

arranged in contrasted spirals, mirror-images of each other. *Nypa*, in its native environment, grows in such abundance that it would be a favorable subject for detailed study. Our only caution is that the would-be-investigator will have to endure mud, sweat and blisters in digging out his specimens.

Quite clearly "dichotomous" branching is not a unique property of *Hyphaene* and it seems possible that it may be discovered in other groups of palms. Equally clearly, its nature needs investigation.

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## Coccothrinax inaguensis —

# A New Species from the Bahamas

ROBERT W. READ

While collecting plants with the Allison Armour Expedition to the West Indies in 1932, Drs. David Fairchild and P. H. Dorsett found a *Coccothrinax* growing on rock and on sand dunes along the coast of Great Inagua Island, the southernmost island in the Bahamas. Seeds were sent to the United States Department of Agriculture Plant Introduction Station (Chapman Field) near Miami, Florida. Three individuals from the original introduction are still growing where they were planted many years ago. Mr. Harold F. Loomis, a past Director of the Station, recognized the plants as distinct from any he had seen and brought them to my attention several years ago. Attempts to identify them with known species of *Coccothrinax* have failed.

When it was learned that Dr. John

Popenoe was making a collecting trip to Great Inagua in connection with his studies of Bahamian plants, he was asked to bring back specimens of any *Coccothrinax* found on the island. In May, 1964, he brought back leaves and infructescences of a *Coccothrinax* which matched the specimens growing at Chapman Field. It was indeed distinct from *C. argentata*, the only other species of the genus previously recognized from the islands. A month later, another specimen was collected by Dr. Robert Grimm of Florida Atlantic University while he was collecting algae with the research team of the Lerner Marine Laboratory. It too proved to be the same as the plants under study.

The plants grown from seed collected some thirty years ago on this remote island of the Bahamas as well as recent

collections are now considered to represent an undescribed species. The author is presently preparing a manuscript for a manual of the palms native to the United States and the Bahamas. It is therefore felt that the species should be given a name for inclusion in the work, while awaiting a long overdue monographic study of the entire genus.

*Coccothrinax inaguensis* R. W. Read,  
sp. nov.

Palmae solitariae caulibus gracilibus 2-5 m. altis; foliis palmatis, viridibus, concoloribus, vaginis ex reti fibroso subtili constantibus; inflorescentiis arcuatis paniculas 4-5 gerentibus, pedicellis florum (1-) 2-3 mm. longis fructuum (2-) 3-6 mm. longis; staminibus 8-10 (-11); antheribus ad apicem retusis ad basim sagittatis (2-) 3-4 mm. longis; fructibus 10-13 mm. diam., purpureo-nigris, seminibus 6-7 mm. diam. cerebriformibus.\*

