Notes on the Systematy of Malayan Phanerogams XI - XVII*

from
FOREST RESEARCH INSTITUTE, KEPONG, MALAYA

Abstract

_Xylopi a malayana_ var. _obscura_ is a new variety.

The genus _Tabernaemontana_ s.l. is preferred to its segregates.

New synonyms are proposed in _Leptopus australis_, _Glochidion brunnneum_,
_G. penangense_, _G. wallichianum_, _G. zeylanicum_ var. _malayanum_, _Baccaurea motleyana_, _Blumeodendron tokbrai_, _B. borneense_ and _Suregada multiflora_.

_Glochidion trilobum_ is a mixtum compositum. Three species are reduced to
varieties:—_Austrobutux nitidus_ var. _montanus_, _Agrostistachys longifolia_ var._ leptostachya_ and _Trigonostemon verticillatus_ var. _salicifolius_. _Endospermum diadenum_ (formerly _malaccense_) has peltate leaves in youth. _Alchornea tiliifolia_ is annotated.

_Scaphocalyx parviflora_ is reduced to _S. spathacea_, making the genus monotypic.

_Burkilliodendron_ was published 8 months earlier than _Alloburkillia_ as a new
name for _Burkillia_ Ridley.

_Glycosmis calcicola_ and var. _kelantanica_ are new from limestone.

_Pentace excelsa_, _P. grandiflora_ and _Schoutenia furfuracea_ are new _Tiliaceaefrom the east coast._

XI. Annonaceae (b)

K. M. KOCHUMMEN

_Xylopi a malayana_ Hk. f. et. Thoms. var. _obscura_ Kochummen var. nov.

A varietas typica in foliis apice latiore breviore, subter nervis lateralis et
reticulis obscuris differt.

TRENGGANU: Ulu Brang _FRI 12594_ (holotype of var. KEP!; A, K, L,
SING).

PAHANG: Raub _KEP 20309._

JOHORE: Rengam F. R. _FRI 2188_; G. Arong F. R. _FRI 2761_.

XII. Tabernaemontana (sens. lat.), Apocynaceae

T. C. WHITMORE

_Tabernaemontana_ L. in the broad sense and not its segregates _Ervatamia_ (DC.)
_Staff_ and _Pagiantha_ Mgif.

I agree with these authors that there are species in the East, including Malaya, which transgress the differences between the segregate genera some of which are weak. There is also an important practical obstacle to the recognition of the segregates, that without careful re-examination of type material it is not clear to which segregate genus a species belongs; Markgraf (Notizbl. Berl. Dahlem 12, 1935, 540–52) who favours splitting has not himself seen all the types, few are represented in Singapore, and three species of *Ervatania* (*E. curtisii* King & Gamble, *E. jasminiflora* Ridley and *E. pauciflora* Ridley) are not represented at all.

Malesian *Tabernaemontana* is clearly in need of revision and for the *Tree Flora of Malaya* only the trees can be satisfactorily described.

**XIII. Euphorbiaceae**

T. C. Whitmore

Minor adjustments to taxonomy which need no commentary appear in the text of the account in vol. 2 of *Tree Flora of Malaya*. More substantial changes and those needing discussion are made below. Other changes have been made by Airy Shaw and will appear in the series Notes on Malesian and other Asiatic Euphorbiaceae in the Kew Bulletin. The genera are in the sequence of the Pflanzenreich monograph.

**Leptopus**


*L. hirta* (Ridley) Projakrkova loc. cit. 271 syn. nov.

*L. calcarea* (Ridley) Projakrkova loc. cit. 271 syn. nov.

*Andrachne hirta* Ridley Kew Bull. 1923, 361 (type Ridley 14883 ! K. ! SING)

*Andrachne calcarea* Ridley loc. cit. 362. (syntypes Ridley 8203, Robinson 6201, Annandale 1835 ! K.)

