

Berrya ameliae (Lundell) Kosterm., *comb. nov.*; basionym: *Carpodiptera ameliae* Lundell in Field and Lab. 6: 13. 1937.

Berrya boivinii (Baillon) Kosterm., *comb. nov.*; basionym: *Carpodiptera boivinii* Baillon, Adansonia 10: 180. 1872.

Berrya cubensis (Gris.) Kosterm., *comb. nov.*; basionym: *Carpodiptera cubensis* Grisebach in Mem. Am. Acad. N.S. 8: 164. 1861.

Berrya floribunda (Urban) Kosterm., *comb. nov.*; basionym: *Carpodiptera floribunda* Urban, Symb. Antill. 5: 412. 1908.

Berrya hexaptera (Urban & Ekm.) Kosterm., *comb. nov.*; basionym: *Carpodiptera hexaptera* Urban & Ekman in Arkiv. Bot. Stockh. 20A (15) : 76. 1926.

Berrya mariarum (Standley) Kosterm., *comb. nov.*; basionym: *Carpodiptera mariarum*, Standley in Publ. Field. Mus. Nat. Hist. Chicago, Bot. Ser. 23: 126. 1944.

Berrya sansibarensis (Burr.) Kosterm., *comb. nov.*; basionym: *Carpodiptera sansibarensis* Burret in Notizbl. bot. Gart. Berlin-Dahlem 9: 607. 1926.

Berrya simonis (Urb.) Kosterm., *comb. nov.*; basionym: *Carpodiptera simonds* Urban, Symb. Antill. 6: 16. 1909.

I suspect that *Tahitia* Burret (l.e. 609), based on *Berrya vescoana* Baillon and created by Burret on the strength of the description of Baillon and a plate of Drake del Castillo, should also be included in *Berrya*; the differences with *Berrya*, as stated by Burret are very small indeed and do not merit to be evaluated as being on the generic level. Without proper material at hand, however, I prefer to defer a final decision.

KAYEA Wall, and MESUA L. (Guttiferae)

A. J. G. H. KOSTERMANS *

Kayea Wallich, Pl. As. rar. 3: 5. 1832 and *Mesua* L., Spec. Pl. 515. 1753 are very closely related.

Bentham and Hooker (Gen. Pl. 1: 176. 1862) distinguished both genera in this way, that *Kayea* has a one-celled ovary with one seed and a 4-fid style, whereas *Mesua* has a 2-celled ovary and 4 ovules, the stigma being peltate.

This distinction has been maintained by other botanists, but Anderson (in Hooker f., Fl. Brit. Ind. 1: 259. 1874) encountered already a difficulty with the species *M. lepidota* Anders., which as he says: "might represent a new genus in between *Kayea* and *Mesua*", bringing the two still closer together.

Some years ago I started to revise *Kayea* and *Mesua* in conjunction with my monograph on *Mammea* L. (including *Ochrocarpus*). Lack of adequate material of several species compelled me to postpone the final revision, until such materials should be available.

Meanwhile it has become clear that the two genera cannot be separated. Collections from living *Mesua ferrea* trees in the Botanic Garden in Bogor, proved that on the same tree of *Mesua ferrea* L. two- and one-celled fruit may be found with one or two seeds.

In other *Kayea* species two-seeded fruit were observed.

The shape of the stigma cannot be used as a generic characteristic as between the peltate one of *Mesua ferrea* (which sometimes is ineised) and the more or less 4-fid ones of *Kayea* there are all gradations.

As in all other respects the two genera are completely alike, I had decided long ago to merge them under *Mesua*.

As I have been pressed to publish the new combinations, which I have written on the herbarium labels in many herbaria, I herewith give a list of the new combinations, in anticipation of the forthcoming monographic revision.

