

Family 126. ROSACEAE

Revision:

Kalkman, C. 1992. *Rosaceae*. Flora Malesiana ser. 1, 11: 227-351

Kalkman, C. 1973. *The Malesian species of the subfamily Maloideae (Rosaceae)*. Blumea 21: 413-442.

Kalkman, C. 1968. *Potentilla, Duchesnea, and Fragaria in Malesia (Rosaceae)*. Blumea 16: 325-354.

1. Eriobotrya Lindley

Eriobotrya japonica (Thunb.) Lindley, Trans. Linn. Soc. 13 (1822) 102; --Mespilus japonicus Thunb., Fl. Japon. (1784) 206. --Type from Japan.

Native in SE China, there and in Japan cultivated for many years. Now throughout the tropics and subtropics cultivated as a fruit tree. In the Philippines, grown in N LUZON: Mountain Province, particularly common in the vicinity of Sagada, altitude 1400-1500m. Loquat.

2. Photinia Lindley

Photinia nussia (D Don) Kalkm., Blumea 21 (1973) 429; Fl. Males. ser. 1, 11 (1993) 314.

Stranvaesia ambigua (Merr.) Nakai, J. Arn. Arb. 5 (1924) 72; --Merr., EPFP 4 (1925) 242; --*Eriobotrya ambigua* Merr., Gov't. Lab. Publ. (Philipp.) 17 (1904) 18; EPFP 2 (1923) 226. --Type: FB 2796 Meyer, Luzon. Paratypes: Whitford 1155, 1168, 1307. Luzon.

Eriobotrya oblongifolia Merr. & Rolfe, PJS 3 c (1908) Bot. 102; --Merr., EPFP 2 (1923) 226. --Type: FB 4680 Mearns & Hutchinson. Mindanao.

E Himalayas, NE India, N Myanmar, N Thailand, N Laos, S China, but not recorded from Taiwan, Philippines. In the Philippines up to 2500m altitude.

Photinia serratifolia (Desf.) Kalkm., Blumea 21 (1973) 424; Fl. Males. ser. 1, 11 (1993) 315.

Photinia serrulata Lindley, Trans. Linn. Soc. 13 (1821) 103, excl. syn. *Crataegus glabra* Thunb.; --Merr., EPFP 2 (1923) 226.

S India, China, Japan, Taiwan, Philippines, and doubtfully in Sumatra. LUZON, MINDANAO. Mossy forests, altitude c. 2500m.

3. Potentilla Linnaeus

Potentilla indica (Andr.) Wolf in Asch. & Graebn., Syn. Mitt.-Eur. Fl. 6, 1 (1904) 661; --Kalkm., Prantl, Nat. Pflanzenfam. 3, 3 (1888) 33; --*Fragaria indica* Andr., Bot. Repos. 7 (1807) t. 479;

Blumea 16 (1968) 344.

S, SE and E Asia. Probable indigenous in Java, Lesser Sunda Isls, and the Philippines. Cultivated as an ornamental, escaped from cultivation or at least doubtfully indigenous in Sumatra, Malaya, and Singapore. Also established in many places in Europe, America and Africa. Mostly in disturbed habitats: roadside, plantations, rarely in forest, rather often in damp and waste places., altitude 700-2300m.

Potentilla papuana Focke, Abh. Naturw. Ver. Bremen 13 (1895) 162; --Kalkm., Fl. Males. ser. 1, 11 (1993) 294. --Type from New Guinea.

New Guinea, Sulawesi, Philippines. LUZON: Benguet (Mt Tabayoc). Alpine or subalpine grasslands, altitude xxxxx

Potentilla parvula Hook.f. ex Staff in Hook., Icon. Plant. IV, 3 (Jan. 1894) pl. 2294; --Kalkm., Fl. Males. ser. 1, 11 (1993) 294.
 Potentilla philippinensis Merr., PJS 29 (1926) 480. --Type: Clemens 5006 (UC*, holo). Luzon: Benguet prov., Mt Pulag, altitude c. 2800m, seen in only one place on an old trail in the summit grasslands, associated with Schoenus [Cyperaceae], 24-27 Feb 1925.
 Borneo (Sabah, Mt Kinabalu), Philippines, Sulawesi (Mt Rante Mario).
 LUZON: Benguet (Mt Pulag). Subalpine grassland, altitude c. 2800m.

4. Prunus Linnaeus

Revision:

Kalkman, C. 1965. *The Old World species of Prunus subg. Laurocerasus including those formerly referred to Pygeum*. Blumea 13: 1-115.