This genus has been known in Malaya as *Andrachne*. I am unable to distinguish Ridley’s two species. The type of *L. (A.) hirta* is indeed very hairy (as the epithet implies) on leaf and twig but this condition merges via a long series of collections into the glabrous condition of *L. australis*. *L. (A.) hirta* is also a small-leaved form; this is of no taxonomic significance. *L. (A.) calcarea* has the leaves rather blunter at base and apex but I can see no sharp distinction against *L. australis*. I therefore formally propose the reduction of these optimistically proposed entities. Gage in J. & Proc. As. Soc. Beng. 75 (1936) 522–3 cited all the collections under *Andrachne fruticosa* Decne. (non Linn.) which is *L. australis* and Henderson (J. Mal. Br. Roy. As. Soc. 17, 1939, 68–9) doubted if Ridley’s species could be maintained.

**Glochidion**

Too many species have been based on too few collections. The following rationalisations are possible.


*G. goniocarpum* Hk. f. loc. cit. *syn. nov.*, type King’s Collector, Singapore (! SING).


These two rare species both known from single collections come well within the range of variation of the commoner *G. brunnenum*. 
G. villicaule Hk. f. Fl. Brit. Ind. 5 (1887) 326 syn. nov., syatypes Griffith (K.D.) 4842, Scortechini, Perak (1 K).
G. coronatum Hk. f. loc. cit. nomen illegit., see Airy Shaw loc. cit., type Wallich 1849 (1 K).

I have compared the Perak syntype of G. villicaule with the type of G. coronatum Hk. f. and can see no difference.

G. trilobum Ridley Kew Bull. (1923) 364.

This is a mixtum compositum. The two syatypes on which the species is based are correctly placed as follows:
Ridley 8440, Singapore Garden, is G. microbotrys Hk. f., differing only from typical material of the latter in its densely pubescent fruits, which however is a condition approached by some of the many sheets of G. microbotrys at K. Burkill SFN 7004, Negri Sembilan, Tampin, is typical G. wallichianum M.A.

Baccarea


B. pubescens is known solely from Wawra 297a, Singapore. No one has ever found it since and the collection, at Berlin, is now burned. The description could well be of B. motleyana, as Ridley (Flora 3, 1924, 251) points out, which is a species found in cultivation throughout the Peninsula and offshore islands. I agree with Ridley and go one step further in reducing B. pubescens to synonomy. That Pax and Hoffmann put it in section Calyptroon, not Pierardia, is of no consequence, for the sections differ in the bracts of the male inflorescence and Wawra 297a was from a female tree.

Austrobutus

Two species of Austrobutus have been recognized in Malaya where they have been called Longetia. L. malayana (Benth.) P. & H. is a widespread species of the lowlands. L. montana Ridley was described from 3300 ft. on G. Tahan; it differs in having smaller, retuse, very leathery leaves and in its typical form is highly distinctive; I extend its range to G. Benom and G. Ulu Kachau, also in Pahang, and observe that on G. Jerai (Kedah), at 4000 ft., on G. Padang (Trengganu) and at 3400 ft. in the Ulu Nenggiri (Kelantan) L. malayana grows, so L. montana does not replace the other in the mountains. Moreover KEP 15085 from near the sea at Baloh F.R. Pahang approaches L. montana in leaf.

Austrobutus is an earlier name than Longetia and a move to conserve the latter failed. L. malayana now becomes A. nitida Miq. For the first time I transfer L. montana to Austrobutus, but because it differs solely in leaf characters which are to some extent overlapping I consider it to be merely a variety; a few specimens cannot clearly be placed in one taxon or the other.

Austrobutus nitidus Miq. var. montanus (Ridley) Whitmore stat. nov.
Synonym — Longetia montana (Ridley) P. & H. in Pflanzenreich XV (1922) 291.
**Agrostistachys**


*A. longifolia* var. *latifolia* Hk. f. loc. cit.


*A. sessilifolia* (Kurz) P. & H. Pflanzenreich IV 147 VI (1912) 100.

*A. latifolia* (Hk. f.) P. & H. loc. cit.

The full synonymy is given in the Planzenreich account. Hooker recognized two varieties and these were later raised to species by Pax & Hoffmann. The abundant Malayan material now to hand at Kepong and Singapore shows that there is a continuous range of variation, which also includes the Indian material at Kew including the type of *A. longifolia*.

