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Taxonomic Notes on Some Malayan Palms

T. C. WHITMORE

Forest Research Institute, Kepong, Malaysia

Palm taxonomy is bedevilled by the small and frequently inadequate fragments gathered by the early collectors, their poor descriptive notes, and the fact that the specimens are now often scattered amongst several herbaria. Malayan palm taxonomy is no exception. Prior to publication of a semi-popular account of the palms of this richly endowed peninsula (Whitmore, *Palms of Malaya*, Oxford University Press, Kuala Lumpur, *in press*), I have had to give some consideration to taxonomy, mainly in the subfamily Arecoideae which Furtado's otherwise extensive researches into Malayan palms have scarcely touched. I have been able to resolve some problems, greatly helped by the background of study in the forest, but others still remain unresolved. It is my experience in Malaya that progress in this family of princes comes after extensive full collection and observation, not least to learn the range of variation within species; I have discovered it to be a myth that palms are difficult to collect. Eventually one can hope to fit the old fragments into a firmly forest-based outline, but progress seldom comes from herbarium study alone.

I am grateful to the Directors of the Calcutta, Kew, and Singapore herbaria for permission to examine material under their care. The abbreviations CAL, K, and SING respectively are used in citations of specimens which follow.

ARENCA

Moore's arguments (*Principes* 7: 102-117, 1960) for reducing *Didymosperma* to *Arenga* are convincing. There is a lot yet to be learned about these palms in the forests where they grow, and little progress will be made until more collections and careful observations are available. Moore demurred from transferring the two Malayan species to *Arenga* because he was not sure how they differ from *Arenga caudata* (Loureiro) H. Wendland et Drude. I have no difficulty in telling the two species apart in the forest, and am sure two taxa must be recognized. Like Moore, I have had no opportunity to study *Arenga caudata* fully; I could find no good material at Kew or Singapore. In the circumstances, and in the hope it will stimulate forest botanists to collect these dainty palmunculi, I propose the following new combinations, although I realise one of these

taxa may eventually be shown to be *A. caudata*.

Arenga hastata (Beccari) Whitmore, *comb. nov.*

Didymosperma hastatum Beccari, *Malesia* 3: 99. 1886 ('*hastata*').

Type: *F. Kehding s.n.* ('*Kehding*').

Arenga Hookeriana (Beccari) Whitmore, *comb. nov.*

Didymosperma Hookerianum Beccari, *Malesia* 3: 186. 1889 ('*Hookeriana*').

Lectotype:¹ *Scortechini 136b, 229b*; *King's Collector 2446*.

IGUANURA

I have discovered that *Iguanura* in Malaya contains several polymorphic species. I do not fully comprehend the variation within these complexes; several species have been described within each. I hesitate formally to make reductions, for further observation may show the segregates to be justifiable. Some annotation is essential.

Iguanura polymorpha Beccari, *Malesia* 3: 189. 1889.

Iguanura brevipes J. D. Hooker, *Flora of British India* 6: 416. 1892.

Ridley, in *Materials for a Flora of the Malayan Peninsula* 2: 152, 1907, and

1. Beccari cited three collections when he described *Didymosperma Hookerianum*: *Scortechini 136b* and *229b* and *Dr. King's Collector 2446*. One of these should be chosen as lectotype for the species. In response to a suggestion from Dr. Whitmore, I designate as lectotype that sheet of *Scortechini 229b* in the Beccari Herbarium at Firenze (FI) which bears a staminate specimen and which I photographed under negative 4238 (BH). The remaining sheets of *Scortechini 229b* and *136b* bear specimens in young fruit (negatives 4239-4242) and *King's Collector 2446* is sterile.

Flora of the Malay Peninsula 5: 15, 1925, was wrong, I consider, to reduce the second of these to synonymy. He ignored the fact, which I have checked, recorded in both descriptions and key in the *Flora of British India*, that the inflorescences are amongst the leaves in *I. brevipes* and below in *I. polymorpha*. Apart from this important difference, and the correlated difference that the latter species has a proper crownshaft, the species do indeed look the same. I have examined material at Kew and Singapore and find the two taxa are represented as follows:

Iguanura polymorpha: PERAK, *Ridley 11405* (SING). KELANTAN, *Gwynne Vaughan 560* (K).

Iguanura brevipes: PERAK, *King's Collector 2029* (type, K). KELANTAN, *Nur 12052* (K, SING).

In addition, *Burkill & Haniff 12715* (K) and *Curtis 2078* (SING), both from Maxwell's Hill, Perak, and *Ridley 8903* (SING) from Bujong Malacca, Perak, have detached inflorescences and I cannot place them.

I have never found palms of a species to vary in presence or absence of a crownshaft, which reflects an important difference in apical organisation, and I consider this character represents a real specific difference. It is odd that both species are known from Kelantan and Perak only, but perhaps this points to no more than paucity of collecting from the high mountains of Kedah and Perlis.

