

47-62, the filaments 3-6 mm. long, anthers 3-6 mm. long, acute to emarginate; pistillate flowers globose-conical, ca. 6 mm. long in bud, the petals with a short valvate apex, staminodes 6, united in a short cup basally, the perianth enlarged in fruit forming a yellowish sheathing cupule ca. 16 mm. broad, 11 mm. high, the sepals 4-6 mm. long, petals 11-12 mm. long; fruit bright crimson, 2.7-3.3 cm. long, 1.7-2 cm. in diameter, the styler cap almost exactly apical, mesocarp with orange flesh and pale fibers, endocarp thin, crustaceous or subpergamentaceous, not adherent to the seed, seed 1.5-2 cm. long, 1.3-1.4 mm. in diameter, rounded at both ends, the vascular branches much anastomosed and impressed, endosperm deeply ruminat

Philippine Islands: Palawan and Calamianes Islands but widely cultivated in tropics of both hemispheres; type, cult. Manila, *Merrill* Palawan Group; Palawan Island, Brooks Point (Addison Peak March, 1911, *Elmer 12708* (US); Apulet Island, Taytay Bay, May, 1913, *Merrill 8415* (US).

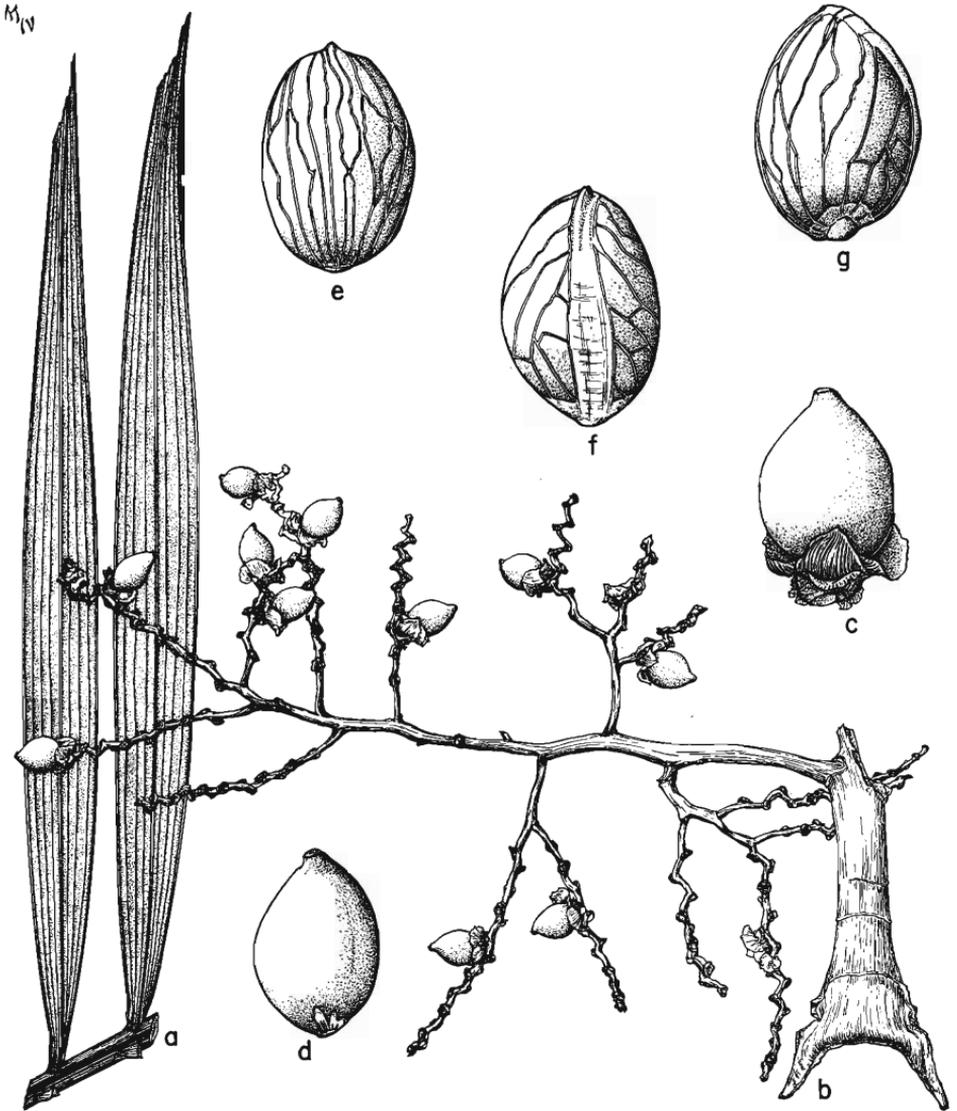
Cultivated. Philippine Islands, Luzon; Manila 1893, *Loher 1354* (US Manila, *Merrill s.n.* (FI, type, photo BH neg. 6512). Marianas Islands, Guam; Umatac, January 12, 1954, *Fosberg 35446* (BH Hawaiian Islands, Oahu; Kamehameha Girls' School, October 11, 1938, *A. F. Judd s.n.* (BH). Panamá, Canal Zone; Experiment Gardens, Summit, July 1, 1931, *L. H. & E. Z. Bailey 431* (BH Cuba, Atkins Garden and Research Laboratory of Harvard University, Soledad, Cienfuegos, December, 1933, *F. G. Walsingham s.n.* (BH) and November 15, 1934 (BH); February 26, 1952, *Moore 6103* (BH). United States: Florida; Coconut Grove, Montgomery Collection, March 29, 1951, *Moore 5848* (BH); February 25, 1947, *G. H. M. Lawrence 11* (BH); March, 1952, *Moore s.n.* (BH); Bradenton, August 14, 1935, *L. H. Bailey 85* (BH, photograph only).