*A. longifolia* var. *leptostachya* (P. & H.) Whitmore stat. nov.

*A. leptostachya* Pax & Hoffmann loc. cit. 102 syn. nov.

This is a very distinctive form with short filiform spikes, which tend to be in cauline tufts, these features being more marked on male trees. All intermediates to typical *A. longifolia* with long, stout, solitary, axillary spikes exist. I therefore reduce *A. leptostachya* but retain it as a variety to draw attention to the polymorphism of the species, which my forest observations indicate might correlate with geographical distribution, and tree construction. KEP 94699 is almost exactly intermediate.

*A. leptostachya* was described from Sarawak and is well represented at Kew. Typical collections are:

MALAYA, PERAK: FRI 625, 647, 671.

PAHANG: SFN 28763, FRI 4734, 4907, Wong & Wyatt-Smith 35, KEP 8955.

KEDAH: KEP 4641.

Locality unknown: KEP 98304.

**Trigonostemon**

*Trigonostemon verticillatus* (Jack) Pax var. *salicifolius* (Ridley) Whitmore stat. nov.


Ridley's species seems to be no more than a central Selangor form of *T. verticillatus* with leaves oblong (as opposed to elliptic) and often small, for we now have collections from Kanching, Bt. Lagong and Ulu Gombak as well as Batu Caves. It is interesting that two collections from the hills of Lower Perak have oblong (but big) leaves. Varietal status keeps this form in view, and a biosystematist might find it interesting to investigate it more closely, especially in view of its disjunct distribution. It grows on hills once lapped by the Pleistocene sea.

SELANGOR Batu Caves: Ridley s.n. (type) Bt. Lagong: Poore 1062 (K); Kanching: KEP 21238 (KEP) Ulu Gombak: KEP 18167 (KEP, K), Hume 9015 (SING) PERAK Scortechini 702 (K) (locality?); Briah Larut: Wray 4204 (K, SING); Telok Kopia F.R. FRI 3112 (KEP).
Alchornea

Alchornea tilifolia (Benth.) M.A.

I reject Evans s.n. Aug 1917 Pahang, Labong, Endau but add Kunstler 166, mounted at Kew with Scortechini (received 1888), which is A. villosa. Thus the species is still known from one collection only. The label of the Kunstler sheet has no locality and merely says Flora of the Malay Archipelago, but is probably one of his first collections from Johore, G. Panti.

Blumeodendron

Blumeodendron tokbrai (Bl.) J. J. Smith Meded. Dept. Landbouw. 10 (1910) 12, 460.

B. vernicosum (Hk. f.) Gage Rec. Bot. Svy. Ind. 9 (1922) 244 syn. nov.

B. tokbrai is a widespread polymorphic species, first recorded for Malaya by Henderson (Gdns’ Bull. Str. Settl. 7, 1933, 124) into which merges B. vernicosum. I can find no disjunctions in habitat or morphology amongst the abundant material at Kepong to justify retaining two species.

B. borneense Pax & Hoffmann in Engler Pflanzenreich IV 147 XIV (1919) 14.
B. concolor Gage Rec. Bot. Svy. Ind. 9 (1922) 244 syn. nov.

The latter is known in Malaya from only two collections, Curtis 1368 Pangkor (type !K) and Haniff 15472 Langkawi (!SING, !K). It differs from the type of B. borneense (Beccari 2976 !K) in its slightly larger, more ovate, more strongly nervled leaves, but this is well within the range of B. borneense now abundantly represented at Kew from northern Borneo.

Endospermum

E. malaccense M.A. Flora 47 (1864) 469.

I am able amply to confirm Airy Shaw’s suspicions that Melanolepis diadena Miq. Fl. Ind. Bat. Suppl. (Fl. Sum.) (1865) 455 is indeed none other than “an extreme, perhaps juvenile, form of E. malaccense”, which has spreading straight hairs and no stellate hairs. The confirmation is based on four pieces of evidence:

(1) the, by now numerous, collections made by the Kepong staff of young E. malaccense.

(2) the rich collection at SING of juvenile E. malaccense made by Corner, and which Airy Shaw did not see and K has not got in duplicate.

