

Coccothrinax jamaicensis

The Jamaican Silver Thatch

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In 1939, Dr. Liberty Hyde Bailey published the results of his studies of the genus *Coccothrinax* in the southern Greater Antilles (*Gent. Herb.* 4: 247-259). In this study, he considered six species of Hispaniola, and one each from Puerto Rico and Jamaica. During the same year, Brother León of Cuba also published his finding concerning the genus in Cuba (*Mem. Soc. Cub. Hist. Nat.* 13(3): 107-156) in which, out of a total of 21 species indigenous to Cuba, he described 13 new species and a number of new varieties. With so many species of *Coccothrinax* known in Cuba and Hispaniola, it is curious that only a single species occurs in Jamaica.

When Dr. Bailey first collected the silver thatch in Jamaica it had been known as *Coccothrinax argentata*, but the Jamaica plant differs from that species in having the flowers and fruits on very long pedicels. Because of inadequate sampling and the rather variable character of the Jamaican silver thatch, and possibly biased by the strongly fragrant

flowers, Dr. Bailey chose to associate the palm with *Coccothrinax fragrans* Burret, a species of very limited distribution in Cuba "known by its yellow very fragrant flowers, . . ." The Jamaican plants do not have yellow flowers and the additional characters given are not adequate to combine the two as a single taxon. In the original description of *C. fragrans* by Burret, the indumentum on the abaxial surface of the leaf is described as ". . . pallidiores, . . . mox plus minus caduco . . . demum fere glabris . . .," and this is the key to the problem, for the plants of Jamaica have brilliantly silvery undersurfaces on the leaves and the indumentum is strongly persistent, the leaves never being glabrescent. Further differences between the two species are tabulated below with characters for *C. fragrans* as given by Burret and León, and from León's specimens numbered 16388, 15926 (GH).

COCCOTHRINAX JAMAICENSIS R. W. Read,
sp. nov.

Thrinax argentea sensu Griseb. pro parte, Fl. Br. W. Ind. 515. 1964 not Lodd. ex Schult. & Schult., Syst. Veg. 7: 1300. 1830.

	<i>C. fragrans</i>	<i>C. jamaicensis</i>
Palman length	13-16 cm.	(15-) 19-36 cm.
Abaxial surface of leaf blade	whitish	bright silvery
Indumentum of abaxial surface	inconspicuous, caducous, glabrescent	conspicuous, persistent, tomentose
Number of primary inflorescence branches	4-5	(4-) 5-7
Flower color	yellow	whitish
Hastula length (free portion)	(1.9-) 2-2.5 cm.	0.41-1.50 (-1.8) cm.

*I wish to express my appreciation to Dr. W. Dress of the L. H. Bailey Hortorium, Cornell University, for assistance with the Latin diagnosis and to Dr. C. D. Adams of the University of the West Indies for critically reviewing the manuscript.



1. *Coccothrinax jamaicensis*. Close-up of flowers of plant from which the type specimen was made.

Coccothrinax argentea of authors not Sargent, Bot. Gaz. 27: 89. 1899.

C. fragrans sensu Bailey, Gent. Herb. 4: 256. 1939 not Burret, Kungl. Svensk. Vet. Akad. Handl. 6(7): 15-16. 1929.

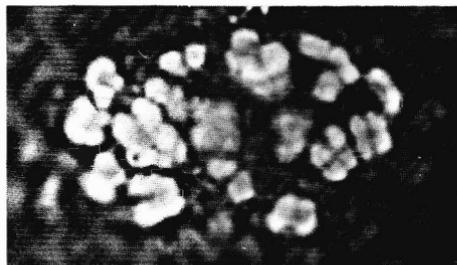
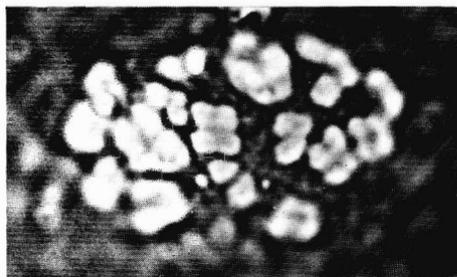
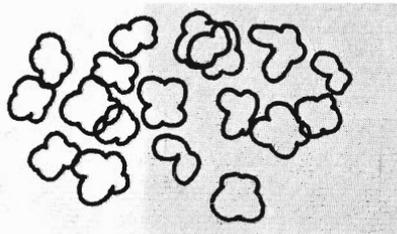
Palmae solitariae caulibus gracilibus; folii pagina abaxialis argentea, inconspicue punctulata, dense lepidota squamulis persistentibus hyalinis, palmine 18-36 cm. longo, hastula minus quam 1.8 cm. longa, segmentis 35-58, eis centralibus plus quam 2.5 cm. latis, vagina ex reti fibroso subtili constanti; inflorescentia brevis (4-) 5-6 (-7)-partita, floribus eburneis, staminibus (7-) 9-14 (-15), antheribus (2.0) 2.1-3.0 (-3.2) mm. longis; inflorescentia fructificans