Prunus arborea (Blume) Kalkm., Blumea 13 (1965) 90, Fig. 34; Fl. Males. ser. 1, 11 (1993) 329, 332, Fig. 18.

var. arborea

Pygeum euphlebiun Merr., PJS 10 c (1915) Bot. 311; EPFP 2 (1923) 232.
 Pygeum merrillianum Koehne, in Engl., Bot. Jahrb. 51 (1913) 206; --Merr., EPFP 2 (1923) 233.
 Sumatra, Simalur I, Enggano I, Banka, Billiton, Peninsular Malaysia, Singapore, Java, Lesser Sunda Isls (Bali, Sumbawa, Sumba, Flores, Timor), Borneo (Sabah, Sarawak, Kalimantan), the Philippines, Sulawesi, Moluccas (Morotai, Bacan, Buru, Ceram, Ambon, Nusa Laut, Aru Isls), New Guinea (W Irian, Papua). LUZON, MINDORO, MINDANAO. Primary and secondary forests,

Prunus clementis (Merr.) Kalkm., Blumea 13 (1965) 70; Fl. Males. ser. 1, 11 (1993) 334; --Pygeum clementis Merr., PJS 3 c (1908) Bot. 227; EPFP 2 (1923) 232. --Types: Clemens 760, lecto; Clemens 990; both Mindanao.

Pygeum apoense Elmer, LPB 5 (1913) 1623; --Merr., EPFP 2 (1923) 232. --Type: Elmer 11729. Mindanao. Philippines, Sulawesi (N peninsula and C part). MINDANAO. Primary and secondary forests, altitude ---?

Prunus fragrans (Elmer) Kalkm., Blumea 13 (1965) 74; Fl. Males. ser. 1, 11 (1993) 335; --Pygeum fragrans Elmer, LPB 2 (1908) 475; --Merr., EPFP 2 (1923) 232. --Type: Elmer 7504, lecto, Luzon.

Pygeum coccineum (Elmer) Elmer, LPB 5 (1913) 1621; --Merr., EPFP 2 (1923) 232. --Type: Elmer 9787. Negros.

Pygeum megaphyllum Merr. ex Elmer, LPB 5 (1913) 1621; --Merr., EPFP 2 (1923) 233. --Type: BS 14923 Ramos. Luzon.

Philippines and possibly Lanyu. BABUYAN ISLS (CAMIGUIN), LUZON, NEGROS, PANAY. Primary and secondary forests, altitude (150-)600-2100 (-2500)m.

Prunus grisea (Blume) Kalkm., Blumea 13 (1965) 58; Fl. Males. ser. 1, 11 (1993) 338; --Pygeum griseum Blume, Mém. Bot. nr. 2 (1855) 11; --C Muell. In Walp. Ann. 4 (1857) 642. --Type from Java.

var. grisea

Pygeum decipiens Koehne, in Engl., Bot. Jahrb. 51 (1913) 204, 217; --Merr., EPFP 2 (1923) 232. --Type:

Pygeum gitingense Elmer, LPB 5 (1913) 1625; --Merr., EPFP 2 (1923) 233. --Type:

Pygeum preslii Merr., PJS 3 c (1908) Bot. 227; EPFP 2 (1923) 233; --Elmer, LPB 5 (1913) 1621; --Pygeum latifolium (C Presl) Rehder, Bradl. Bibliogr. 2 (1912) 278, *comb. illeg.*, --Germaria latifolia C Presl, Epim. Bot. (1851) 221. --Type: Cuming 1815. Bohol.

Pygeum vulgare (Koehne) Merr., EPFP 2 (1923) 234; --Pygeum preslii Merr., var. vulgare Koehne, Bot. Jahrb. 51 (1913) 203. --Type: FB 1806 Borden. Luzon.

Java, Kangean, Philippines, Sulawesi, Lesser Sunda Isls, Moluccas, New Guinea. Also possibly Taiwan. LUZON, MINDORO, PALAWAN, SIBUYAN, CEBU, BOHOL, LEYTE,

MINDANAO. Primary and secondary forests, mostly between 0-2500m altitudes.

var. tomentosa (Koord. & Valeton) Kalkm., *Blumea* 13 (1965) 60, Fig. 22; *Fl. Males. ser. 1, 11* (1993) 339. *Pygeum microphyllum* Elmer, *LPB* 5 (1913) 1626; --Merr., *EPFP* 2 (1923) 233. --Type: Peninsular Myanmar (Tenasserim), Peninsular and SE Thailand, S Vietnam, N Sumatra, throughout Peninsular Malaysia (including Penang and Singapore), Borneo (Sabah, Sarawak), C & E Java, Philippines (PALAWAN only), Sulawesi (Mt Nokilalaki, altitude 1500-1700m, a single collection).

