

***Copernicia* × *dahlgreniana*, a New Natural Hybrid in the Savannas of Camagüey, Cuba**

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1. *Copernicia* ×
dahlgreniana
growing in a
serpentine
savanna north
of Camagüey in
Central Cuba.

Copernicia × *dahlgreniana* is a new natural hybrid in Cuba described with intermediate morphological characteristics of *C. cowellii* and *C. macroglossa*.



2. *Copernicia cowellii*, one of the parent plants of *C. × dahlgreniana*.

Brother León (1931) was the first to describe hybrids between species of Cuban palms by naming three putative hybrids: *Copernicia* × *escarzana* León (a natural hybrid between *C. hospita* Mart. and *C. macroglossa* Becc.), *Copernicia* × *vespertilium* León (a natural

hybrid between *C. gigas* Ekman ex Burret and *C. rigida* Britton & P. Wilson) and *Copernicia* × *sueroana* León (a natural hybrid of *C. rigida* and *C. hospita*). In 1958, Dahlgren and Glassman described *Copernicia* × *shaferei* Dahlgren & Glassman, a natural hybrid



3. *Copernicia macroglossa*, the other parent of *C.* × *dahlgreniana*.

between *C. hospita* and *C. cowellii* Britton & P. Wilson. Dahlgren and Glassman (1963) changed the status of *Copernicia textilis* León to *C.* × *textilis* and postulated based on morphological data that it is a natural hybrid between *C. hospita* and *C. baileyana* León. They

also restored the hybrid status of *C.* × *vespertilionum*, which León (1936) had decided was a species not of hybrid origin. Though they postulated the probable hybrid origins of *C. burretiana*, *C. occidentalis* León and *C. sueroana*, they did not make nomenclatural

changes and maintained these three as species, citing the need for more evidence. In addition, *C. × escarzana*, published by Leon in 1931, was considered a synonym of *C. hospita*.

In 1982, Muñiz and Borhidi proposed the hybrid status of *C. × burretiana* and *C. × occidentalis*, thus increasing the number of recognized natural hybrids of *Copernicia* in Cuba to six. Subsequent authors, such as Henderson et al. (1995) and Moya and Leiva (2000), also recognized the existence of these natural hybrids.

As part of the revision of *Copernicia* for publication in the Flora of the Republic of Cuba, I conducted field explorations and made collections in the savannas of serpentinites located north-northeast of the city of Camagüey, for which the *Copernicia* species reported are *C. cowellii*, *C. hospita* and *C. macroglossa* Becc. (Moya & Verdecia, unpublished), as well as the natural hybrid between the first two, *C. × shaferi*. The existence of individuals whose characteristics do not match those of the taxa described for this area led me to suspect the existence of a new hybrid.

Both qualitative and quantitative morphological characters were selected and comparisons made between the newly found

individuals and the two species, *C. macroglossa* and *C. cowellii*, that are likely candidates for the progenitors of a new natural hybrid. The flowering period of these putative parents is included to verify the possibility of coincidence in flowering, as well as their habitat range. The ranges of the parental species' characters were taken from Dahlgren and Glassman (1963) and supplemented with the author's collected samples deposited in the HMC (Herbarium Maximiliano Curbelo) at Las Tunas Botanic Garden. The dimensions of the largest floral pieces were taken with a caliper of 0.05 mm precision and the smaller pieces were measured using a stereoscopic microscope.

***Copernicia* × *dahlgreniana* R. Verdecia, nothosp. nov. (*C. cowellii* *C. macroglossa*)**

Putative hybrid between *Copernicia cowellii* and *Copernicia macroglossa* with intermediate morphological characteristics, closely resembling *C. macroglossa*, but with petiole leaves and moderate wax evident on their lower surfaces, rather than an absent petiole and no evident wax as in *C. macroglossa*. Rachillae are thinner in the hybrid being 2–2.8 mm diam. rather than 15–20 mm in that species. The new hybrid differs from *C. cowellii* in being more robust, having less waxy leaves and shorter rachillae, 2–2.8 cm long. *Copernicia*

4. The lower surface of *Copernicia* × *dahlgreniana* leaf (left) showing typical light waxy colorization compared to the heavy wax on *C. cowellii* leaf (right).