(3) the thorough analysis by Corner in Gdns’ Bull. Str. Settl. 10 (1939) 296 of variation with age of leaf hairiness, an analysis apparently not known to Airy Shaw when he wrote.

(4) two of the three Malayan collections of E. diadenum cited by Shaw are indeed from juveniles.

There is therefore no alternative but to rename the common well known sesendok of Malaya, and use a new name based on a single unattached leaf, a sterile specimen from a juvenile plant. The rigid application of the rule of priority in this case is distressing and in the account of Euphorbiaceae for the
Tree Flora I have no compunction in recommending Malayan foresters to continue to use the epithet well known for over half a century. My justification for this course is set out in full in the Prologue to the Tree Flora, vol. 1.

Over the years collections of *Endospernum* from the Peninsula with peltate leaves have accumulated. Corner stated that juvenile plants of *E. malaccense* never have peltate leaves and referred these collections to *E. moluccanum* Becc., an east Malayan species, from which they differ in not possessing hollow ant-inhabited twigs. None of these peltate-leaved collections is fertile, all are from saplings or poles or small to medium trees to 70 ft tall. I consider them merely a juvenile stage of *E. malaccense*. *FRI* 770 from Slim Hills Perak, 50 ft tall, 2 ft girth, seems to clinch this conclusion, it too is sterile and possesses leaves strongly peltate, weakly peltate and apeltate. Forest observations show that *E. malaccense* usually but not always has peltate leaves in youth. At Kepong we have two seedling collections (FRI 29, 1005) and two collections of 20 ft saplings (FRI 1, 11, 4787) which are not peltate and FRI 336, 560, 768, 864, 2212, KEP 98546, 115652 which are strongly peltate.

In conclusion, there is no evidence that *E. moluccanum* or the peltate Borneo species *E. peltatum* Merr. occur in Malaya. Our material can most simply be accounted as juvenile *E. malaccense*.

Suregada

I am unable to detect any consistent differences between the four species referred to this genus (as *Geloniun*) by Ridley (Flora 3, 1924, 310–2).

In the first place, *Geloniun tenuifolium* Ridley must be reduced.

In the second place, the widespread continental species *G. multiflorum* Juss. merges into *G. glomerulatum* Hassk. of the Malayan archipelago here in Malaya where the ranges overlap.

In the third place, Corner (Gdns’ Bull. Str. Settl. 10, 1939, 299) found *G. bifarium* Roxb. impossible to recognize in the Peninsula, and I agree.

I refer all collections made in Malaya to *S. multiflora* (Juss.) Baill., the earliest published species, but without study of types and material from the whole range of the complex can make no formal decision except:

**Suregada multiflora** (A. Juss.) Baill. Ét. Gén. Euphorb. (1858) 396.


In addition to the above, *S. angustifolia* (Miq.) Airy Shaw has once been collected in Malaya. It is quite distinct.

**XIV. Flacourtiaceae**

**T. C. WHITMORE**

**Scaphocalyx**

**Scaphocalyx spathacea** Ridley J. Bot. 58 (1920) 149.

*S. parviflora* Ridley loc. cit. syn. nov.

Most of the flowers at Kepong herbarium have been eaten by insects, but KEP 99478 from the Bt. Lagong population retains a few buds; some are 3 mm long on 4 mm pedicels, on another cluster they are 23 mm long on 15 mm pedicels; the collection thus spans both Ridley’s species and demonstrates that the flower size difference is accounted for by the different stages of development of the flowers when collected.
XV. Leguminosae (c)

T. C. WHITMORE


Burkillia Ridley Fl. Mal. Pen. 5 (1925) 304, non Burkillia West & West (1907).


Burkilliodendron album (Ridley) Sastry loc. cit.

Burkillia alba Ridley loc. cit.

Alloburkillia album (Ridley) Whitmore loc. cit. syn. nov.

Sastry's new name for Ridley's genus was published on 3 Jan. 1969, my own on 9 Aug. 1969. Ridley describes the plant as a shrub, and the legitimate name is therefore a misnomer.

