassman, 1963. – Cuba (Wright 3969 – A). *C. burretiana* León, in part, *C. torreana* León." In other words, Glassman essentially repeated what was cited Dahlgren and Glassman (1963: 152–153). Therefore, his citation does not constitute an act of lectotypification of the Beccari's name.

The last two nomenclature treatments of *Copernicia macroglossa* H.Wendl. ex Becc. were provided by Moya (2021a, 2023b). In the first of these works Moya (2021a: 10) cited "Type. "CUBA. [Sancti Spíritus province, Trinidad municipality], "Potrero Manatí," 19 Mar. 1867, *Wright 3969b*, *p. p., emend*. Moya (lectotype, [first-step]: Dahlgren 1936: 129, A, [second-step], designated here, HAC 4536 [frag. ex B!], HAC [photo of B!]." Regarding Moya's mention of "lectotype, [first-step]", as already noted, Dahlgren's (1936: 129) citation does not constitute any act of lectotype designation. With reference to Moya's designation of "HAC 4536 [frag. ex B!], HAC [photo of B!]" as the "lectotype ... [second-step]", Moya's (2021a: Figure 4) shows the lectotype that he designates. It has fragments X1 (bottom) and X2 (top) of *Wright 3969* from B now at HAC (HAC 4536); the fragments X1 and X2 pertain to thick inflorescence, and thus Moya's designation is in conflict with León's (1931) emended description of *C. macroglossa* H.Wendl. ex Becc. Therefore, Moya's (2021a) lectotype designation is rejected.

In his second work, Moya (2023b: 5) mentioned that he was correcting his previous lectotypification ("Here, I correct my error in Moya (2021) when I discussed *Copernicia macroglossa* Becc., when it should be *Copernicia macroglossa* H. Wendl. ex Becc"); he abandoned his previous lectotype citation and relectotypified the name *Copernicia macroglossa* H.Wendl. ex Becc. as: "Type. CUBA. Sancti Spíritus province, Trinidad municipality, "Potrero Manatí," 19 Mar. 1867, *C. Wright 3969,* p. p. B, emend. Moya (lectotype, [first-step]: Dahlgren and Glassman 1963: 153, A*, [second-step]: designated here, GH00028326." As mentioned above, Dahlgren and Glassman's (1963: 153, Figure 119, left specimen) designation pertains to a morph (with wide branchlets), which is contrary to León's (1931: 40) designation of a morph comprising narrow inflorescens. Likewise, Moya's (2023b) designation is also contrary to León's (1931: 40) designation.

In conclusion, in our assessment of the type of *Copernicia macroglossa* H.Wendl. ex Becc. emend. León, we believe that the type citations by Dahlgren and Glassman (1963) and by Moya (2021a, 2023b) are erroneous, and as indicated above, much earlier León (1931) inadvertently lectotypified this name, based on the destroyed material found in B (*Wright 3969*) that has armed petioles and narrow panicle branchlets, that corresponds to a hybrid of *C. macroglossa* Schaedtler, and *C. hospita*. A new (aka substitute) lectotype designation is needed to define the taxonomic application of the name *Copernicia macroglossa* H.Wendl. ex Becc. emend. León (1931), and we herewith designate a new lectotype here.

It is emphasized here that none of the pre-Naranjo (2025) publications, such as Beccari (1907, 1913, 1931), León (1931, 1936) Dahlgren (1936), Dahlgren and Glassman (1958, 1963), Glassman (1972), Greuter and Rankin (2022), and Moya (2020, 2021, 2023) were aware that prior to Beccari's (1907) publication, Schaedtler (1875) had validly published the name *Copernicia macroglossa* and that the Beccari (1907) name was a later homonym and illegitimate, when published. In order to solve this nomenclature problem, as indicated above, Naranjo et al. (2025): (1) designated HAC 4536 (fragment "X1.") as the neotype of *C. macroglossa* Schaedtler, and (2) emended the vague description provided by Schaedtler (1875) with the description provided by Dahlgren and Glassman (1963) for *C. macroglossa* H.Wendl. ex Becc., this description is for the taxon with short petioles and wide branchlet panicles.