† 5. *Veitchia simulans*, spec. nov. Fig. 148.

Pinnæ foliorum subtus fusco-lepidotæ panicula fere ad nodos omnes flores femineos gerens fructus 21-22 cm. longus 12-13 mm. in diametro endospermum non ruminatum.

Stem ca. 5 m. high: leaves 2-3 m. long; petiole 20-25 cm. long, 4 cm. broad at the base, apex of sheath, lower surface of petiole and rachis everywhere densely lepidote with appressed small scales and rather few narrow twisted erect castaneous scales near the margins, the appressed scales with persistent brown bases, flattened subpersistent brown membranous center and deciduous interlocking pale acicular-laciniate margins above more or less concave with twisted castaneous scales near the sharp margins and an appressed epidermis-like cover of red-brown membranous

scales, these lacking pale marginal acicular hairs and eventually apparently breaking into short more or less erect scales similar to those on the margin; rachis with indument similar to that of the petiole; pinnæ 15-20 on each side of the rachis, alternate to subopposite, regularly disposed at intervals of 4.5-6 cm., those at the base nearly straight and the lowermost with remnant of lora ca. 43 cm. long, ca. 36 cm. long, 2.5 cm. wide, tapering to base and apex from the middle, the base 5-6 mm. wide at insertion



48. VEITCHIA SIMULANS. a, pinnæ $\times 1/5$; b, portion of panicle $\times 1/3$; c, d, fruit $\times 1$; e-g, seed, e, antirapheal, f, rapheal, g, lateral views $\times 2$.

on the rachis, the apex narrowed and strongly oblique without prominent teeth other than the midpoint, median pinnæ slightly sigmoid, 61 cm. long, 1 cm. across at point of insertion, 5 cm. wide at middle, 1.8 cm. wide at tip, the finely toothed oblique margin 4.7 cm. long, mid- and marginal nerves prominent with 3-5 rather prominent secondary nerves on each side and several irregularly disposed finer tertiary nerves, all or most of the nerves minutely red-brown-lepidote below, the marginal nerves densely so, and the midrib with very slender tightly twisted basifixed castaneous scales to 8 mm. long near the base, subapical pinnæ 24-34 cm. long, 2-3 cm. wide, apical pinnæ 16 cm. long on upper margin, 3-4.2 cm. wide, nearly truncate, with 2-4 primary nerves: panicle stiff, the peduncle 10 cm. long, 3.5 cm. across at scar of outer bract, only the lower branches seen, these ca. 30 cm. long, again once- or twice-branched, the ultimate rachillæ stiff, usually strongly flexuous toward the tip, 3.5-4 cm. long, 2 mm. thick, with 7-17 flowering nodes 1-5 mm. apart bearing scars of pistillate flowers or fruit to the apex; flowers not seen: fruit becoming red at maturity, 21-22 mm. long, 12-13 mm. in diameter, slightly compressed laterally with irregularly united dentiform staminodes to 4 mm. long adherent at the base, distinctly 2-crested on one side from base to a slightly eccentric apical stylar umbo 1.5-2 mm. long, subtended by 2 flattish bracteoles ca. 1 mm. wide and flaring perianth ca. 16 mm. across, the sepals dark margined and more or less crenulate, petals with lateral margins membranous and strongly ciliate, upper margin and center eciliate, brown-margined, more or less crenulate, the central valvate apex not prominent; exocarp very finely lineolate when dry, mesocarp of stout elongate fibers in one layer, endocarp thin at maturity, fragile and often transversely fractured; seed 14 mm. long, 10 mm. in diameter, ovoid with a shortly acute apex and ridged hilum, vascular strands descending from the apex and loosely anastomosed, endosperm homogeneous.