Prunus javanica (Teijsm. & Binn.) Miq., *Fl. Ind. Bat. 1, 1* (1855) 365; --Kalkm., *Blumea* 13 (1965) 47, Fig. 6g; 7i-j; *Fl. Males. ser. 1, 11* (1993) 328; --Cerasus javanica Teijsm. & Binn., *Natuurk. Tijdschr. Ned. Indië* 2 (1851) 309. --Type from Java. *Prunus junghuhnianus* Miq., *Pl. Jungh. (1855)* 402; --Merr., *EPFP* 2 (1923) 234. --Type from Java. S Andaman, Peninsular Myanmar, Thailand, S Vietnam, Sumatra, Peninsular Malaysia, Pulau Tioman, W & C Java, Bali, Borneo (Sabah, Kalimantan, also Bunguran Is), Sulawesi (Minahasa, Bonthain), Moluccas (Sula Isls, Buru), New Guinea (Vogelkop; Hollandia), Philippines: PALAWAN.

Prunus kinabaluensis Kalkm., *Blumea* 13 (1965) 64; *Fl. Males. ser. 1, 11* (1993) 339. --Type from Sabah. Borneo (Sabah, Ranau District), Philippines. LUZON (2 collections). Forests, between 1300 and 2400m.

Prunus marsupialis Kalkm., *Blumea* 13 (1965) 71, Fig. 7h, h1, h2, 26; *Fl. Males. ser. 1, 11* (1993) 341, fig. 20; --*Pygeum glandulosum* Merr., *PJS* 3 c (1908) Bot. 226; *EPFP* 2 (1923) 233. --Type: RS Williams 642, lecto; 25 syntypes; all Philippines *Pygeum pubescens* Merr., *PJS* 9 c (1914) Bot. 359; *EPFP* 2 (1923) 234. --Type: Wenzel 333, lecto, 5 paratypes, all Philippines *Prunus*.

LUZON, MINDORO, PANAY, NEGROS, BOHOL, LEYTE, SAMAR. Forests and forest edges, 0- c. 1100m.

Prunus pulgarensis (Elmer) Kalkm., *Blumea* 13 (1965) 67; *Fl. Males. ser. 1, 11* (1993) 344; -- *Pygeum pulgarensis* Elmer, *LPB* 5 (1913) 1626; --Merr., *EPFP* 2 (1923) 234. --Type: Elmer 13200. Palawan. *Pygeum monticulum* Merr., *PJS* 10 c (1915) Bot. 312; *EPFP* 2 (1923) 233. --Type: Whitford 1203. Luzon. LUZON, PALAWAN. Montane forests, c. 1000-1200m altitude. Known only from four collections. No new material of this species has been collected since 1965.

Prunus rubiginosa (Elmer) Kalkm., *Blumea* 13 (1965) 72; *Fl. Males. ser. 1, 11* (1993) 345; -- *Pygeum rubiginosum* Elmer, *LPB* 5 (1913) 1624; --Merr., *EPFP* 2 (1923) 234. --Type: Elmer 11857, holo; 14067; both Mindanao. *Pygeum elmerianum* Koehne, *in Engl., Bot. Jahrb.* 51 (1913) 206, 218; --Merr., *EPFP* 2 (1923) 232. --Type: Elmer 12210. Sibuyan. LUZON, MINDORO, SIBUYAN, MINDANAO. Forests, altitude 250-1200m. Known only from 1 or 2 specimens in each island.

Prunus subglabra (Merr.) Kalkm., *Blumea* 13 (1965) 87; *Fl. Males. ser. 1, 11* (1993) 347; --*Pygeum subglabrum* Merr., *PJS* 30 (1926) 395. --Type: BS 45014 Ramos & Edaño (UC*, holo; iso in L*). Luzon: Benguet prov., Mt Pulag, mossy forest, altitude c. 2700m, 27 Feb 1925. LUZON: Benguet (Mt Pulag; Mt Tabayoc). Mossy forests, altitude 2400-2700m.