XVI. Rutaceae

B. C. STONE (University of Malaya)

Glycosmis

Glycosmis calcicola B. C. Stone, sp. nov.

G. parkinsonii var. ovatofoliolis Tanaka, in herb. KEP and SING. ? Ined.

Frutex inermis ad 1–2 m altis, ramis divaricatis, ramulis gracilibus, 1–2 mm crassis, juventute tormentellibus, trichomiis rufidulis 1–3-cellularibus acutis, maturitate rufo-brunneis glabras minutie striatis; folii imparipinnatis, petiolo 9–20 mm longo, minute tormentello glabrescentio; foliolis 1–5, alternatis vel suboppositis, tenuiter coriaceis, ovalis vel obtuse-ellipticis, 1.7–7 cm long. 0.9–4.3 cm lat., apice obtuso, vel plerumque emarginato-retuso, base rotundato vel obtuso, dorso in costa puberulento, costa infra prominulento, supra subdepresso-canaliculato, nervis lateralis utrinque utrinque 4–7, lamina minute glandulososo-punctulato. Inflorescentia rufotentella, axillaris, parvis, cymosis, 3–flori feris, pedunculo perbreve ad 2 mm longo, pedicellis 1 mm longis minute bracteolatis. Calyx 4-lobatus cupuliformis lobis 1.5 mm longis late deltooides rotundato-obtusis. Petala 4 ovata utrinque acuminata alba dorso rufotentella (plerumque in portione medio) et ciliolulata, intus glabra, 3.2 × 1.5 mm. Stamina inaequalia, 4 longiora (filamentis 3 mm longis) petalis equantia, 4 breviora (filamentis 2.5 mm longis); filamentis oblongis complanatis apice abrumpet acuminatis, distaliter (sub anthero) subsparse puberulato; antheris glabris late cordatis 0.7–0.9 mm longis. Gynoecium disco albo albo 2 mm alto; ovario lente quadrangulado obclavato 1.7–1.8 mm longo subspace glandulosum supra medium puberulento; stigma truncato non expanso 0.2–0.25 mm lato; loculis 4; ovulis elongatis solitariis pendulosis. Fructus baccatus parvus ad 1 cm longus ovoideus vel subellipsoides apiculatus, pericarpio tenue, semina plerumque singulo, cotyledonis viridis crassiter plano-convexibus punctatis 6 mm longis, plumulo perminuto albo-pilosulo.

Fig. 1. Glycosmis calcicola Stone (BCS 8789, type); a: habit; b: fruit; c: seed; d: hairs; e: flower, bud and parts; f: ovary.

This species appears to be distinct from most or all others in the genus by its small ovate-emarginate leaflets. It is similar in most floral details to G. parkinsonii Tanaka (of Burma), though the typical variety differs in its glabrous anthers; in addition, the usually more numerous leaflets and the emarginate or retuse leaflet tips and different leaflet shape, seem to confer specific rather than varietal status as concluded by Tanaka. The species apparently is restricted to limestone.

G. calcicola var. kelantanica B. C. Stone, var. nov.

A varietas typica in foliolis plerumque duplo vel triplo magnioribus, petalis latioribus, antheris pilosulis, differt; cetera simillima.


Further specimen examined; Kelantan, Gua Musang, 15 Aug. 70, Stone 9521 (KLU).

According to Tanaka, there is a variety of G. parkinsonii in Sumatra; I have not seen this and thus do not know whether it might belong to G. calcicola.

G. calcicola is not uncommon where it occurs. It is probably to be found on some if not all of the other limestone hills in the country, but many of these have never been botanized or perhaps even climbed.

The specific epithet calcicola indicates the occurrence of this plant exclusively on limestone.

