

REINHARDTIA PAIEWONSKIANA (PALMAE), A NEW SPECIES FOR THE WEST INDIES

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Read, Robert W. (Department of Botany, Smithsonian Institution, Washington, DC 20560), Thomas A. Zanoni, and M. Mejía (Jardín Botánico Nacional "Dr. Rafael M. Moscoso," Santo Domingo, República Dominicana). *Reinhardtia paiewonskiana* (Palmae), a new species for the West Indies. *Brittonia* 39: 20-25. 1987.—*Reinhardtia paiewonskiana*, a previously undescribed species endemic to the Dominican Republic, is formally described and represents the first record for the genus in the West Indies.

Reinhardtia paiewonskiana R. W. Read, T. A. Zanoni & M. Mejía, sp. nov. (Figs. 1-5)

Palma *R. eleganti* mexicanae affinis sed partibus omnibus multo grandior; staminium numero 75-80 (non 28-40) praesertim distincta, folii segmentis 55-57 (non 38-40) in quoque latere rachidis, inflorescentiae ramis infimis semper simplicibus (non saepe furcatis), fructu ovoideo vel subgloboso (non ellipsoideo vel obovoideo).

Slender, tree-like, erect, unarmed palm with naked, light tan-gray, solitary stem 6-12 m tall, to ca 14 cm in diameter (at 1 m above ground). Leaves regularly pinnate, equally segmented, the apex obliquely bifid, blade 2.5-3 m long; sheath ca 40-50 cm long, lacking a tubular ligule, the apical-opening descending to the lowest point (U-form) opposite the petiole insertion, densely lepidote before exposure, with pale silky or velutinous scales abaxially, becoming tan to dark brown with aging, adaxially glabrous and conspicuously fibrous, the fibers becoming stretched and net-like as the inner bud expands, becoming glabrate, loosely fibrous and cloth-like in appearance with weathering; petiole 10-20 cm long between the sheath and lowermost pinna, not wing-margined, concave adaxially above the sheath, sometimes with a slightly raised midportion, densely pale velutinous-lepidote continuous with the sheath abaxially, extending onto the rachis, adaxially extending into the sheath region for a short distance; rachis 2.5-3 m long, rounded to flattened abaxially, irregularly concave adaxially with a median ridge, the pinnae inserted in shoulder-like lateral grooves, the median ridge becoming broader toward midblade with the lateral grooves broadening as the pinna insertions become larger, the median ridge then narrowing to triangular in cross section (above the middle of the blade) with the pinnae inserted on the adaxial angles, continuing as a filament between the apical pinnae pair or adnate to one of the apical segments, densely pale-velutinous, both surfaces with dark brown, less matted scales in the lateral grooves and margin where pinnae are inserted, all parts scabrous with age; pinnae ca 55-57 on each side of the rachis at intervals of 1-5 cm, linear-lanceolate, subopposite to alternate, those toward the base of the blade very narrow, broadest at midblade, and narrowing gradually apically, each with several secondary plications in veneration, the apical pair not much broader than those nearby; adaxially appearing glabrous but with widely dispersed minute scales, being more plentiful and conspicuous in the axil of insertion (obscure or lacking with age) and the midnerve densely appressed tan-brown lepidote, abaxially with numerous punctiform dark colored scales across the entire surface, a series of larger evanescent light colored scales along the margin, and with greatly enlarged ferruginous winged-T-bar peltate scales persistent on the midnerve, blade drying dark above paler beneath, basal pinnae much reduced, to 15 cm long, 0.2-0.6 cm wide, median pinnae ca 50-60 (73) cm long, 2-3.5 cm wide and

