

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.

long with 12-25 flowering nodes in a loose spiral below becoming subdistichous above; staminate flowers with ca. 24 stamens (?); bracteoles subtending pistillate flowers and fruit 0.5 mm. wide or less: fruit 11-19 mm. long, 5-7 mm. in diameter, ovoid to ellipsoid or subglobose, subtended by a loosely cupular perianth when dry, the petals with prominently deltoid apices; exocarp drying lineolate over elongate fibers, endocarp very thin, chartaceous, adherent in whole or in part to the subglobose to ellipsoid seed, vascular strands descending from the apex and laterally from the raphe, little anastomosed except around the embryo, endosperm homogeneous.

Fiji Islands: Viti Levu, ? Ovalau.

Key to the varieties of Veitchia vitiensis

1. Fruit 18-19 mm. long; seed ellipsoid, slightly more than twice as long as broad; petals 6 mm. high and wide in fruit, the lower margins prominently ciliate..... var. *Parhamiorum*
- .. Fruit 11-14 mm. long; seed subglobose or ovoid, less than twice as long as broad; petals 4 mm. long and wide in fruit or less, the margins minutely ciliate.
2. Seed ovoid, 8 mm. long, 5 mm. in diameter; fruit 13-14 mm. long, 6 mm. in diameter..... var. *vitiensis*
2. Seed subglobose, 5.5-6 mm. high, 5 mm. in diameter; fruit 11 mm. high, 6 mm. in diameter..... var. *microcarpa*

In 1861, two collections of Seemann, numbers 662 and 663, were bracketed together under the name *Ptychosperma vitiensis* without accompanying description. A year later, when the species was formally described, only *Seemann 662* was mentioned and only foliage was discussed. At the same time, fruit was described for *Ptychosperma filiferum*. According to Burret (Fedde Repert. xxiv, 283-284, 1928), fruits of two species were associated with *P. filiferum* in the herbarium at Berlin. One agreed with that described by Wendland for *P. filiferum* but also with fruits of *Seemann 662* associated with foliage of *P. vitiense*; others collected at Bikana without number by Seemann were pear-shaped and larger, measuring 18 mm. in length, 8 mm. in diameter. Burret drew no definite conclusions but further consideration leads to the conclusion that the larger pyriform fruits belonged to *P. filiferum* while the smaller fruits actually were those of *P. vitiense* associated with *Seemann 661* in error. The larger fruits agree essentially with those of *Veitchia sessilifolia*, a species which is certainly close to and which may prove identical with *V. filifera* when the panicle of the latter is re-collected.

The description of smaller fruit agrees with the fruit of *Seemann 662* in the Gray Herbarium and at Kew where portions of the panicle have been studied. The narrow bracteoles subtending the pistillate flowers of the latter two are typical of other material from Viti Levu, described here as varieties, characterized by the same thin adherent endocarp so well described by Wendland and by foliage indistinguishable from that of *V. vitiensis*. I have, therefore, emended the descriptions of the two species,

despite the destruction of specimens at Berlin. Unfortunately no later collections identical with *V. vitiensis* var. *vitiensis* have been seen. One collection in flower, *Smith 9099* from hills east of Navua River near Nukusere between 100 and 200 m. altitude, Serua, Viti Levu, is almost certainly referable to the species but cannot be placed varietally. It is from this material that the number of stamens was taken in the specific description.

Two other incomplete collections from Viti Levu may belong here. *Smith 8808* from the valley of Wainambua Creek south of Mt. Naitarandamu, Namosi, a dense forest at 250-350 m. altitude is in young bud. The pinnæ are larger than usual for *V. vitiensis*. *Degener and Ordóñez 14765* from Vuninatambua, Navai, Tholo North at 750-900 m. altitude is in staminate flower. Stamens are 22-23 but the rachillæ do not exceed 9 cm. in length with 7-12 flowering nodes, resembling in this respect *V. Smithii* with which it had been identified.

Collections in the herbaria at Leiden and Firenze from trees of unknown origin cultivated in the botanical garden at Bogor, Java, appear to represent the same species although they bear different numbers. The lineolate fruit indicates a relationship with *V. vitiensis* but is only 14 mm. long. The panicle, however, has very short rachillæ suggestive of *V. Smithii*. Since precise data on the origin of this material are lacking and I have only photographs and notes before me, further comment is left for future studies.

When collections of *Veitchia* from Viti Levu are sufficient for the comparison of all parts, the present circumscription of *V. vitiensis* may have to be modified. At present, fruit provides the basis for comparison. no significant differences of qualitative nature having been found in foliage or panicle. Since differences in fruit are essentially differences in size and proportion, I have recognized these at a varietal level, trusting that future collections will provide material for a more adequate and confident study.

***Veitchia vitiensis* var. *vitiensis*. Fig. 150 Aa-Af.**

Pinnæ from near the middle of the leaf (?) 40-45 cm. long, 6-6.5 cm. wide, 6.5 cm. along the apex, secondary nerves 5-7 on each side of the midnerve, upper pinnæ smaller, the terminal pair 12 cm. long, 3-4 cm. wide, 3-nerved: ultimate rachillæ 6-11 cm. long with (13-) 18-25 flowering nodes, the bracteoles subtending the pistillate flowers ca. 0.5 mm. wide or less: fruit ovoid, 13-14 mm. long, 6 mm. in diameter, tapered to the base, shortly umbonate at the apex, the seed 8 mm. long, 5 mm. in diameter, ovoid, sepals 1.5 mm. high, 2.5 mm. wide, petals 3.5-4 mm. high, 3.5-4 mm. wide, the margins minutely ciliolate toward the base.

Viti Levu: locality not specified, 1860, *Seemann 662* with foliage (BM, lectotype), with fruit (GH, K), *663* with foliage (GH).