

Zamboanga del Norte Prov., Malaya, *Fernando 585* (K, LBC); Zamboanga del Sur Prov., Malangas, *Ramos & Edaña B.S. 36880* (BM, K), localities unknown, *Brown B.S. 38366* (in part) (K), *Hernaez 3666* (CAHP).—BASILAN: Maligui, *Fernando 615* (LBC).

4. ***Pinanga bicolora*** E. Fern., *sp. nov.*
P. copelandii Becc. affinis, a qua imprimis fructu oblongo-ellipsoideo, epicarpio siccitate laeve et crustaceo, inflorescentiae rachillis 5–8 differt. Typus: Philippines, Luzon, Camarines Norte Prov., Bicol National Park, *Fernando 498* (Holotypus K; Isotypus LBC) (Figs. 5–7).

Solitary, moderate, unarmed, pleonanthic, monoecious palm to 3 m tall. Stem ca. 4 cm diam., internodes to 6 cm long. Crownshaft elongate, cylindrical, slightly swollen, to 60 cm long. Leaves 5–6 in crown; leafsheath ca. 42 cm long, dull light green, covered with dense, brown, scaly indumentum; leaf without sheath 75–100 cm long; petiole ca. 25 × 1.3 cm, channelled above, convex below, covered with indumentum as the leafsheath; rachis angular, bifacial above, obtusely rounded below, covered with indumentum as the leafsheath and petiole. Leaflets to 10 on each side of the rachis, unequal, inequidistant, to 6 cm apart, the apex incised to as many lobes as there are costae, dull dark green above and slightly mottled with blotches of lighter shade, ashy puberulous-glaucous underneath, the costae above sharply edged, those beneath covered with brown scaly indumentum; basal leaflets generally uncostate, ca. 17 × 1 cm, ± sigmoidal, long-acuminate; middle leaflets 1–6 costate, ca. 40 × 8 cm, ± sigmoidal, cuneiform, narrowed towards the base, apical lobes acuminate-falcate, pendulous, to ca. 7.0–8.5 cm long, generally about ½ of leaflet length; terminal leaflet pair to 14-costate, ca. 18.5 × 12.5 cm, the pair joined to 14 cm at the base along the rachis, apical lobes falcate-acuminate, to

3.5 cm long. Inflorescence infrafoliar, pendulous; prophyll not known; peduncle ca. 5 × 0.8 cm, flattened, ca. 3–4 mm thick, glabrous, light green becoming orange when fresh; main axis to 8 cm long, tapering distally, ± zigzag when dry; rachillae 5–8, very rarely more, deflexed, distichous, ± in the same plane, borne 3–4 cm apart, each ca. 9–14 cm long, flattened, to 4 mm wide, 3 mm thick when dry, light green becoming orange when fresh, the subtending bract a narrow low collar; triads borne strictly distichously along the rachilla. Staminate and pistillate flowers not known. Infructescence pendulous. Fruiting perianth depressed-cupular, 3 mm high, 7 mm across, with a broadened mouth; the petals and sepals subequal, glabrous, drying dark brown; sepals valvate, joined at their bases; petals free, imbricate, broader than the sepals; subtending bract as a low explanate, semi-annular collar, almost inconspicuous. Fruits distichous, to 8 mm apart, ripening red then purplish-black, oblong-ellipsoidal, ca. 2.2 × 1.4 cm, prominently beaked or mammilate, with a collar to 2 mm high and 3 mm wide near the base surrounding the apical stigmatic remains; epicarp drying smooth, sometimes with shallow depressions, rather thick and crustaceous; mesocarp loosely fibrous; seed broadly ovoid, ca. 9.5 × 9.0 mm, rounded at tip, shallowly concave-truncate at base; endosperm ruminant, embryo basal.

Distribution and Habitat: Philippines: Luzon (Camarines Norte and Sur provs.); in dipterocarp forest ca. 100–200 m alt. Endemic.

Specimens Examined: LUZON: Camarines Norte Prov., Bicol National Park, *Fernando 464* (LBC), *Fernando 498* (Holotype K; Isotype LBC), *Fernando 562* (BH, K, LBC), *Hernaez 3585, 3587* (CAHP), *Pancho & Hernaez 3453* (CAHP), *Reyes & Pancho 1059* (CAHP); Camarines Sur Prov., Lupe, *Pancho 2489* (CAHP).

This species is closely related to *P. copelandii* in the distichously arranged fruits along the rachilla but is easily distinguished

by its prominently beaked, oblong-ellipsoidal fruits with the epicarp drying smooth and rather crustaceous. The inflorescence bears rarely more than 8 deflexed rachillae.

P. bicolorana together with *P. maculata* and *P. copelandii* belong to a distinct group within *Pinanga* in bearing united sepals in their pistillate flowers. Within that group they form an unusual subgroup in having broad, pluricostulate leaflets which are ashy-grey on the undersurface and with deeply incised tips.

All the four species of *Pinanga* discussed above are excellent ornamental palms, especially at the juvenile stage (e.g., as pot plants) when the mottling of the leaves is most prominent. In *P. maculata*, *P. copelandii* and *P. bicolorana* the first seedling leaves are generally much larger and with broader spots than in *P. curranii*. It is, however, in *P. maculata* where the variegation is most striking and in most cases continues until fruiting stage.

Seeds of *P. maculata* and *P. copelandii* may have been distributed through the Palm Society Seed Bank, but names provided should be treated with caution. Precise identification of the plants is only possible when they start to flower and bear fruits.

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LITERATURE CITED

- BACKER, C. A. 1936. Verklarend Wordenboek. Visser and Co., Batavia. 664 pp.
- BECCARI, O. 1904. Palmae. In: J. Perkins (ed.). Fragmenta Flora Philippinae. Fasc. I. pp. 45-48. Gebrüder Borntraeger, Leipzig.
- . 1905. Le palme delle Isole Filippine. Webbia 1: 315-359.
- . 1919. The palms of the Philippine Islands. Philipp. J. Sci. (Bot.) 14: 295-359.
- BURRET, M. 1936. Palmae gerontogaeae, V. Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13: 185-200.
- DRANSFIELD, J. 1974. Variegated Pinangas. Principes 18: 22-24.
- . 1980. Systematic notes on *Pinanga* in Borneo. Kew Bull. 34: 769-788.
- FURTADO, C. X. 1934. Palmae Malesicae, XXII. Feddes Rep. 35: 273-283.
- LEMAIRE, C. 1863a. *Phalaenopsis schilleriana* Reichb.f. Illus. Hort. 10: text, pl. 348.
- . 1863b. *Pinanga maculata* Porte. Illus. Hort. 10: pl. 361.
- . 1866. Miscellanées, Necrologie: M. Porte. Illus. Hort. 13: text, pl. 483.
- MERRILL, E. D. 1922. An enumeration of Philippine flowering plants. Vol. 1. Bu. Printing, Manila.
- MOORE, H. E. JR. 1973. The major groups of palms and their distribution. Gentes Herb. 11: 27-140.
- RIDLEY, H. N. 1907. Materials for a Flora of the Malayan Peninsula. Vol. 2. Methodist Publ. House, Singapore.
- STEENIS-KRUSEMAN, M. J. VAN. 1950. Malaysian plant collectors and collections: cyclopaedia of botanical exploration in Malaysia. Flora Malesiana, Vol. 1, Ser. 1.
- WRIGHT, C. H. 1905. *Pinanga maculata*. Curtis' Bot. Mag. t. 8011.