multiply with the principal midnerve paralleled by slender secondary nerves interspersed with very fine tertiary nerves, apically irregularly toothed with one usually long-attenuate, the others short and sharp, apical pinnae 0.9–1 (1.5) cm long, 0.2–1.5 cm wide, variously free or united, sometimes simple with a single principal midnerve but normally at least one half of the apical pair having more than one principal nerve with several strong plications, an irregular apex and often with a "window" at the point of insertion; inflorescence interfoliar; prophyll included within the leaf-sheath, flattened-ancipitous, ca 30 cm long, opening through the loosely netted abaxial face; peduncular bract exerted and only slightly greater than half the length of the peduncle at anthesis; peduncle arcuate, persistently ferruginous-lepidote, ca 1 or more m long, at first enclosed by 2 persistently densely brown-lepidote tubular bracts inserted close together at the base and with 1–3 small bracts (like those subtending the branches) widely spaced in the upper $\frac{1}{2}$ of the peduncle; panicle with 4–10 simple branches, each ca 10–20 cm long including a distinct sterile basal portion 2–5 cm long and bearing 20–30 flowering nodes, rachis 2–10 cm long, all parts densely ferruginous-lepidote and subtended by conspicuous, sharply acute to attenuate bracts, becoming orange at maturity of fruit; flowers white to creamy-white at anthesis in triads of 2 staminate and 1 pistillate or paired staminate toward the apex of the branches; pistillate flowers reaching maturity well after staminate anthesis; triads in shallow depressions subtended by a sharply acute to attenuate, glabrate and ciliate bractlet; staminate flowers 7–10 mm long, subtended by a rigid, strongly nerved, carinate, acute to attenuate bracteole and a rigid quadricarinate, deeply biconcave, ciliate bracteole successively; sepals imbricate, irregular in form with strong nervation and thin margins, somewhat rounded in outline, deeply concave, ca 2.5–4 mm long; petals deeply concave, heavy-textured, triangular-acute, completely valvate, not sculptured inside, ca 7 mm long; stamens ca 75–80 in number, filaments ca 2 mm long, connate in a tuft, adnate basally to the petals, free and distinct above, not inflexed apically, anthers versatile, ca 3 mm long, basifixed within the deeply sagittate base, bifid to truncate apically; pistillode absent; pistillate flower ca 10 mm high, subtended by a rigid, quadricarinate, deeply biconcave bracteole which clasps both the pistillate and the next lower staminate flower; sepals ca 7 mm high, strongly imbricate, rather strongly striate, much like those of the staminate flowers; petals ca twice the length of the sepals, strongly imbricate over the lower $\frac{2}{3}$ of their length with the upper $\frac{1}{3}$ valvate; staminodia connate-cupular basally and adnate to the petals for ca 4 mm, the numerous lobes short and blunt becoming obscure with maturation, often with 1 or more elongate attenuate lobes; pistil conic-ovoid, the 3 stigmatic lobes more or less trigonous; ovary trilocular, triovulate. Fruit blackish-purple at maturity, ca 22 mm long, 20–22 mm in diameter, 1-seeded, ovoid to subglobose with a short, apiculate, apical styler cap, and persistent, enlarged perianth; exocarp smooth, thin; mesocarp of 1–2 layers of elongate, flattish fibers in a very thin pulp; endocarp very thin, fragile, not adherent to seed; seed irregularly depressed-globose, 15 mm high, 8 mm wide, attached laterally along an impressed raphe extending the length of the seed from an irregularly impressed oblique base, the pale testa rugulose between elongate lengthwise impressions when dry; endosperm deeply and densely ruminate; embryo basal. First seedling leaf bifid.

TYPE: HISPANIOLA. REPÚBLICA DOMINICANA. PROV. BARAHONA: Sierra de Baoruco, en la cuenca de la Cañada El Maniel, approx. 5 km al interior de Los Patos (de Paraiso) 17°58'N, 71°14'W, ca 800 m, 25 May 1985, T. A. Zanoni & J. Pimentel 34682 (HOLOTYPE: JBSD; ISOTYPES: K, LHB, MEXU, US).

Distribution: In mesic broadleaf forests of Hispaniola where it is associated with *Prestoea montana* Nichols. (Palmae), *Huertea cubensis* Griseb., *Trichilia*