Since *C. macroglossa* Schaedtler and *C.* ×*macroglossa* H.Wendl. ex Becc. emend. León (1931), refer to different taxa, the latter name, an illegitimate later homonym, is treated here as a synonym of *C.* ×*escarzana* León as we elaborate below.

One of the most important components of Moya's (2021a) work was to clarify which of the published names refer to hybrids between *Copernicia macroglossa* and the Cuban endemic *C. hospita* Mart. This is relevant to understand the taxonomy of *C. macroglossa* since these two species have overlapping distribution ranges (León 1931; Moya 2021a, 2023a). León's (1931: 42–44, 46, 57–59) treatment for the genus in Cuba noticed rampant hybridization among species of *Copernicia* and based on his field observations he described *Copernicia* ×*escarzana* for a locality from the province of Sancti Spiritus where these two species grow together. León cited two syntypes for this name, and Dahlgren and Glassman (1963) designated *León 14921* as the type; later, Moya (2021a) selected a specimen of this collection housed in HAC (4574) as the lectotype. A total of seven duplicates of this specimen were located by Moya (2021a). Most of them, including the lectotype, were collected on June 27, 1931. One of them does not have a date (HAC ROIG 5873) and another was collected on June 26, 1931 (NY 00071157). We have tentatively identified them as "likely isolectotypes," as we have assumed that there were typographic errors or inadvertently had missing dates when León wrote their labels. However, under *León 14921* there is a specimen housed in F (V0092043F) reported as collected on July 31, 1930, that we interpret not to be an isolectotype. Based on extensive fieldwork and the study of herbarium material, Moya (2021a) suggested that *C.* ×*burretiana, Copernicia* ×*escarzana*, and *C.* ×*leoniana* as well as the robust-petiolate specimens collected under *Wright 3969* are the same taxon, they are hybrids of *C. macroglossa* and *C. hospita*. We concord with this interpretation, because *C.* ×*escarzana* is the earliest legitimately published name, it is the accepted one for this hybrid species. Therefore, here we also interpret *C.* ×*macroglossa* H.Wendl. ex Becc. as a name emended by León (1931), also to be as a hybrid of these two species.

Thus, following León's (1931) nomenclature treatment and his emended description, *C.* ×*macroglossa* H.Wendl. ex Becc. is the correct name for the species described by Beccari (1907) that has been in the center of the nomenclature complexity of this Cuban palm.

NOMENCLATURE DIAGNOSES[6]

Copernicia Mart. ex Endl., Gen. Pl. 4: 253. 1837.

Type: Designated by Beccari (1907: 142): *Copernicia cerifera* (Arruda) Mart., Hist. Nat. Palm. 3(7): 242 (1838); basionym: *Corypha cerifera* Arruda in H.Koster, Trav. Brazil: 494 (1816). [= *Copernicia prunifera* (Mill.) H.E. Moore].

The generitype of *Copernicia* was not listed either in the *Index Nominum Genericorum* (https://naturalhistory2.si.edu/botany/ing/; accessed on 23rd June 2023) or in the *Names in Current Use for Extant Plant Genera* (Greuter et al. 1993) or in "NCU-3e, Names in current use for extant plant genera, Electronic version 1.0" (https://www.bgbm.org/scripts/asp/IAPT/ncugentry.asp?name=Copernicia; accessed on 23rd June 2023). Subsequently, after receiving the typification information from Gandhi and Francisco-Ortega, the ING added the type details (https://naturalhistory2.si.edu/botany/ing/; accessed on 27th June 2023). Although Arruda's treatment mostly pertains to economic botany, it does have a few descriptive characters for validity of the name (Koster 1816). The genus is dedicated to the Prussian scientist and astronomer Nikolaus Kopernikus (1473–1543) who advocated for the heliocentric planetary system (Burkhardt 2016: C-52).

Copernicia macroglossa Schaedtler, Hamburger Garten-Blumenzeitung 31: 160. 1875.

[descr. emend. Franc.-Ort. & Gandhi, Curtis's Bot. Mag. 42(1). 2005 (published online on 14 May 2025 [https://doi.org/10.111/curt.12628]); B.E. Dahlgren & S.F. Glassman, Gentes Herb. 9: 152 (1963), non *Copernicia* ×*macroglossa* H.Wendl. ex Becc. (pro sp.), Webbia 2: 177 (1907); descr. emend. León, Rev. Soc. Geogr. Cuba 4(2): 41 (1931), *nom. illeg.*].