Tanaka, who was apparently in control of much information concerning Glycosmis, published G. parkinsonii Tan. in Studia Citrologica 2: 25, 1928, and in the Journal of Botany (ed. Rendle) 68: 227, 1930. In both the herbaria of Kepong and Singapore a number of sheets of the species described above are named with tickets reading “Glycosmis parkinsonii Tan. var. ovatofoliolis Tanaka” but nowhere can I find any publication of this name. It is not listed in the exhaustive “Catalog of Genera, Species and subordinate taxa in the Orange subfamily Aurantoideae (Rutaceae)” by Carpenter and Reece (Crops Research, Agricultural Research Service, U.S. Dept. of Agriculture ARS 34–106, May 1969). In the Jour. Bot. paper mentioned above, Tanaka says: “A trifoliolate variety occurs in Sumatra, which will be described elsewhere.” However, the Malayan plants are not mentioned. It appears that the variety ovatofoliolis is a nomen nudum appearing only on herbarium labels.
Fig. 2. *Pentace excelsa* Kochummen (FRI 10880).
XVII. Tiliaceae
K. M. Kochummen

Colona


Columbia curtisii Ridley J.R. As. Soc. Str. Br. 57 (1911) 26 syn. nov.

Columbia diptera Ridley ibid. 59 (1911) 78 syn. nov.

Dr. P. S. Ashton in an unpublished manuscript deposited in the Forest Office, Kuching has noted this synonymy with which I concur. He observes that ‘Ridley’s two species are similar to C. merguensis though its type has narrower leaves than usual. When the achene dehiscence adjacent valves from adjacent wings remain attached. Ridley 15221, type of C. diptera, possesses only these united valves, no entire achenes, hence Ridley’s observation that the fruit was ‘2 winged’: this is the only significant difference between it and Curtis 3692 type of C. curtisii’.

Pentace

Pentace excelsa Kochummen sp. nov. Fig. 2

Arbor maxima, 60 m alta, foliis coriacei, ellipticis vel ovato ellipticis, apice acuminato, basi acuto vel rotundato, supra glabra, subtus perdense stellato-lepidotis, nervis lateraliibus 4 — paribus; paniculis minute stellato-pilososo-lepidotis; pedicellis conspicuis; phlanigii staminorum 5, staminodiis in basi abrupte rotundato-ovatis, parte apicale filiforme; ovario dense stellato-lepidoto, 7–8 costato, stylis 7–8 libris, lepidotis; fructibus 7–8 alatis, minutissimae stellato-lepidotis, stylis libris. TRENGGANU: Ulu Sg. Loh FRI 10686, FRI 10853, FRI 12063 (holotype KEP!; K, L), FRI 12131.

PAHANG: Ulu Sg. Kelii FRI 10880; main ridge G. Tapis FRI 10148, FRI 10149.

P. grandiflora Kochummen sp. nov. Fig. 3

Arbor 27 m magna alta, foliis chartaceis, obovatis vel obovato-ellipticis, apice acuminato, basi cuneato, supra glabra, subtus glabra, nervis lateraliibus 3-paribus, petiolis gracilis; paniculis paucifloris floribus magnis petalis 11 mm longis staminibus multitudinis (c. 150) libris, ovario 5-costato; fructibus ignotis.

The few large flowers and numerous free stamens at once distinguish this species.

TRENGGANU: Bt Bauk FRI 3951; Ulu Dungan nr Sg. Bebir (= Ulu Sg. Loh nr K. Datok) FRI 9667, FRI 9675, FRI 9683 (holotype KEP!; K, L, SING), FRI 12013: State land Jerangau KEP 79785.

Schoutenia

Schoutenia furfuracea Kochummen sp. nov. Fig. 4

Arbor, ramulis juvenilibus dense-pilosis, foliis coriaceis oblongis, 16 – 26.5 × 6.5 – 10.5 cm, apice acuminato, basi inaequali rotundato vel cordato, supra glabra, costa basim versus dein piloso excepta, subtus dense-pilosus, nervis depressis, petiolo crasso 4–8 mm longo 3 mm diam; floribus ignotis; calyce in fructu campanulato, stellato-pilosum, interius glabro, disco glabro, staminibus c. 40; fructibus globosis dense-pilosis stylo glabro.


Very distinctive in the red hairy twigs, short stout petioles and large leaves.
Fig. 3. *Pentace grandiflora* Kochummen (fruiting twig FRI 12013  flower FRI 9683, type).
Fig. 4. *Schoutenia furfuracea* Kochummen (FRI 8042, type); inset: fruit with persistent bracts.