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1. *Mesua acuminatissima* (Merr.) Kosterm., *co-mb. nov.*; *Kayea acuminatissima* Merrill (basionym) in Philip. J. Sci. 30: 84. 1926; typus: *Wood 1831* (coll. Goklin), Brunei (GH, K); synonym: *VaUca imbricata* van Slooten in Bull. Jard. bot. Buitenzorg, Sér. 3, 16: 452, tab. 1940; typus: *Melegrito 2587*, fr. (UC).
2. *Mesua assamica* (King- & Prain) Kosterm., *comb. nov.*; *Kayea assamica* King & Prain (basionym) in Indian Forester 27: 62. 1901 et in Notes and Papers 420. 1901 (reprints); typus: *Barker, Young* (BM, G, K).
3. *Mesua beccariana* (Baill.) Kosterm., *comb. nov.*; *Kayea beccariana* Baillon (basionym), *Adansonia* 11: 369. 1876; typus: *Beccari 3462* (BM, BO, K, P); synonym: *Kayea laevis* Kostermans, New & Crit. Males. Pl. 4: 5, fig. 3. 1955; typus: *HalUer U18* (BO).
4. *Mesua brevipes* (Merr.) Kosterm., *comb. nov.*; *Kayea brevipes* Merrill (basionym) in Philip. J. Sci. 5: 200. 1910; typus: *F.B. 14846, Darling* (K).
5. *Mesua calophylloides* (Ridley) Kosterm., *comb. nov.*; *Kayea calophylloides* Ridley (basionym) in Kew Bull. 1938: 123; typus: *Haviland & Hose 3201* (BO, K), para-typus: *Haviland 2342* (K, SING), *Hose 258* (K); *Haviland & Hose 3678* (K).
6. *Mesua catharinae* (Merr.) Kosterm., *comb. nov.*; *Kayea catharinae* Merrill in Contrib. Arnold Arb. 8: 108, t. 6. 1934; typus: *Bangham 997* (BO, GH, K).
7. *Mesua caudata* (King) Kosterm., *comb. nov.*; *Kayea caudata* King (basionym) in J. As. Soc. Bengal 59(2): 183. 1890; typus: *King 7937* (K).
8. *Mesua clemensorum* Kosterm., *spec. nov.*; *Kayea clemensorum* Gagnepain in Suppl. Fl. Indoch., ed. Humbert 1: 276, tab. 24. 1943 (invalid); typus: *Clemens 3339* (BO, P).
Arbuscula vei arbor parva ramulis pergracilis foliis lanceolatis longe acuminatis basi in petiolum. contractis costis utrinque 7-8 obscuris arcuatis petiolis gracilis bene evolutis inflorescentiis apicatis ne rartwsis pedunculis gracilis pedicellis crassioribus subaequilongis, floribus immaturis 1-2, globosis, sepalibus orbicularibus convexis.
9. *Mesua curtisii* (King) Kosterm., *comb. nov.*; *Kayea curtisii* King (basionym) in Ann. bot. Gard. Calcutta 5: 144, t. 174 B. 1896; typus: *Curtis 748 et 805* (BO, K).
10. *Mesua daphnifolia* (Ridley) Kosterm., *comb. nov.*; *Kayea daphnifolia* Ridley (basionym), Fl. Mai. Pen. 5: 290. 1925; typus: *Berry s.n., Dindings* (BO, K, SING).