2. Brian Morley of Kew, England, holds the plant of *C. jamaicensis* cut in woods along the Queen's Highway from which the type specimen was made.

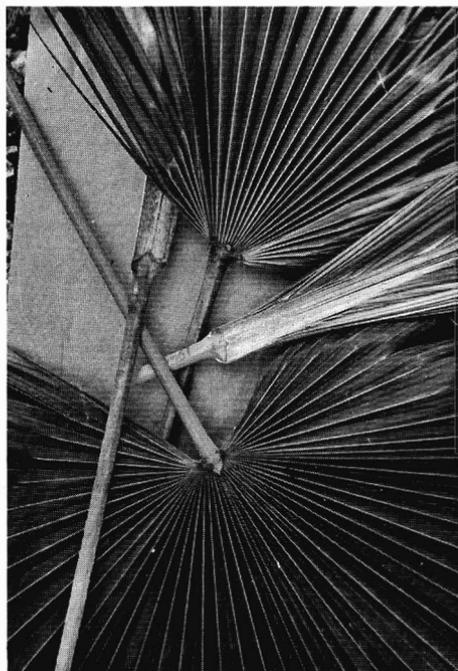
arcuata, pedicellis (2-) 3-6 (-6.2) mm. longis.

Trunk 6-8 m. high, (5-) 6.4-20 cm. in diam., gray, smooth, the plant commencing to flower when ca. 2 m. tall and producing flowers several times a year (Nov., May, July). Leaf blade palmate,



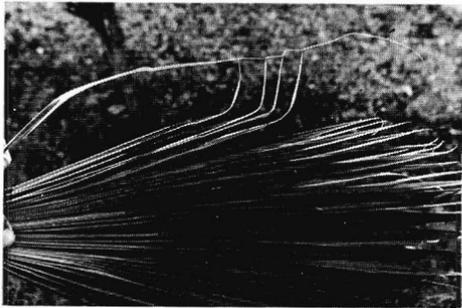
3. Chromosomes of *C. jamaicensis*: above, camera lucida drawing magnified about 2,700 times; below, photographs of chromosomes at two levels of focus from Kodachrome transparency. $n = 18$.

circular in outline, 80-140 cm. in diam., with 35-38 linear-triangular lax segments connate in a palman (15-) 19-36 cm. long, central free lobes 31-66 cm. long, 2.5-4.8 cm. wide at widest point and tapering gradually to a very slightly bifid apex 0.6-2.2 cm. deep; adaxial surface glossy dark green with ridges yellowish, principal nerves of partially expanded blade with caducous scales; abaxial surface silvery, covered with a dense indumentum of persistent irregularly shaped fimbriate interlocked hyaline scales, the central portion of which is conspicuous as a smooth punctate dot; fully developed but yet unexpanded blades with a rein (lora of



4. Hastulas from a single plant of *C. jamaicensis*.

Eames) connecting all apices of the leaf segments (as the blade expands the rein breaks apart easily but is often found as an elongate whip-like attenuation of the lowermost segments); hastula various in outline (depending partially on extent to which the blade is expanded), at first covered with a dense indumentum of adpressed caducous gray scales, free adaxial extension 0.4-1.5 (-1.8) cm. long; petiole ancipitous (48-) 50-59 cm. long, ca. 1.3-2 cm. wide, very gradually increasing in width toward the union with sheath where ca. 2.5 cm. wide and flattened adaxially, abaxial surface densely covered with white scales which are soon lost along the central convex portion; sheath tubular, very slightly liguliform for ca. 2-4 cm., woven of fine fibers 0.5 mm. thick, at first covered with silky white hairs and scales (expansion of the bud region causing the sheath fibers to become