Type: *C. Wright 3969* (HAC, 4536, fragment "X1.," inside envelop, photo!), neotype designated by Naranjo et al. (2025: 9 [https://doi.org/10.111/curt.12628]; published online: 14 May 2025); isoneotypes: BRU (00054980, photo!), F (0092049.1, photo!; 0092049.2, photo!), FI (072424, photo!); GH (00028325, photo!; 00028326; photo!, 00028327; photo!; 00028328, photo!; 00028329, photo!), HAC (4536, fragment "X2," inside envelop, photo!); K (000209133, photo!; 000209134, photo!; 000462348,

[6] Accepted names are indicated in bold font.

photo!), NY (00071177, photo!; 1662386, photo!; 1662387 photo!), P (00725593, photo!; 00725594, photo!; 00725595, photo!).

Etymology and distribution

See Naranjo et al. (2025).

(=) *Copernicia torreana* León, Revista Soc. Geogr. Cuba 4: 40. 1931.

Type: Loma de la Jata, Guanabacoa, Province of La Habana, *H. León 14297*, March ["marzo"], 1930 [(HAC, 4701, photo!), lectotype designated by Moya (2021a: 10); isolectotypes: A (00028336, photo!; 00028337, photo!), F (V0092058F, photo!; V0092062F, photo!), HAC (LS-1, photo!; LS-2, photo!), MT (00116902.1, photo!; 00116902.2, photo!), NY (1662384, photo!), P (00725606, photo!, P 00725607 [likely isolectotype, no date in specimen], photo!; 00725608 [likely isolectotype, no date in specimen], photo!), S (S-R-1239, photo!), US (00087483, photo!; 00087484, photo!; 00087485, photo!; 00087486, photo!)].

Etymology

According to León (1931: 39) it honors Carlos de la Torre (1858–1950; Fig. 5) who was a distinguished naturalist and malacologist from Cuba (Secada Cárdenas et al. 2015).

(=) *Copernicia* ×*macroglossa* sensu Dahlgren & Glassman (1963: 152), non H. Wendl. ex Becc. (*pro sp.*), Webbia 2: 177 (1907); descr. emend. León, (1931).

Copernicia ×***escarzana*** León, Revista Soc. Geogr. Cuba 4: 42 (1931) [*C. hospita* × *C. macroglossa*].

Type: Near the Bahía de Macío in the southeast of Trinidad, Province of Sancti Spíritus, *H. León 14921*, June ["junio"] 27, 1931 [(HAC 4574, photo!), lectotype: first-step, designated by Dahlgren and Glassman (1963: 145); second-step, designated by Moya (2021a: 15), HAC 4574, photo!; isolectotypes: BH (000038951), HAC (ROIG 5873 [likely isolectotype, no date in specimen], photo!), MT (00116888, photo!), NY (00071157 [likely isolectotype, date: June 26, 1931], photo!; 00071158, photo!; 00071159, photo!), P (00725584, photo!)].

Etymology

It appears that the epithet refers to Francisco Escarza (León, 1931: 41) who was the superintendent of the sugar mill known as Central Cieneguita, and likely one of the sons of Sotero Escarza Urioste (1831–1907; Anonymous sine die). The latter was from Spain and founded one of the best-known sugar mills of Cuba, Ingenio Portugalete, located in Batey, province of Cienfuegos (Lapique Becali and Segundo Arias 2011: 200–202). The Cienaguita mill was also located in Batey, and it was in operation between 1837 and 1928 (Lapique Becali and Segundo Arias 2011: 128–129).

Distribution

Moya et al. (2019: Figs. 7–8) identified eight localities where this hybrid species occurs. They are found in the provinces of Camagüey, Ciego de Ávila, Cienfuegos, Matanzas, Sancti Spíritus.

(=) *Copernicia* ×*macroglossa* H.Wendl. ex Becc. (*pro sp.*), Webbia 2: 177. 1907, non Schaedtler (1875).

[descr. emend. León, (1931): 41, *nom. illeg.* non *C. macroglossa* Schaedtler (1875)].