11. *Mesua elegans* (King) Kosterm., *comb. nov.*; *Kayea elegans* King (basionym) in J. As. Soc. Bengal 59 (2): 183 et 622. 1890; typus: *Kings Coll. 7346* (BO, GH, K).
12. *Mesua elmeri* (Merr.) Kosterm., *comb. nov.*; *Kayea elmeri* Merrill (basionym) in Univ. Calif. Publ. Bot. 15: 199. 1929; typus: *Elmer 20851* (BISH, BM, BR, C, DS, F, G, GH, K, KEP, S, UC); para-typus: *Elmer 21368, 21500* (same Herbaria).
13. *Mesua eugeniaefolia* (Pierre) Kosterm., *comb. nov.*; *Kayea eugeniaefolia* Pierre (basionym), Fl. for. Cochinch. t. 98. 1889; typus: *Pierre 3640* (BO, K).
14. *Mesua ferruginea* (Pierre) Kosterm., *comb. nov.*; *Kayea ferruginea* Pierre (basionym), Fl. for. Cochinch. t. 99. 1889; typus: *Pierre 1050* (GH, P) et *4564* (P).
15. *Mesua floribunda* (Wall.) Kosterm., *comb. nov.*; *Kayea floribunda* Wallich (basionym), Pl. As. rar. 3: 5, t. 210. 1832; typus: *(de Silva & Gomez) Wallich 4840* (BO, BR, G, GH, K, LE, NY, US).
16. *Mesua garei* (Villar) Kosterm., *comb. nov.*; *Vidalia garciae* Villar (basionym) in Blanco, Fl. Filip., ed. 3, Nov. App. 18. 1880; typus: *Vidal 2123* (GH).
17. *Mesua grandis* (King) Kosterm., *comb. nov.*; *Kayea grandis* King (basionym) in J. As. Soc. Bengal 59 (2): 182. 1890; typus: *Maingay K.D. 178* (K), *Cantley 2354* (K); *Kings Coll. 3897* (K); *7294; 7340* (SING).
18. *Mesua korthalsiana* (Pierre) Kosterm., *comb. nov.*; *Kayea korthalsiana* Pierre (basionym), Fl. for. Cochinch. sub. t. 98. 1889 (*in observ.*); typus: *Korthals s.n.* (BO, L, P).
19. *Mesua kunstleri* (King) Kosterm., *comb. nov.*; *Kayea kunstleri* King (basionym) in J. As. Soc. Bengal 59(2): 182 et 620. 1890; typus: *Kings Coll. 3301* (BO); *6850* (BO, GH, K); *Curtis 1419* (SING); *Maingay 176*.
20. *Mesua lanceolata* (Merr.) Kosterm., *comb. nov.*; basionym: *Kayea lanceolata* Merrill (basionym) in Philip. J. Sci. 17: 290. 1921 (1922); typus: *Ramos & Edano B. Sci. 33591* (BO, CH, K, P).
21. *Mesua larnachiana* (F. v. M.) Kosterm., *comb. nov.*; basionym: *Kayea larnachiana* F. v. Mueller (basionym) in Victor. Nat. 3: 126. Jan. 1887; typus: *W. Sayers* (BM), Trinity Bay, Queensland.
22. *Mesua macrantha* (Baill.) Kosterm., *comb. nov.*; *Kayea macrantha* Baillon (basionym), *Adansonia* 11: 369. 1876; typus: *Beccari 2520* (BO, Fl, K, L, LE, P).

23. *Mesua macrocarpa* (Pierre) Kosterm., *comb. nov.*; *Kayea macrocarpa* Pierre (basionym), Fl. for. Coehinch. t. 100. 1889; typus: *Pierre 1050* (P).
24. *Mesua macrophylla* (Kan. & Hat.) Kosterm., *comb. nov.*; *Kayea macrophylla* Kanehira & Hatusima (basionym) in Bot. Mag. Tokyo 56: 571, tab. 1942; typus: *Kanehira & Hatusima 12296* (BO, FU, GH).
25. *Mesua manii* (King) Kosterm., *comb. nov.*; *Kayea manii* King (basionym) in Ann. Roy. bot. Gard. Calcutta 5: 144, t. 174 A. 1876; typus: *E.H. Man*, Andaman Isl.; para-typus: *WaUich 4836*.
26. *Mesua megalocarpa* (Merr.) Kosterm., *comb. nov.*; *Kayea megalocarpa* Merrill (basionym) in Philip. J. Sci. Bot. 12: 285. 1917; typus: *Ramos & Edano B. Sci. 26360* (BO, K).
27. *Mesua myrtifolia* (Baill.) Kosterm., *comb. nov.*; *Kayea myrtifolia* Baillon (basionym), Adansonia 11: 368. 1876; typus: *Beccari 2535* (BO, FI, K, LE, P); 2980 (BO, FI, K, P).
28. *Mesua navesii* (Vill.) Kosterm., *comb. nov.*; *Vidalia navesii* Villar in Blanco, Fl. Filip., ed. 3, Nov. App. 18. 1880; *Kayea navesii* (Vill.) Vesque in DC., Monogr. 8: 628. 1893; typus: *Vidal*, San Mateo (an 975 [K,L]?).
29. *Mesua oblongifolia* (Ridley) Kosterm., *comb. nov.*; *Kayea oblongifolia* Ridley (basionym) in Kew Bull. 1938: 122; typus: *Goodenough*; para-typus: *Creagh s.n.* (K), *Haviland 1833* (K).
30. *Mesua paludosa* (Kosterm.) Kosterm., *comb. nov.*; *Kayea paludosa* Kostermans (basionym), New & Crit. Males. Pl. 4: 7, fig. 4. 1955; typus: *Beguín 563* (BO).
31. *Mesua paniculata* (Blanco) Kosterm., *comb. nov.*; *Plinia paniculata* Blanco (basionym), Fl. Filip., ed. 1: 423. 1837; *Kayea paniculata* (Blanco) Merrill in Phil. Gvt. Lab. Bur. Bull. 17: 29. 1904.
32. *Mesua parviflora* (Ridley) Kosterm., *comb. nov.*; *Kayea parviflora* Ridley (basionym) in J. As. Soc., Straits Br. 82: 170. 1920; typus: *Burn-Murdoch 382* (K).
33. *Mesua philippinensis* (Planch, ex Triana & Pl.) Kosterm., *comb. nov.*; *Kayea philippinensis* Planchon, ex Triana & Planchon (basionym) in Ann. Sci. nat., Sér. 4, 15: 298. 1861; typus: *Cuming 1758* (BM, BO, C, G, K).
34. *Mesua planigemma* Kosterm., *spec. nov.* — Fig. 1.