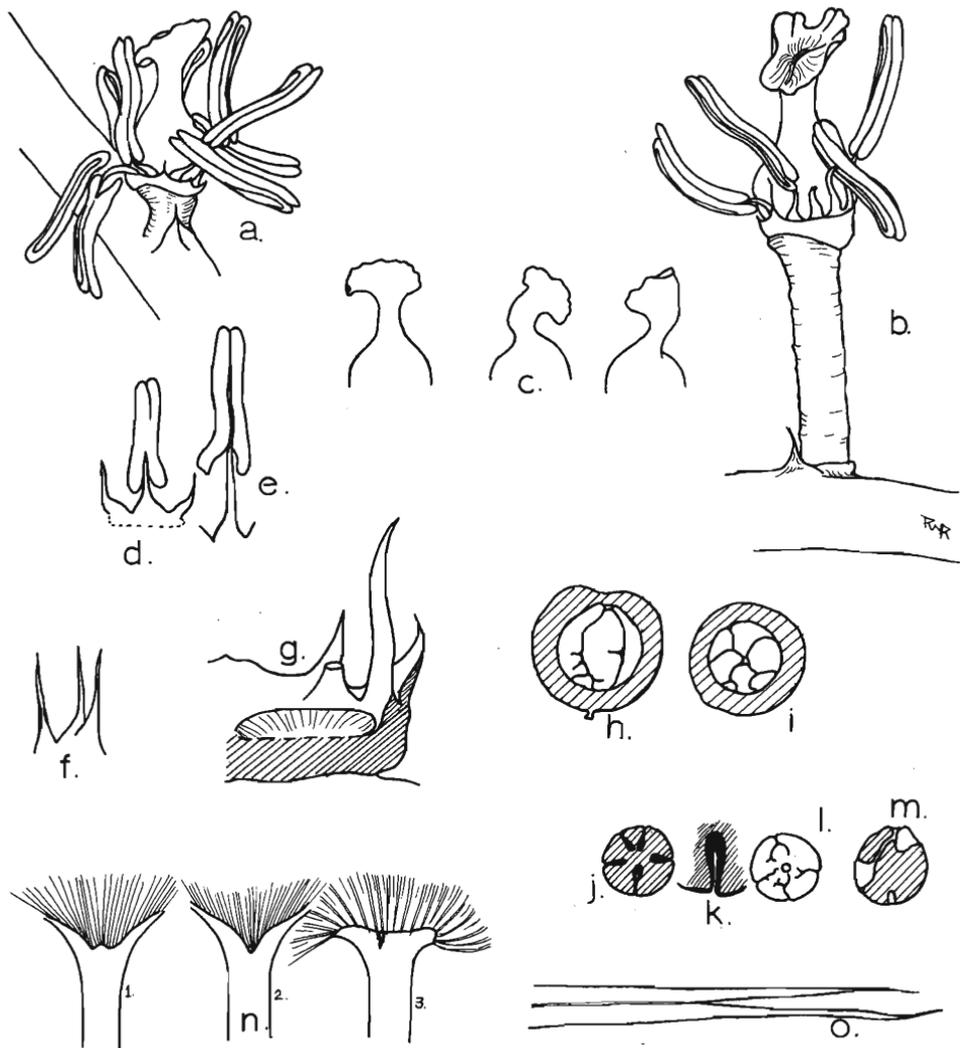
*Coccothrinax inaguensis* is a small solitary palm with a very slender trunk 6.0-7.5 cm. in diam. and 2-5 m. high bearing a small open crown of palmate leaves with slender arching petioles. The leaf blades are 65-90 cm. across, with a palman measuring 15-25 cm. from hastula to sinus in the form of an inside-out umbrella and the free portion of the segments either stiff or lax and hanging gracefully, those at the middle 36-49 cm. long, 2.7-2.9 cm. wide at the sinus, all bifid at the apex for 3.5-10.5 cm. Blades are equally dull green on both surfaces, the under surface only inconspicuously flecked with gray waxy scales which soon are lost as the leaf matures. The hastula projects 8-9 mm. and is variously and irregularly shaped, while below, the apex of the petiole forms a deep V at the insertion of the blade.

The petiole is 60-75 cm. long, dorso-ventrally compressed and elliptic in cross-section, does not split at the base, and ends in a sheath of fine fibrous netting.

The interfoliar inflorescence measures 42-60 cm. from point of emergence from the leaf sheath to the apex of the ultimate primary bract and bears 4-6 pendant simply paniculate branches 20-28 cm. long as measured from the strongly curved main rachis to the apex of the ultimate rachilla. The inflorescence develops very rapidly, the bracts completely obscuring the flowers one day but within 24 hours the branches elongated, flowers expanded and pollen shed. Individual floral parts, such as anthers, pedicels and pistil, change shape and size considerably during this 24-hour period. The flowers are creamy white and fragrant at anthesis with 8-10 (-11) stamens; anthers are sagittate, basally affixed and slightly retuse (not at all bifid) at the apex, measuring 2-2.5 mm. in length on first exposure, enlarging to 3-4 mm. within a few hours or at most the following day as pollen is shed; filaments are strongly dilated at the base and united in a ring around the base of the ovary, the cupule thus formed being adnate for the most part to the perianth cup which has 5-6 slender acute lobes; the pistil is pyriform, enlarging rapidly during and following anthesis, with a variously shaped style and an infundibuliform (funnel-shaped) stigma; pedicels may be (1-) 2-3 mm. long at early anthesis, elongating rapidly to (2-) 3-6 mm. in length the following day.

Mature fruit is purple, (10-) 12-13 mm. in diameter on a stout pedicel (2-) 3-6 mm. long, fleshy with a smooth exocarp, a mesocarp of a thick juicy layer of purple cells over a very thin layer of stony cells surrounding a narrow

\*Appreciation is extended to Dr. W. J. Dress of the L. H. Bailey Hortorium for assistance with the Latin diagnosis.



