

flowers subtended by acute bracts more or less reflexed, especially distally on the rachilla; bracteoles narrow, membranous, the upper margins and staminate pedicels brownish- or whitish-barbate.

Flowers white or with a pinkish cast: staminate flowers 5–6 mm. long; sepals ca. 2 mm. long, not nerved but with dark, entire, membranous, ciliolate margin when dry; petals ca. 5 mm. long, nerved or not nerved when dry and with a slight glaucous cast; pistillode angled-columnar, about two-thirds as high as stamens in bud; pistillate buds ca. 4.5 mm. high; sepals 3 mm. long, broadly imbricate, not nerved, with brown, membranous, entire, ciliolate margin when dry, in fruit ca. 3 mm. high, 6 mm. wide, and lobed; petals ca. 4 mm. high, with brown membranous margins ciliolate toward base, in fruit 6 mm. high, 7–8 mm. wide, lobed, more or less prominently nerved toward base.

Fruit subglobose, purplish-black at maturity, with excentrically apical stigmatic residue, ca. 2.3 cm. high, 2–2.1 cm. in diam. when dry; mesocarp fleshy, white, with few flat fibers and numerous pale sclerosomes; endocarp thick, dark, very sharply 4-angled with prominent adaxial (ventral) keel, abaxial (dorsal) and lateral crests, 2.1 cm. high, 1.8 cm. wide, 1.6 cm. thick, the surface smooth, operculum angled; seed shaped like endocarp, (14–) 17 mm. high, 15 mm. wide, (9–) 13 mm. thick, brown, with prominent raphe-branches horizontal from the adaxial keel and loosely anastomosing dorsally, endosperm homogeneous; embryo basal.

Vernacular name: *niuniu*.

Specimens examined. FIJI ISLANDS: VANUA LEVU; rain forests on slopes of Drayton Peak [Mount Mariko], on trail between Mbiugunu and Korosi, about 15 miles from Savu-Savu, 2000–2500 ft. alt., 1962, *D. W. Bierhorst F-134* (BH);

ridges and ravines on upper slopes of Mt. Mariko on trail from Bucalevu Village to summit, 2000–2800 ft. alt., 17 April 1964, *H. E. Moore, Jr. & D. Koroiveibau 9347* (BH, SUVA); Thakaundrove, Mount Mariko, alt. 600–866 m., 14 Nov. 1933, *A. C. Smith 417* (GH, isotype of *Goniosperma vitiense*). TAVEUNI; alt. 2300 ft., 17 April 1882, *Thurston s. n.* (K, type); by streamlet on steep slopes below crest of mountain on trail from Somosomo to crater lake, 23 April 1964, *H. E. Moore, Jr. & D. Koroiveibau 9353* (BH, SUVA).

The genus *Goniosperma* was erected by Burret to include two species, *G. vitiense* and *G. Thurstonii*, which are united here under *Physokentia*. The type of *P. Thurstonii* consists only of endocarps and seeds collected without definite locality on Taveuni, while the type of *Goniosperma vitiense* was a more ample collection, including foliage, flowers and fruit. I have collected *Physokentia Thurstonii* at what is probably the type locality and at the type locality for *Goniosperma vitiense* on Vanua Levu. As Burret suggested, there is no specific difference: in each locality *P. Thurstonii* is associated with two other clinostigmatoid palms—*Clinostigma exorrhiza* (H. Wendland) Beccari ex Martelli and *Taveunia trichospadix* Burret—in the rain forests of slopes and ridges at high elevations. Nor can *Goniosperma* stand as a genus apart from *Physokentia* when the present spread of species is considered.

4. ***Physokentia Whitmorei*** H. E. Moore, *sp. nov.* (Fig. 2C.)

Folia regulariter pinnata pinnis utrinque numerosis acutis uninerviis. Inflorescentia duplo-ramosa rachillis ad 33 cm. longis, bracteolis floris foeminei angustis, apice rotundatis. Fructus ater, globosus, 2.3 cm. altus, 2.0 cm. in diam., endocarpio 17 mm. alto, 15 mm. in

diam., crasso, acute 4-angulato.

Trunk solitary, to 6 m. high, with stilt roots to 1.5 m. high.

Leaves 5-6, suberect; sheaths green, tinged grey, forming a crownshaft 6-9 dm. high, covered, when young or where protected, with a dense, continuous mat of small, brown-centered, floccose-margined, peltate scales or becoming densely brown-punctulate with persistent scale-bases in age or where exposed; petiole ca. 26 cm. long, densely covered above and below with shining, irregularly and narrowly membranous-margined, brown, peltate scales; rachis with a dense cover of scales similar to those of the petiole or often with a broader, paler, lacerate-fimbriate margin; pinnae regularly arranged, the number on each side of the rachis not noted, the central ca. 57 cm. long, 5 cm. wide, narrowed basally to an insertion 1.5 cm. wide and to an acute apex, but this sometimes broken or frayed, glabrous above except the prominent, elevated, brown-punctulate midnerve and minute scattered punctulations on some lesser nerves, below densely and minutely brown-lepidote on the midnerve, on 3 rather prominent secondary nerves on each side, and on numerous tertiary nerves, the midnerve and secondary nerves also bearing prominent, dull brown, membranous, irregularly linear, medifixed or basifixed scales to ca. 3 mm. long near the base or nearly throughout their length, apical and subapical pinnae similar but smaller, (15-25 cm. long, 1.8-2 cm. wide) with usually 2 secondary nerves on each side, the lowermost pinnae ca. 32 cm. long, 1.5 cm. wide, long-attenuate, probably continuing into a rein or lora when first expanded.