If a broad view is taken of *I. polymorpha*, it includes *I. ferruginea* Ridley and possibly also *I. corniculata* Beccari and *I. arakudensis* Furtado. More observations and collections of this whole group are needed before reductions can be made. If these satellites are included, *I. polymorpha* is a commoner species than *I. brevipes*.

PINANGA

In *Pinanga*, which has about 25 species in Malaya, I feel in a few cases confident in making reductions, and these are formally proposed here. As in *Iguanura*, however, I have in several instances referred a species to its apparent relative without making a reduction to synonymy, as the evidence is still inadequate to be quite sure of the situation. The species I have left alone are mainly based on little material and are very similar in almost all respects, differing in one of the characters which I have come to consider important. One's first reaction is to consider such material atypical and reduce the species based thereon. Thus, *P. acaulis* is very similar to *P. polymorpha* (see below) except in fruit shape, but I dare not reduce it without developmental study of the fruit of the latter.

Pinanga pectinata Beccari in J. D. Hooker, *Flora of British India* 6: 410. 1892.

Type: *King's Collector 4393* (K), from Gopeng.

Pinanga singaporensis Ridley, *Journal of the Royal Asiatic Society, Straits Branch* 41: 38. 1903, *syn. nov.*

Type: *Ridley 11267* (K, SING), from Singapore.

Pinanga riparia Ridley, *op. cit.* 44: 201. 1905, *syn. nov.*

Type: *Ridley 11518* (K, SING).

The type sheets of these three species are virtually identical and I have no hesitation in making the reductions following study of them and abundant other material at Singapore, some of which is duplicated at Kew.

There are two points of confusion. Beccari misquotes the collector's notes and instead of 'Gopeng 500-800 ft' puts

'Goping 5800 ft' thereby implying that *P. pectinata* is a species of the upper montane forest. Secondly, Ridley does not cite a type for *P. riparia* but in *Materials for a Flora of the Malayan Peninsula* 2: 143, 1907, he names the collection I quote here as the type.

Martelli, in *Nuovo Giornale Botanico Italiano* 42: 71, 1935, published Beccari's reduction of *P. riparia* as *Pinanga patula* Blume var. *riparia* (Ridley) Beccari. I can find no other reference to this, and as I expound in my book, I consider *P. patula* to be distinct from *P. pectinata* although it can be confused at first glance.

Pinanga perakensis Beccari, *Malesia* 3: 175. 1889.

Type: *Scortechini s.n.*, Perak, 1200-1500 m.; also cited, *Wray s.n.*, Maxwell's Hill.

Pinanga densifolia Ridley, *Journal of the Federated Malay States Museum* 4: 85. 1911, *syn. nov.*

Type: *Ridley s.n.*, Pahang Telom.

I have studied *Wray 713* (K) which is apparently from the cited collection of *P. perakensis*, and *Ridley 13917* (K, Sing), which is, by deduction, the type of *P. densifolia* as well as the abundant other material at Singapore, partly duplicated at Kew.

These are both pinangs of the mountain forests quite distinct from any other in Malaya, and from the descriptions and material, I am confident that there is only one species. *Wray 713* has most of the leaflets 15 mm. broad with 2 main nerves, whereas *P. perakensis* characteristically has the leaflets 7 mm. wide with a central main nerve and two lesser marginal ones, but this is not always the case, and a few leaflets of *Wray 713* are similar. The type of *P. perakensis* is not at Calcutta, Kew or Singapore.

Telom is actually, Ridley tells us, the Ulu S. Bertang², in the Main Range on the Perak border.

Pinanga densiflora Beccari (*Malesia* 3: 116, 1886) from Sumatra is a quite different species; with close spiralling flowers on stoutish (yet divaricate) spikes, it is not to be confused with *P. densifolia*.

Pinanga polymorpha Beccari, *Malesia* 3: 173. 1889.

Type: *Scortechini 345a*, Perak.

Pinanga Brewsteriana Ridley, *Journal of the Federated Malay States Museums* 6: 188. 1915, *syn. nov.*

No collection cited: G. Tahan '... occurring on the Padang ... to nearly 6000 ft. elevation.' See below.

Pinanga glaucescens Ridley, *Flora of the Malay Peninsula* 5: 6. 1925, *syn. nov.*

Type: *Ridley*, Negri Sembilan Bt. Tangga at 2400 ft.

Pinanga robusta Beccari in J. D. Hooker, *Flora of British India* 6: 408. 1892.

Type: *King's Collector 7372*, top of G. Bubu 3-5300 ft; synonym published already by Martelli, *Nuovo Giornale Botanico Italiano* 42: 71, 1935.