Arbor in omnibus partibus glabris ramulis graeilis stipulis acieumt& minutis foltisk chartaceis ellipticis vel suboblancoelato-elUpticis acuminatis basi breve acutis utrinque nitidis supra nervo mediano costisque

filiformibus prominulo-subimpressis subtus nervo mediano gradle prominente costis utrinque 12-17 filiformibus prominulis subpatentibus petiolis graeilis inflorescentiis axillaris pedunculis longis gradlis gemmulis bracteis planis magnis suffultis stigmatate peltato quadmgulare obscure b-partitis.

Typus: *San24969*(BO)

Tree 12 m high, free bole 8 m, diam. 30 cm. Bark soft, 3 mm thick; inner bark purple, soft; sapwood yellow; all parts glabrous. Branchlets very slender. Leaves chartaceous, subobovate- or oblanceolate-elliptical to elliptical, 3 x 9 - 6 x 16 cm, abruptly acuminate (acumen up to 1 cm), base shortly acute, both surfaces glossy, upper one with filiformous midrib and lateral nerves, prominulous (sometimes in a groove); lower one with slender, prominent midrib, lateral nerves filiformous, 12-17 pairs (with shorter ones in between), rather patent, reticulation dense, minute, faint, Petioles very slender, 6 - 10 mm long.

Inflorescences few-flowered, axillary near the apex of the branchlets; main peduncle slender, 1.5 - 5 cm long, thickened towards the apex, which bears 2 - 3, 0.5 - 1.5 cm long branchlets, each topped with one flower. The flower completely covered by enormous flat, ovate, acute glaucous bracts, up to 5 x 18mm; the two bracts forming a flat "bud" with a central bulge; petals 5mm, broadly obovate to fan-shaped; stamens numerous, 9 mm long; ovary elongate, merging into a thick, as long style (together 2 mm long) with a thick, cushion-like stigma, obscurely divided into 4 parts.

The flowers are indicated as white, these are presumably the large bracts.

N. Borneo (Sabah), Tawau, Ealabekan, alt. 30 m, May, fl., *A. Bakar, San 24969* (BO, K, L).

35. *Mesua racemosa* (Planchon ex Triana & Planchon) Kosterm., *comb. nov.*; *Kayea racemosa* Planchon ex Triana & Planchon (basionym) in Ann. Sci. nat., Sér. 4, 15: 297. 1861; typus: *WaUich s.n.* (DC, P).
36. *Mesua rivulorum* (Ridley) Kosterm., *comb. nov.*; *Kayea rivulorum* Ridley (basionym) in J. As. Soc., Straits Br. 54: 22. 1910; typus: *Goodenough 1976* (SING), *Ridley 7349* (SING).