Inflorescence ca. 5.5 dm. long from base to apex, glabrous; bracts apparently glabrous (from a very young inflorescence obviously from within a leaf-sheath and molded); peduncle 8 cm.

long, 1.4 cm. wide at apex; rachis 18 cm. long to last branch, bearing 9 subdistichously arranged branches including the terminal; lower few branches again subdistichously branched into ca. 6 simple or rarely furcate rachillae to 28 cm. long, the upper simple, to ca. 33 cm. long in fruit, all more or less angled or even flexuous at anthesis and terminating in a brief spinose tip; triads in the lower half or more of the rachillae, distally with paired or solitary staminate flowers, each triad subtended by a prominent acute bract 2 (-3) mm. long; bracteoles membranous, narrow, white-barbate on the upper margins as are the brief staminate pedicels.

Staminate flowers 4-5 mm. long, somewhat asymmetric, more or less rounded at the apex in bud; sepals indistinctly nerved when dry, broadly imbricate, rounded to acutish, ca. 2.5 mm. high, 3 mm. wide, the margins more or less ciliate; petals nerved when dry, valvate, ca. 5 mm. long, 3-4 mm. wide; pistillode as long as the filaments, angled-columnar, 3-angled at apex; pistillate flowers in bud, 3-4 mm. long, the perianth in fruit of sepals 3.5-4 mm. long, 5-6 mm. wide and petals 6 mm. long, 9 mm. wide, both, and especially petals, rather strongly nerved.

Fruit olive maturing black, globose when still incompletely mature, with eccentrically apical stigmatic residue, 2.3 cm. high, 2 cm. in diam.; exocarp smooth; mesocarp thin with longitudinal fibers, not collapsing when dried; endocarp thick, 17 mm. high, 15 mm. wide and thick, 4-angled with beaked ridge on adaxial (hilar) side lower than rounded-angled apex, operculum rounded; seed not sufficiently developed to describe.

Vernacular name: *manusilae* in the Kwara'ae dialect.

Specimens examined. BRITISH SOLOMON ISLANDS PROTECTORATE:

SAN CRISTOBAL (EAST); 4 miles E. of Wainoni, headwaters of Huni R., ultrabasic outcrop, broad ridge top, 1600-1700 ft. altitude, 10 August 1965, T. C. Whitmore R S S 6309 (BH, holotype; K, isotype).

Physokentia Whitmorei is the only species thus far known from the Solomon Islands that shows an immediate and clear resemblance to species from Fiji and the New Hebrides. The sharply angled endocarp, white-barbate bracteoles of the triads, and the pinnae are very similar to those of *P. Thurstonii*. Though the seeds had not developed sufficiently to provide information on endosperm, it may be anticipated that the endosperm will be homogeneous.

The epithet is but a faint tribute to the devotion which Dr. Whitmore has lavished on the flora of the Solomon Islands and to the unfailing assistance he has provided me during and after field work in the Solomons.

5. **Physokentia Dennisii** H. E. Moore, *sp. nov.* (Fig. 2E.)

Folia regulariter pinnata pinnis utrinque 22-25 acutis uninerviis. Inflorescentia triplo-ramosa rachillis ad 45 cm. longis, bracteolis floris foeminei angustis, subiter in apicem angustum productis. Fructus aurantiaco-ruber, subglobosus, 15 mm. altus, 10-11 mm. in diam., endocarpio 12 mm. alto, 10 mm. in diam., fragili, 4-angulato, carinis dorsalibus et lateralibus obtusis, seminibus endospermio homogeo.

Trunk solitary, to 10.5 m. high, with a dense mass of 100 or more stilt roots to 1.2 m. high, some roots branched, the upper portion of trunk light green, with short internodes.

Leaves spreading; crownshaft bright greyish-green, ca. 9 dm. long, considerably broader at base than at apex, covered when young or where protected with a dense indument of floccose

scales or densely brown-punctulate with persistent scale centers in age or where exposed; petiole elongate on juvenile plants but lacking or very short on mature trees (scarcely 2 cm. long); rachis ca. 1.8 m. long, densely covered above and below with minute, shining, brown, lacinate-fimbriate-margined, membranous, peltate scales or merely brown-punctulate where exposed or weathered; pinnae 22-25 on each side of the rachis, regularly arranged, the central ones ca. 78 cm. long, 7 cm. wide at middle, tapered basally to an insertion ca. 1 cm. wide; upper margin longer than the lower and straight, the lower narrowed toward the acute apex; both surfaces more or less densely lepidote or punctulate with minute, pale-membranous-margined, brown-centered, peltate scales or their persistent centers, midrib prominent and elevated on upper surface, with scattered floccose scales, the lower surface with prominent midnerve and 3-4 secondary nerves clothed with scattered, dull brown, irregularly linear, medifixed or basifixed, membranous scales 2-3 mm. long; apical and subapical pinnae shorter and narrower, 24-32 cm. long, 1.7-2.5 cm. wide, the tips often frayed and appearing praemorse; lower pinnae conspicuously narrowed and shortened toward base of rachis, the lowermost only ca. 15 cm. long, 5 mm. wide.

Inflorescence greenish-ivory, ca. 9 dm. long from base to apex, paniculately three-times branched, glabrous; bracts not seen; peduncle 15 cm. long, 2 cm. wide at apex; rachis ca. 26 cm. long to last branch, bearing ca. 17 branches, the lower branch ca. 45 cm. long, again twice-branched basally, simply branched apically into ca. 9 branches, the rachillae slender, elongate, to ca. 45 cm. long, 3 mm. in diam., upper branches progressively less branched to furcate or simple.

Flowers in triads to beyond the middle