5. Partially expanded leaf blade showing the vein along the margin.



6. *Coccothrinax jamaicensis* in the type locality along the Queen's Highway.

separated forming a net). Inflorescence axillary, interfoliar, 70-90 cm. long, erect at anthesis to arcuate in fruit, composed of (4-) 5-7 primary branches, the lowermost branch ca. 11-23 cm. long to

apex of terminal rachilla, the terminal primary branch often not fully exposed; peduncle with 2-3 empty bracts, the lowest one ancipitous and inserted about 1-2 cm. above the base of the peduncle within the leaf sheath, the others tubular with an oblique apical opening, each primary branch subtended by an elongate tubular bract with an oblique apical opening, the free portion frequently rigid and extended above the inflorescence, all bracts covered with white floccose hairs, each remaining bract enclosing the flattened stalk of the primary branch which it subtends and the lower portion of the next tubular bract; the stalk of each branch with a strongly bifid, ancipitous, partially tubular bract inserted about 2-3 cm. above its base; each primary branch once compounded with 14-40 rachillae, these 8-16 cm. long, with 35-50 or more pedicellate flowers. Flowers fragrant, white at anthesis, soon becoming creamy white, never yellow; perianth scarious, in a single series, with 5-6 unequal subulate lobes ca. 5 mm. long; stamens (7-) 9-14 (-15), about equalling pistil, filaments about equalling or shorter than the anthers, dilated and connate in a ring at the base, slender above; anthers attached at base of connective, (1.5-) 2.0-3.0 (-3.2) mm. long, sagittate at base, retuse to bifid for (0.2) 0.3-0.6 mm. at the apex, the pollen sacs rounded to pointed apically and frequently unequal in length, connective very narrow; pistil pyriform, style normally straight, stigma infundibuliform. Mature fruit with persistent perianth, (6.9-) 7.5-9.5 mm. in diam., purple-black, juicy-fleshed; seed cerebriform, 6.2-7.1 mm. in diam. when fresh, 5.6-7.1 mm. in diam. when dry; fruiting pedicels (1-) 2-6.2 mm. long; primary branches in fruit 15-33 cm. long. Chromosome complement: $n = 18$.*



7. The silver thatch near May Pen on the south coast of Jamaica.



8. Close-up of the crown or bud region of silver thatch showing the fruiting inflorescence and sheathing material. Notice the white scales on the youngest unexpanded leaf.

*Chromosome studies were supported, as part of a larger palm study, by National Science Foundation Grant GB-2486.

VERNACULAR NAME: silver thatch.

USES: leaves are used in the making of



9. A single inflorescence from the type specimen at anthesis.

hats, baskets, bags, and various articles sold in the native crafts markets.

SPECIMENS EXAMINED (in personal collection when not otherwise designated :

JAMAICA. St. Ann Parish: Queen's

Highway, ca. 2 mi. east of Rio Bueno, *Proctor 11070 & 11250* (IJ); *Read 1563* (holotype, BH; isotypes, UCWI, S, GH); *Read 1606* (BH, UCWI, S, GH); *Read 1607, 1608*. St. Thomas Parish:



10. Leaves of *C. jamaicensis* woven into a useful and attractive basket.

near Grant's Pen, *Read 1679*. St. Andrew Parish: base of Long Mt. near August Town, *Read 1564*. Clarendon Parish: Curatloe Hill, *Read 1665*; intersection May Pen and Lionel Town Rds., *Read 1677*. Manchester Parish: 49 mi. marker near Gut River, *Read 1687*. St. Elizabeth Parish: Bideford District, S. W. of Malvern in the Santa Cruz Mts., *Webster & Proctor 5312 (IJ)*; between Font Hill and Scott's Cove, *Proctor & Mullings 21975 (IJ)*. Westmoreland Parish: 22 mi. marker near Negril Beach, *Proctor 11113 (IJ)*; *Read 1571, 1613, 1674, 1683*.

DISTRIBUTION: endemic.