37. *Mesua rosea* (Ridley) Kosterm., *comb. nov.*; *Kayea, rasea* Ridley (basionym) in J. As. Soc., Straits Br. 54: 22. 1910; typus: *Ridley s.n.*, G. Panti (SING).
38. *Mesua stylosa* (Thw.) Kosterm., *comb. nov.*; *Kayea stylosa* Thwaites (basionym), Enum. Pl. Zeyl. 50. 1858; typus: *C.P. 2708* (BM, BO, BR, G, GH).
39. *Mesua sukoëana* (Bor) Kosterm., *comb. nov.*; *Kayea siikoëana* Bor (basionym) in Indian Forest Records, N.S., Bot. 3: 148, t. 1941.
40. *Mesua wrayi* (King) Kosterm., *comb. nov.*; *Kayea wrayi* King in J. As. Soc. Bengal 59 (2) : 181. 1890; typus: *Wray 1568* (K).

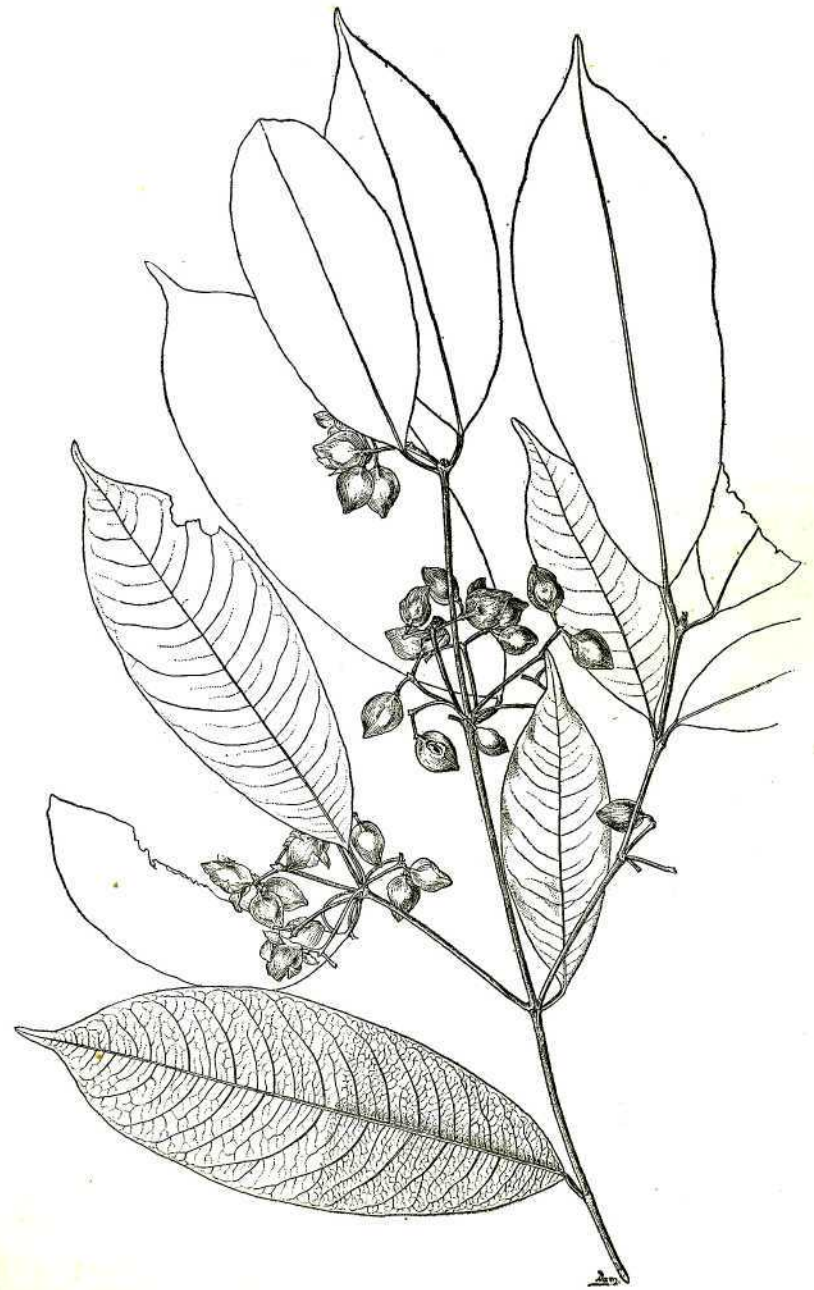


Fig. x — *Mesua planigemma* Kosterm. — *Holo-typus*