1. *Coccothrinax inaguensis*. a, flower at anthesis showing relatively short pedicel X 5; b, flower a day later with elongated pedicel X 5; c, variation in pistil shape X 5; d, stamen before anthesis X 5; e, stamen a day later X 5; f, stamen filaments fused at their bases X 5; g, staminal ring adnate to perianth cup X 5; h, fruit with half pericarp removed exposing seed in vertical view X  $1\frac{1}{4}$ ; i, fruit with half pericarp removed exposing intact seed showing attachment end X  $1\frac{1}{4}$ ; j, seed in cross-section showing infolding of testa into endosperm X  $1\frac{1}{4}$ ; k, enlargement of infold showing thickening of testa around internal portion of fold X  $2\frac{1}{2}$ ; l, bottom view of seed showing location of embryo X  $1\frac{1}{4}$ ; m, seed in vertical section showing irregular intrusion of fold into endosperm X  $1\frac{1}{4}$ ; n, union of petiole and blade, 1 & 2, lower surface, 3, upper surface X  $\frac{3}{8}$ ; o, bifid apex of leaf segments X  $\frac{1}{2}$ .

layer of juicy lighter colored cells next to the thin endocarp which separates readily from the seed. The light brown or tan seed is slightly cerebriform and 6-7 mm. in diameter.

The species occurs naturally in thickets on limestone or sand dunes near the beach on Great Inagua and on San Salvador Island where Dr. John Pope- noe also found plants.



2. Cultivated plants of *Coccothrinax inaguensis* growing at the U.S.D.A. Plant Introduction Station, Miami, Fla. Note plant with lax leaf segments to left rear. The species is very variable in "hang" of the leaf segments.



3. A small plant of *C. inaguensis* growing in the walled shade section of the Plant Introduction Station. The petioles are longer and the crown more open than in plants grown in full sun. Note the depressed upper surface of the leaf blade, a characteristic particularly prominent in this species.

Specimens examined\*:

BAHAMA ISLANDS. Great Inagua: north shore of Inagua, May 12, 1964, John

\*Abbreviations for herbaria are BH, L. H. Bailey Hortorium, Ithaca N. Y. and FTC, Fairchild Tropical Garden, Coral Gables, Fla.



4. Close-up of the top of the trunk of *C. inaguensis* to show finely netted sheaths and infructescence with fruit and prominent pedicels.

*Popenoe s.n.* (FTG); south shore, May 12, 1964, *John Popenoe s.n.* (FTG), *Robert Grimm s.n.* (FTG). Cultivated

from seed collected on Great Inagua, U.S.D.A. Plant Introduction Station, Miami, Florida, Feb. 24, 1965, *R. W. Read*



5. *Coccothrinax inaguensis* en route to Salt Pond Hill, Great Inagua, Jan. 15, 1932, A.V.A.E. No. 57736. Photo by P. H. Dorsett courtesy U.S.D.A. Plant Introduction Station, Miami, Florida.

1377 (type, BH; isotype, FTG), June 28, 1965, *R. W. Read* 1439 (FTG).

*Coccothrinax inaguensis* can be distinguished easily from all other species of the genus by one or a combination of the following characters. It is most readily separated from *C. argentata* of Florida and the Bahama Islands as well as a number of other species by the concolorous leaves, the lower or abaxial surface being green like the upper or adaxial surface and lacking completely the dense silvery indumentum of hairs so characteristic of many species. It may also be separated from other species lacking the silvery or whitish lower surface as follows: from *C. Acuñaana* Leon and *C. muricata* Leon, with pedicels less than 2 mm. long, by the long conspicuous fruiting pedicels; from *C. saxicola* Leon by the fine rather than very coarse



6. A single specimen of *Coccothrinax inaguensis* in the wild on the sand dunes of Great Inagua, Jan. 15, 1932, A.V.A.E. No. 57737. Photo by P. H. Dorsett courtesy U.S.D.A. Plant Introduction Station, Miami, Fla.

sheath fibers; from *C. Victorinii* Leon by the white or cream-colored rather than violet inflorescences; from *C. Hi-oramii* Leon by the fewer leaf segments (fewer than 50 versus about 64); and from *C. concolor* Burret by the broader leaf segments, long fruit pedicels, broad palman and large fruit. Further differences between *C. inaguensis* and *C. argentata* are tabulated below.

	<i>C. inaguensis</i>	<i>C. argentata</i>
Leaf (adaxial)	dull light green	dark green
Leaf (adaxial)	light green without hairs	silvery, densely hairy
Trunk diameter	ca. 6.0-7.5 cm.	ca. 13 cm.
No. of leaf segments	39-47	(12-) 18-44
Pedicel length at anthesis	(1-) 2-3 mm.	1-2 mm.
Stamen number	8-10 (-11)	(10-) 11-12 (-13)
Anther length	(2-) 2.5-4 mm.	1.5-2 mm.
Anther apex	retuse	bifid
Pedicel length in fruit	(2-) 3-6 mm.	1.5-4 mm.
Fruit diameter	(10-) 12-13 mm.	10-12 mm.