5 (top). The short rachillae of *Copernicia* × *dahlgreniana*. 6 (bottom). *Copernicia* × *dahlgreniana*. Rachillae showing flowers.

cowellii is a smaller palm, has heavy wax on the lower surface of the leaves and longer rachillae that are 3–4 cm long. *Copernicia* × *shaferi* is a natural hybrid from the same area, but the new taxon has a more compact crown with petioles only 16–21 cm in length rather than the more open crown and petioles up to 48 cm long in *C.* × *shaferi*. In *C.* × *dahlgreniana*, leaves are waxy only on the lower surface while in *C.* × *shaferi* both surfaces are waxy and grayish in color. The new hybrid has flowers of 5.4–5.6

mm long while *C.* × *shaferi* has flowers 4–5 mm long. The new hybrid has similarities in general appearance to the natural hybrid, *C.* × *burretiana*, from which it differs in having floriferous rachillae longer and thinner with flowers in groups that are spaced apart. Type: CUBA. Camagüey: Municipio Camagüey, savannas near Camagüey city, on the road to Lesca, 21°28'30"N, 77°49'50"W, fl., 10 Jan. 2014. *R. Verdecia* RV14/01 (Holotype HMC, Isotypes HAC, HAJB).

Table 1. Comparison between *Copernicia* × *dahlgreniana* and its parents.

Characters	<i>C. macroglossa</i>	<i>C. × dahlgreniana</i>	<i>C. cowellii</i>
Plant height (m)	2–7	2.5–3.0	1.2–2.5
Trunk diameter (cm)	17–20	17–20	12–17
Sheath base (cm)	29 × 22	20 × 12–15	20 × 8–10
Petiole length (cm)	0–2	16–21	10–20
Petiole width (cm)	8–11	3.5–4	3.0–3.5
Hastula length (cm)	10–35	2.5–4	2–3
Blade shape	Broadly cuneiform	Semi-orbicular	Orbicular to semiorbicular
Blade segments number	50–64	56–58	40–48
Center segment length (cm)	90–145	80–97	60–70
Teeth on palman ribs	Abundant	Moderate	None
Wax abaxial	Absent	Moderate	Abundant
Punctiform scales, adaxial	Yes	No	No
Inflorescence length (m)	2–2.5	2–2.2	1.5–2
Rachilla length (cm)	2–2.6	2–2.8	3–4
Rachilla diameter (mm)	15–20	2–2.8	1.0–1.5
Flower length (mm)	5–8	5.4–5.6	4–6
Bracteole exterior (mm)	7 × 5	2.5–3 × 2.5	1.5 × 2.0
Bracteole interior (mm)	4 × 1.5–2	1.5 × 1.0	0.7 × 1.0
Calyx, length (mm)	4–4.5	3.1–3.6	2.5–3
Calyx lobes length (mm)	2–2.5	1.35–1.65	0.8–1.3
Corolla length (mm)	5–6	4.8–5.1	3.5–4
Corolla tube length (mm)	2.5	1.95–2.4	1.5
Corolla lobes length (mm)	3.5–4	2.6–3	2.5–3
Flower arrangement	Solitary, very crowded	Solitary or groups of 2, distant	Groups of 2, distant
Flowering	December to August	December to January	August to January
Distribution	Havana to Camagüey	Camagüey	Camagüey

Palm moderate, solitary, 2.5–3 m tall. Stem cylindrical about 17–20 cm diam., covered with persistent basal sheaths and a persistent skirt of dead leaves under the crown of living ones. Leaves palmate; leaf sheath base 17 cm long and about 12 cm wide at base; petiole 17–25 cm long and 3.5–4 cm wide at apex, armed with blackish, spiny teeth along the margins; adaxial hastula 2.5–4 cm long, eroded and fragile at apex. Blade semi-orbicular, rachis absent, segments 56–58, with the central one 80–97 cm long and 6–6.5 cm wide; basal segments 55–65 cm long with teeth along the

external margin; palman irregular, 57–74 cm and moderate teeth along segment junctions; adaxial green, not waxy, without very small reddish or orangey glandular dots; abaxial surface with a light coat of wax, and numerous and large glandular dots visible with very slight magnification. Inflorescences 2–2.2 m long, with an empty peduncular bract and about 10 partial inflorescences; rachillae tomentose, 2–2.8 cm long and 2–2.8 mm diam. at the base where always present an acuminate and pilose tubular bracteole. Flowers 5.4–5.6 mm long, solitary or in clusters of two, spaced; each



7. The petiole length of *Copernicia* × *dahlgreniana* is approximately the same length as *C. cowellii* rather than the nonexistent petiole of *C. macroglossa*.

flower subtended by an acuminate bracteole 2.5–3 × 2.5 mm and inner one 1.5 × 1–1.5 mm, both persistent after the falling of the flower. Calyx densely pilose, 3.1–3.6 mm long, lobes broadly acute; corolla densely pilose on exterior, farinose on interior; corolla tube 1.95–2.4 mm; lobes acute 2.6–3 mm long. Fruit not seen.

ETYMOLOGY: The epithet, *dahlgreniana*, honors the Swedish-born botanist Dr. Bror Eric Dahlgren (1877–1961) for his important contribution to the knowledge of the genus *Copernicia*.

DISTRIBUTION: Savannas of northern Camagüey.

HABITAT: Anthropogenic savannas on serpentine soils.

CONSERVATION STATUS: Not assessed, but it is not common.

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