

A new species of *Heterospathe* (Palmae) from New Britain

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During an expedition in 1989 to the mountains of central New Britain (Papua New Guinea), several specimens were collected of a species of *Heterospathe* that has proven to be new. The occurrence of an endemic species of this genus in New Britain follows a pattern found in several other palm genera, in which the species found in the Bismarck Archipelago (New Britain, New Ireland, etc.) are distinct from those in both New Guinea and the Solomon Islands. A name is provided for the species in order to facilitate completion of an inventory of the palms of New Britain. A revision of *Heterospathe* is underway at the University of South Florida.

***Heterospathe parviflora* Essig. sp. nov.**

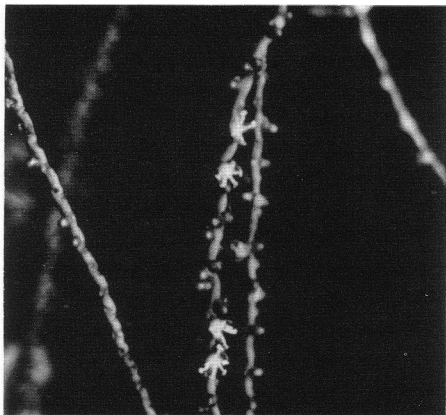
Palma mediocris, solitaria, floribus minutis, staminatis 2.5 mm longis, staminibus 6, pistillodio columnari, fructu globoso, reliquiis styli apicalibus. Typus: Papua New Guinea, West New Britain Province, Essig & Katik LAE 64060 (Holotypus USF; Isotypi LAE, BH).

Solitary palm to 7 m; stem d.b.h. 10-15 cm. Leaf to 3 m long, with ca. 33 regularly arranged pinnae per side; leaf sheath ca. 25 cm long, brown-lepidote submarginally, with the margin briefly fibrous; petiole short, ca. 20 cm; middle pinnae to ca. 70 cm × 5.5 cm, with apices acute and minutely notched, and with small ramenta on main ribs near the base abaxially. Inflorescences interfoliar, with 2-3 orders of branching; peduncle ca. 80-90 cm long, thickly brown-lepidote in the lower

part, the scales gradually becoming thinner distally; entire prophyll not seen, peduncular bract 140 cm long, lightly brown lepidote externally; lowest branch with peduncle 21 cm long, and with 5 branches, the lower two again branched into 2-3 rachillae; rachillae 20-39 cm long, 1.8 mm wide at base when dry, to ca. 1 mm wide near tip, reddish gray-green when fresh, axes minutely and sparsely red-brown lepidote; triads/diads to ca. 110 per rachilla. Flowers reddish-brown when fresh; staminate flowers ca. 2.5 mm long before opening, sepals ca. 1.1 mm high, broadly imbricate, petals ca. 2.2 mm long, valvate, stamens 6, filaments white, about the same length as the petals, anthers yellow, ca. 1.3 mm long, versatile; pistillode thick, columnar, as long as stamens; pistillate buds ca. 1.5 mm high at staminate anthesis. Fruit globose to subglobose, red, 9-10 mm in diam. when dry, stigmatic residue apical to subapical. Seed readily separating from the dried pericarp, shiny, globose, 8.5-9.5 mm in diam., with endosperm deeply ruminant.

Distribution: PAPUA NEW GUINEA. Island of New Britain, scattered in forest throughout the central mountains at low to middle elevations.

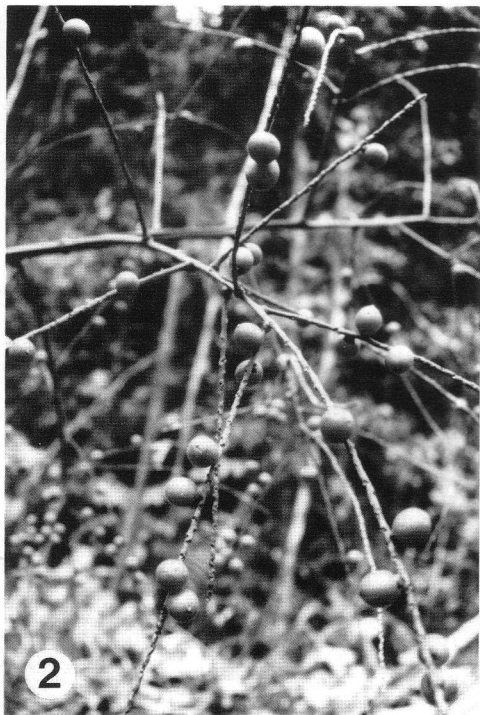
Specimens Examined: PAPUA NEW GUINEA. West New Britain Province: Mountains south of Hoskins, Kapiura Timber Area, near village of Sampantabil, alt. ca. 700 m, *Essig & Katik LAE 64060* (Holotype, USF, Isotypes K, LAE, BH), *LAE 64018, 64064* (USF, LAE, BH); Kandrian Subprovince, upland logging