Coccothrinax jamaicensis is a highly variable species widely distributed along the coastal regions of the island from sea level to an altitude of nearly 1,500 feet and on a variety of substrates. The silver thatch is never found far inland nor in areas of heavy rainfall and good soil. Rather, it occurs on steep mountain slopes or cliffs of limestone, deeply eroded "dog-tooth" limestone and sand just behind the beach.

On the north coast of Jamaica, between Discovery Bay (Dry Harbour) and Rio Bueno in the parish of St. Ann, the Queen's Highway runs through an area of sharply eroded "dog-tooth" limestone at the base of high limestone

cliffs. This area, exposed to northeast breezes, has a fair amount of rainfall but because of the nature of the porous rock and lack of soil or humus is rather xerophytic. The silver thatch growing here (Fig. 6) on apparently bare rock among *Agave*, cacti, and other xerophytic plants, is tall and very slender with the trunk only 5-8 cm. in diameter and usually with a crown of small leaves with the brightest silvery undersurfaces.

Along the drier, often highly xerophytic south coast of Jamaica, the silver thatch is found in scattered populations in small ravines, on exposed mountain cliffs and on gently sloping regions of thorn scrub associated with broken or eroded limestone. In the parish of St. Thomas near Grant's Pen, *Coccothrinax jamaicensis* is found in light woods along the protected slopes of a ravine in a very dry area. The plants growing on limestone outcrops in light shade with heavy soil close about the roots have heavy trunks 10-15 cm. in diameter and produce large, nearly flat leaves forming a rather large crown. A short distance up the ravine, where it opens into a small dry valley of scanty soil and an abundance of eroded limestone, the vegetation is sparse and thorny and the scattered silver thatch palms exposed to full sun and wind are tall and slender (trunk diameter 5-8 cm.) with a small crown of glistening leaves. The silvery undersurface of the leaves of plants growing in the protected areas is not as pronounced as it is on plants growing in the exposed situations.

To the west, in the parish of St. Andrew, on the seaward-facing slopes of the Port Royal Mountains above the Cane River, the silver thatch is abundant on dry limestone and marl cliffs exposed to strong southeast winds. The plants here are tall and slender, and the leaves are so silvery as to be seen

from far away. A short distance westward, on the lower slopes of Dallas and Long Mountains along the Hope River, the silver thatch is found both on limestone outcrops closely associated with soil (as at Grant's Pen) and on steep scree slopes of broken rock and soil. Rainfall is sparse and seasonal, and the runoff is rapid. Plants growing here in the light woods protected from strong drying winds are short (2-3 m. tall), have heavier trunks (10-20, cm. in diameter) and the leaves and crown are larger with the silver less pronounced.

Further west, near Curatoe Hill south of May Pen in the parish of Clarendon, the silver thatch is found as scattered individuals on limestone outcrops and well drained soils. The region is exceedingly dry during the winter months and although it may rain heavily during the summer showers, the area has a very arid character throughout most of the year. The palms here are uniformly heavy-stemmed (15-20 cm. in diameter), usually tall (3-5 m.) and with large dense crowns of large leaves which are brilliantly silvery beneath (Fig. 7). South of this region, on dry, lightly wooded hills overlooking the sea, are some exceptionally tall (to 7 or 8 m.) slender-stemmed individuals with bright

silvery foliage exposed to the strong sea breezes.

Westward on the lower slopes of the Carpenter Mountains in the parish of Manchester, the silver thatch is found on rocky cliffs and hills exposed to strong sea breezes, while near the western border of the parish of St. Elizabeth, it is found in light woods and thorn scrub. In both of these areas, the plants growing on exposed limestone are usually very tall with slender stems and have a smaller crown of leaves than those in protected situations or on rocky soils.

A peculiar situation exists in the region of Negril Beach at the westernmost end of the island in the parish of Westmoreland (near mile marker 22 miles from Lucea). In a small area of not more than 30 acres, a population of *Coccothrinax* is growing at sea level on sandy substrate (similar to beach sand) with a very high water table. In fact, there is frequently standing water all around the area with only a foot or two of difference in elevation between the standing water and the palms. In this region of almost no strong sea breezes and no long dry periods it is most interesting to find *C. jamaicensis* growing under conditions so contrary to its usual habitat.

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