Pinanga polymorpha is a very common undergrowth palm of mountain forests. It is aptly named as the leaves are very variable from entire to divided. This palm is rather constant in its gregarious, soboliferous habit, often with small lateral shoots from the nodes, in the stout, few-branched inflorescences with striate axes, at first enclosed in the leaf sheaths, and in the infructescences

with red axis and green fruits ripening black. The distinction against *P. Wrayi* Furtado (*Repertorium Specierum Novarum* 35: 275, 1934) needs study in the forest; there is close similarity in the herbarium with slender forms of *P. polymorpha*. I note also that *P. acaulis* Ridley (*Journal of the Royal Asiatic Society, Straits Branch* 44: 202, 1905) also looks very like *P. polymorpha* but has big fusiform fruits 25 mm. long × 4 mm. in diameter on a similar spike, which arises from the sessile rosette; all the material of this species is at Singapore (type: *Machado s.n.*, 18.7.04, Kamuning Woods, S. Siput, Perak; *Haniff & Nur SFN 6986*; a painting by Chas. de Alwis, 16.9.04; plus, possibly, *SFN 33071b*, sterile).

My reasons for the synonymy proposed are as follows, based on examination of all the material at Calcutta, Kepong, Kew, and Singapore.

Pinanga polymorpha: type not at Calcutta, Kew or Singapore, but I have seen at Kew *Ridley 12122*, cited in Ridley, *Materials for a Flora of the Malayan Peninsula* 2: 139, 1907, and annotated by Beccari "var. *simplicibus foliis*"; Mr. J. Dransfield has examined the type material at Florence for me and notes that *345a, b, c*, all look the same and slightly different from *345d* annotated by H. E. Moore as *P. Wrayi* (see above). There is an abundance of more recent collections, including many by myself at Kepong.

Pinanga Brewsteriana: the only material is at Singapore. Furtado has annotated *Ridley 16041* as the type. Subsequent expeditions to Tahan have added *Holtum SFN 20714*, *Haniff & Nur SFN 7921*. The Tahan population apparently does not develop the tall trunk found in other stations, but the padang³ of G.

2. *Ulu* (Malay) = headwaters; *S. = sungei* = river.

3. *Padang* (Malay) = an open place, in this case a low stunted heath forest.

Tahan is a very high bleak place and this is therefore not surprising.

Pinanga glaucescens is represented by a wealth of old material at Singapore, but only a few inter-war SFN numbers at Kew. The only sheet which comes from the type locality is *Napier s.n.*, 1903, no altitude stated, at Singapore.

Pinanga robusta: I have seen the type at Calcutta, and there are other old sheets at Singapore.

DOUBTFUL RECORDS OF PINANGA

Pinanga calamifrons Beccari, Malesia 3: 132. 1886 (Borneo).

Ridley cites one of his collections (no number, no date) from the Kedah Peak in *Materials for a Flora of the Malayan Peninsula* 2: 141, 1907, and *Flora of the Malay Peninsula* 5: 9, 1925. I could not find this sheet at Calcutta, Kew, or Singapore.

Pinanga canina Beccari, Malesia 3: 135. 1886 (Borneo).

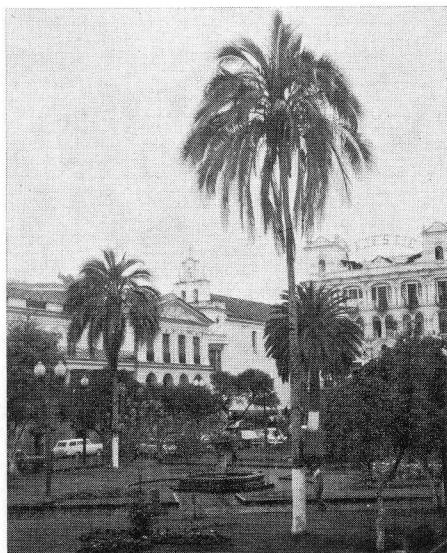
The only Malayan record is *Ridley 7027*, Prov. Wellesley Ara Kudah (*Ridley loc. cit.* above under *P. calamifrons*) and I could not find this sheet either at Calcutta, Kew, or Singapore.

PALM BRIEFS

Parajubaea cocoides

Earlier in this volume (p. 50), Professor Cárdenas wrote about *Parajubaea Torallyi* (Martius) Burret which grows at high altitudes in Bolivia. I had an opportunity recently* to see the type-species of the genus, *Parajubaea cocoides* Burret, growing in Quito, Ecuador, late in September. The accompanying photograph of two plants cultivated on the Plaza de la Independencia (with *Phoenix canariensis* in the right rear) does not do them justice but will permit comparison with the Bolivian species figured earlier.

Parajubaea cocoides was originally described from material collected from plants cultivated at Ibarra, Ecuador, but it is commonly seen in and near Quito and is reported to occur wild in the vicinity of Papallacta east of Quito. A handsome planting of these palms may be seen along the road leading from the



airport to the city of Quito and another at the Parque Bolívar.

Growing at high elevations as it does, *Parajubaea cocoides* may prove a palm that can be grown to maturity in southern California where it may already be established.

HAROLD E. MOORE, JR.

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