1. The tiny flowers of *Heterospathe parviflora* are only 5 mm across when fully expanded. The six white stamens contrast with the dull red petals.

area, Fulleborn Harbor, alt. 450 m, *Clunie & Whitmore LAE 63066* (BH, LAE). East New Britain Province: Pomio Subprovince, lower slopes of Mt. Lululua, alt. 1,495 m, *Stevens & Lelean LAE 58272* (BH, BRI, L, LAE).

The combination of very small flowers, with the staminate having six stamens and columnar pistillode (Fig. 1), sparsely scaly inflorescence axes, globose fruits (Fig. 2), and relatively broad pinnae (Fig. 3) distinguishes *Heterospathe parviflora* from other species in both Papua New Guinea and the Solomon Islands. The New Guinea species that have six stamens and an elongate, columnar pistillode (*Heterospathe sensu strictu*—cf. Moore 1969), are all



2. The globose red fruits of *Heterospathe parviflora* are usually borne rather sparsely, despite the numerous flower scars on the rachillae. 3. One of my guides from Sampantabil holds the large leaf and an infructescence of *Heterospathe parviflora*. The pinnae are broader than they are in related (those with six stamens) arborescent species.

either acaulescent, have elongate fruit, or have densely lepidote inflorescence axes. *H. pulchra* H. E. Moore, from Fergusson Island, has glabrous inflorescence axes and globose fruits, but the stigmatic residue of the fruit is markedly excentric and the staminate flowers have short, trifold pistilodes (Moore 1969).

All seven species known from the Solomon Islands appear also to belong in the 6-stamen group, although several are known only from fragmentary material. Most have markedly elongate rather than spherical fruit, and the pinnae are narrower, the broadest not measuring more than 2.2 cm wide, as far as is known. *H. salomonensis* Burret has globose fruit, but the species appears to be a more diminutive palm, and the fruit is only 6 mm in diameter.

Heterospathe woodfordiana Beccari, from Santa Isabel and San Jorge Islands has only slightly elongate fruit, and minutely scaly inflorescence axes, with flowers (mature?) 2.5 mm long, but the

number of stamens was not reported and vegetative parts were lacking when Beccari described this species. It is thus potentially as closely related to *H. parviflora* as any known species, but much more needs to be known about it.

A systematic study of *Heterospathe* has been undertaken by a graduate student at the University of South Florida. It can be expected that a better understanding of the relationships among the various species will emerge from that study.

Acknowledgments

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LITERATURE CITED

- MOORE, H. E., JR. 1969. New palms from the Pacific, III. *Principes* 13(3): 99-108.

Corrigendum

Readers of D. H. Romney's article on coconut palm fertilization (*Principes* 35: 161-164) should be aware of some errors in the 1981 fact sheet by Donselman that he cites. The scorched new leaf symptoms that often occur after cold weather or on alkaline soils are not caused by boron deficiency. Research has shown that it is actually caused by manganese deficiency and that boron deficiency, which has similar symptoms, is rarely a problem in south Florida landscapes. Recent studies of potassium deficiency in south Florida (*Principes* 34: 151-155) also update information contained in this fact sheet. Because of rapid changes in the field of palm nutrition, the University of Florida published a completely new "Palm Nutrition Guide," by T. K. Broschat and A. W. Meerow in 1990 (Fla. Coop. Ext. Serv. Circ. SS-ORH-02) which supersedes Donselman's 1981 fact sheet.

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