Type: 'Cuba. Nell'Erbario di Berlino si trovano assai completi esemplari con fiori e frutti giovani delle "Plantae Cubenses Wrightianae" n.° 3969, ed altri con frutti maturi "di Rob Combs: Flora Cubana, Province of Santa Clara, district of Cienfuegos n.° 335, *Calicita* 1895". Ho visto inoltre nell'Erbario de Candolle un esemplare raccolto nel 1829 da Ramon de la Sagra, col nome volgare di "Jata" e la nota "feuilles en spirale"'[7]. Lectotype designated by León (1931: 41; as "Como esta segunda mezcla de material a que me refiero no afecta al tipo, Wright 3969, de Berlín, que sirvió de base a Wendland para establecer el binomio, *Copernicia macroglossa*, me parece que dicho nombre puede subsistir, enmendando la descripción de Beccari."[8]): *C. Wright 3969* (B; lost in WW II); new (aka) substitute lectotype here designated: A (2 sheets): A 00028320, 00028323, photos!); isolectotypes: BR (U00054979), F (V0092050F, photo!), GH (00028321, photo!; 00028322, photo!; 00028324, photo!), HAC (4535, fragment "X.3" inside envelop, photo!), K (000209135, photo!; 000209136, photo!; 000209137), NY (00071175, photo!; 00071178, photo!; 1662385, photo!; 1662390, photo!; 1662391, photo!), P (00725596, photo!; 00725597photo!), US (00016510, photo!; 00989863, photo!).

[7] Text translates as: 'In the Berlin Herbarium there are very complete specimens with flowers and young fruits of the "Plantae Cubenses Wrightianae" No. 3969, and others with mature fruits "from Rob Combs: Flora Cubana, Province of Santa Clara, district of Cienfuegos No. 335, *Calicita* 1895". I have also seen in the Candolle Herbarium a specimen collected in 1829 by Ramon de la Sagra, with the common name of "Jata" and the note "feuilles en spirale".

[8] Text translated in Note 4.

Note

The designated lectotype and isolectotypes correspond to the holotype and isotypes of the name *Copernicia ×leoniana* Dahlgren & Glassman (1958).

Etymology

See Naranjo et al. (2025).

(=) *Copernicia ×burretiana* León (*pro sp.*), Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 10: 208. 1936.

Type. Palm savannah near Antón Recio, Province of Cienfuegos, *H. León and J. I. Pérez 14730*, December [*diciembre*], 1930 [(HAC LS.1, photo!), lectotype: first-step, designated by Dahlgren and Glassman (1963: 84); second-step, designated by Moya (2021a: 16), HAC LS.1, photo!; isolectotypes: HAC (EEAB s.n., photo!; LS.2, photo!; LS 4534, photo!; ROIG 5427 [likely isolectotype, no date on specimen], photo!), US (00087491, photo!)].

Etymology

According to the protologue, the epithet honors Max Burret (1883–1964; Fig. 5), who was a distinguished German botanist and palm specialist (Potztal 1959), who also studied Cuban palms (Burret 1929).

(=) *Copernicia ×leoniana* Dahlgren & Glassman (*pro sp.*), Principes 2: 103. 1958.

Type: Potrero Manatí, Province of Santi Spiritus, *C. Wright 3969* [p.p. emend. Dahlgren & Glassman (1958: 103)], holotype: A (2 sheets: A 00028320, 00028323[9], photos!); isotypes: BR (U00054979), F (V0092050F, photo!), GH (00028321, photo!; 00028322, photo!; 00028324, photo!), HAC (4535, fragment "X.3" inside envelop, photo!); K (000209135, photo!; 000209136, photo!; 000209137), NY (00071175, photo!; 00071178, photo!; 1662385, photo!; 1662390, photo!; 1662391, photo!), P (00725596, photo!; 00725597 photo!), US (00016510, photo!; 00989863, photo!)].

Etymology

The epithet honors Brother [Hermano] León (1871–1955, Fig. 4) from France, who was a member of the La Salle Catholic order. He was one of the most important botanists who between 1905 and his death in Havana studied the flora of Cuba (Alain 1956, Méndez Santos 2016).

[9] Protologue indicates that holotype is mounted in two sheets (Dahlgren and Glassman 1963: Figures 55–56).

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