TABLE I
SUMMARY OF DIFFERENCES BETWEEN *Reinhardtia elegans* AND *R. paiewonskiana*

| Characters | <i>R. elegans</i> | <i>R. paiewonskiana</i> |
|-----------------------------|----------------------|-------------------------|
| Height of stem | 2.5–6 m | 6–12 m |
| Leaf sheath length | 25 cm | 40–50 cm |
| Leaf rachis length | 1.1 m | 2.5–3 m |
| Pinnae per side | 38–40 | 55–57 |
| Median pinna length | to 42 cm | 50–60 (73) cm |
| Median pinna width | 15 mm | 20–35 mm |
| Inflorescence rachis length | 6–15 cm | 2–10 cm |
| Lowermost rachillae | often furcate | always simple |
| Stamen number | 28–40 | 75–80 |
| Pistillate flower length | 6–7 mm | ca 10 mm |
| Fruit length | 16–18 mm | ca 22 mm |
| Fruit width | 9–12 mm | 20–22 mm |
| Fruit shape | ellipsoid or obovoid | ovoid to subglobose |

pallida Sw., *Ocotea* sp., and *Zanthoxylum* sp. near stream beds or on slopes of gulches at about 800 m elevation, endemic. *Reinhardtia paiewonskiana* is a canopy palm, found in 3 localities in Dominican Republic, in areas of difficult access for the present, hence its not having been discovered earlier.

Additional specimens examined: HISPANIOLA. REPÚBLICA DOMINICANA: PROV. BARAHONA: Sierra de Baoruco; en la cuenca de la Cañada El Maniel, approx. 5 km al interior de Los Patos (de Paraiso) 17°58'N, 71°14'W, ca 800 m, 17 Jan 1985, T. A. Zanoni, M. Mejía & J. Pimentel 33108 (FTG, JBSD, NY, US); 6 km arriba del pueblecito rural de "Entrada de Cortico," ca 1100 m, 19 Jan 1982, T. A. Zanoni, M. Mejía & J. Pimentel 18932 (JBSD).

Vernacular name: coquito, manacla coquito, or simply manacla (a name used also for both *Prestoea montana* and *Roystonea hispaniolana*). Coquito no doubt alludes to the fruit's having the appearance of a small coconut. Apparently of no local value by those who use slabs sawn from nearby *Prestoea* palm-trunks for construction, the stems being too soft.

Continuing fieldwork by the junior authors has resulted in the discovery of a number of new plant species in the Dominican Republic, not the least of which is this new species of *Reinhardtia*. Five other species are distributed from Mexico to northern Colombia with no clear generic alliance among New World arecoid genera of palms.

Named in honor of Benjamín Paiewonsky, President of the Fundación Pro-Flora Dominicana, Inc. which operates the "Jardín Botánico Nacional—Dr. Rafael M. Moscoso, Santo Domingo."

The small genus *Reinhardtia*, in the subtribe Malortinae, was considered by H. E. Moore (1957) as somewhat anomalous in the New World. Moore felt that in some respects it resembles genera of the tribe Linospadiceae restricted to Australia, Lord Howe Island, New Guinea, and the Moluccas. Dr. J. Dransfield (pers. comm.) does not agree with Moore. A reconsideration of its systematic position is obviously needed. Perhaps the finding of this new species, so disjunct in its distribution, will provide the answer. Table I is a summary of the differences found distinguishing *R. paiewonskiana* from its nearest ally, *R. elegans*; all other species are slender stemmed, caespitose, or diminutive palms of the rainforest floor.