Fiji Islands: Taveuni; in dense forest, slopes of Mt. Manuka, east of Wairiki, 300-600 m. alt., August 3-14, 1953, *A. C. Smith 8158* (BH type, US, isotype); without definite locality, *Thurston s.n.* (K).

Veitchia simulans is distinctive among the better known species from Fiji Islands in the shining red-brown membranous lepidotes borne in abundance on the nerves below. If Beccari has correctly interpreted the specimens discussed under *V. subglobosa*, the latter is closely related to *V. simulans*, differing in larger fruit and panicle. The fruit resembles that of *V. Joannis* in miniature fashion even to the pointed seed and flaring perianth, hence the epithet chosen. It is of interest to note that the vernacular name is recorded as "Nuisawa" used elsewhere for *Veitchia Joannis* rather than "Nuiniu" which is more commonly used for the small-fruited species. Neither staminate nor pistillate flowers are known as yet. The type is in fruit and the Thurston collection cited consists only of loose fruit. It is likely that foliage resembles that of *V. Winin* and others from the New Hebrides in general aspect.

nerves 3-4 on each side of the midrib, tertiary nerves very fine, transvers nerves indistinct: panicle with glabrous, angular, sinuous rachillæ bearing 3-4 (or more?) triads of ♂ ♀ ♂ flowers at the base, solitary ♂ flower above; staminate flowers oblong, obtuse, 15 mm. long, 7 mm. wide, the sepals concave-saccate and acutely carinate dorsally, half as long as the oblong cymbiform petals, stamens numerous, the anthers deeply emarginate or bicornute at the apex, rather deeply bifid at the base: fruit ovate or subovate, 4.5 cm. long, 3 cm. in diameter, rather abruptly narrowed at the apex in a short, broad, obtuse conic point bearing short triangular connivent stigmas, the cupular perianth about one-fourth as long as the fruit or less, ca. 2.5 cm. across, the corolla twice as long as the calyx with rounded petals broader than high, thinly coriaceous, crenulate with scarcely an indication of an obtuse central point, fruit-coats ca. 5 mm thick, the exocarp smooth, thin, mesocarp of uniform fibers, endocarp thin; seed subglobose 2.5 cm. long, 18 mm. in diameter, endosperm homogeneous.

New Caledonia: Pueblo, *Viellard s.n.* (CN, type destroyed, fragment and sketches, FI, photo BH neg. 3372).

Beccari noted that the type, now destroyed, was incomplete but sufficient to ascertain its generic position. Fragments of the type are still extant in the Beccari collections at Firenze. I have examined a staminate bud (which measures only 5 mm. in length) and find that the pistillode is typical for the genus. Until more complete material can be obtained from New Caledonia, further description must be left in abeyance.

† 8. *Veitchia vitiensis*, (Wendl.) trans. nov.

Ptychosperma vitiense, Wendl. in Bonplandia, ix, 260 (1861)
nomen as *vitiensis*, x, 195 (1862); in Seem. Fl. Vitiensis
273 (1868).

Vitiphœnix vitiensis, (Wendl.) Burret, in Fedde Repert. xxiv
284 (1928).

Trunk to 10 m. high, 20 cm. in diameter: leaves 2-4 m. long, the short petiole densely vestite, as is the rachis, with castaneous, more or less appressed, chaffy scales and minute pale margined lepidies, at length becoming brown-punctate below, similarly vestite above but the castaneous scales shorter, mostly basifixed, ascending and twisted, and with longer chaffy scales infrequent on the midline above and near the margins below: pinnæ 30-40 on each side of the rachis, more or less uniformly distributed throughout the leaf and probably nearly horizontal, narrowed at the base and obliquely truncate apex from a broad middle, gradually decreasing in size and increasingly more truncate toward the apex, glabrous except for elongate red-brown twisted basifixed scales on the midnerve below and scattered minute red-brown lepidies on both surfaces at the very base: panicle much ramified, glabrous, the peduncle short, lower branches twice-branched into nearly straight slender ultimate rachillæ 6-15 cm.