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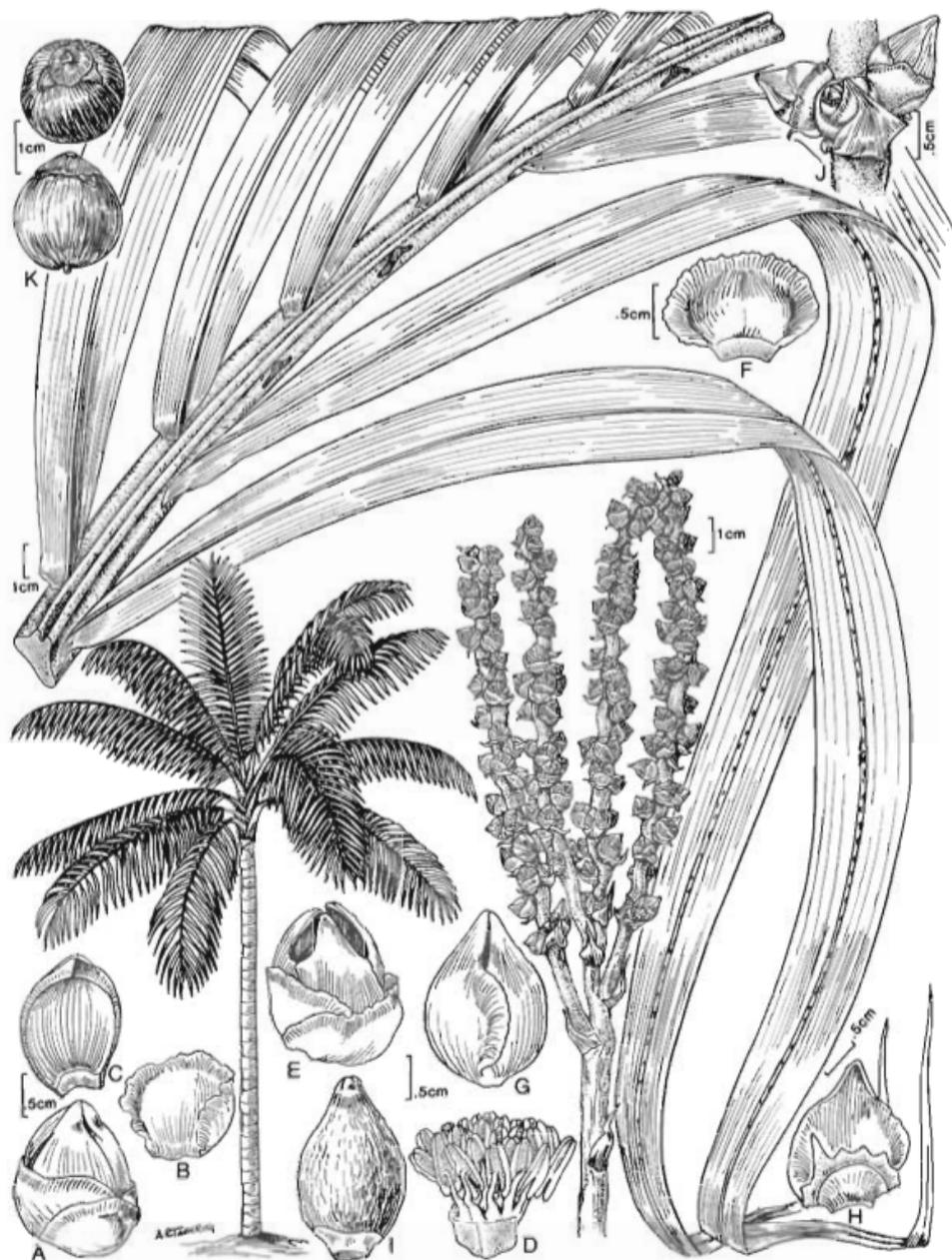


FIG. 1. *Reinhardtia paiewonskiana*. Unlettered, habit, midportion of leaf blade, and inflorescence. A-D. Staminate flowers and parts. A. Staminate flower bud. B. Sepal. C. Petal. D. Stamens. E-J. Pistillate flowers and parts. E. Pistillate flower at anthesis. F. Sepal. G. Corolla. H. Petal with portion of staminodial ring attached. I. Pistil. J. Triad of two nearly mature staminate, and a single immature central pistillate, flowers. K. Fruit, almost mature, with persistent stigmatic apex and (above) persistent perianth. (From specimens cited in the text.)



FIGS. 2-5. *Reinhardtia paiewonskiana* in habitat, Prov. Barahona, Dominican Republic. 2. Crown of palm with large regularly pinnate leaves exhibiting lanceolate segments, and a slender arching inflorescence protruding from among the weathered leaf sheaths. 3. Nearly mature fruit still attached to the dark lepidote rachillae, with the empty pockets (arrow) where the staminate flowers were originally inserted. 4. Weathered leaf sheath showing fibrous nature, revealed by weathering as inner leaves expand and mature, and older leaves drop off; the solid petiolar portion still exhibits the now dark persistent appressed scales. 5. Unexposed inner leaf sheath before weathering, showing the dense coating of light-colored coalesced appressed scales over the entire abaxial surface of the sheath and the adaxial surface of the lower petiole which lacks the ligule characteristic of at least the miniature species of the genus. Bar equals 1 cm. Photos by T. A. Zanoni.