Doubtful occurrence in the Philippines:

Prunus spicata Kalkm., *Blumea* 13 (1965) 69; *Fl. Males. ser. 1*, 11 (1993) 346. –Type from Sabah. LUZON. A doubtful sterile specimen seen by Kalkman from MINDORO.

Incompletely known:

Prunus ramiflorum Merr., *PJS* 9 c (1914) Bot. 447; *EPFP* 2 (1923) 234. –Type: Vanoverbergh 2820 (not seen). Luzon: Mountain Province, Bauco, in forests, altitude c. 1500m, 4 Apr 1913.

LUZON: Mountain Province. Forests, altitude 1400m.

Not treated in Kalkman's *Flora Malesiana* revision. But according to Merrill (1914), "a characteristic species, recognizable by its eglandular leaves which are comparatively small and few-nerved, and its rather congested, paniculate, short inflorescences which are borne on the larger branches below the leaves, not on the ultimate branchlets".

Prunus sp. C Kalkm., *Fl. Males. ser. 1*, 11 (1993) 350.

Prunus luzoniensis Merr. & Quisumb. in sched., based on PNH 4337 Celestino.

LUZON: Benguet (Mt Pulag). Partly open field, close to stream, altitude 2000m. Up to now the only Malesian specimen belonging to subgenus *Padus*.

Non-naturalized cultivated species:

Prunus armeniaca L., *Sp. Pl.* (1753) 474.

Occasionally cultivated in the Cordillera Highlands of N LUZON. Apricot.

Prunus persica (L.) Batsch., *Beitr. Entw. Pragm. Gesch.* 1 (1801) 30.

Native of China, cultivation spread from there, now cultivated wherever the climate is suitable. In Malesia rarely cultivated in montane areas. In the Philippines, grown to a limited scale in the Cordillera highlands. Peach.

Pygeum Gaertner =Prunus

5. Rhamphiolepis Lindley

Rhamphiolepis philippinensis (Vidal) Kalkm., *Blumea* 21 (1973) 434; *Fl. Males. ser. 1*, 11 (1993) 318, Fig. 14d, 15d; --*Eriobotrya philippinensis* Vidal, *Rev. Pl. Vasc. Filip.* (1886) 123; --Merr., *EPFP* 2 (1923) 226. –Syntypes: Vidal 1350, 1353, both Luzon.

Eriobotrya luzonensis (Merr.) Nakai, *J. Arnold Arb.* 5 (1924) 69; --Merr., *EPFP* 4 (1925) 242; --*Photinia luzonensis* Merr., *Govt. Lab. Publ. (Philipp.)* 17 (1904) 18; *EPFP* 2 (1923) 226. –Type: Merrill 3223; paratypes: Merrill 3714. Both Luzon.

Eriobotrya acuminatissima Nakai, *J. Arnold Arb.* 5 (1924) 71; --Merr., *EPFP* 4 (1925) 242. –Type: BS 35622 Martelino & Edaño. Panay.

Philippines, Borneo (Sabah). In forests, altitude 300-2600m. Also on ultramafics near sea level.

6. Rosa Linnaeus

Revision:

Kalkman, C. 1973. *The genus Rosa in Malesia*. *Blumea* 21: 281-291.

Rosa luciae Franch. & Rochebr. ex Crépin, *Bull. Soc. Roy. Bot. Belg.* 10 (1871) 324; --Kalkm., *Blumea* 21 (1973) 284, Fig. 2; *Fl. Males. ser. 1*, 11 (199) 305, Fig. 13. –Type from Japan.

Rosa philippinensis Merr., *PJS* 17 (1920) 260, incl. var. *depauperata* Merr., loc. cit., *EPFP* 2 (1923) 231.

–Type: Elmer 5794. several paratypes.
Japan, Korea, Ryukyu Isls, E China, Taiwán, N Philippines. LUZON. Thickets, 1200-1700m.

Rosa transmorrisonensis Hayata, Icon. Pl. Formos. 3 (1913) 97; --Kalkm., Blumea 21 (1973) 284, Fig. 1; Fl. Males. Ser. 1, 11 (199) 305. –Type from Taiwán.
Rosa luzoniensis Merr., PJS 17 (1920) 259; including var. parvifolia Merr., loc. cit. –Syntypes: BS 31876, Mearns 4300, BS 8336 McGregor. Luzon: Benguet prov., Pauai.
Taiwán, N Philippines. LUZON: Mountain Province, Benguet. Thickets, altitude c. 1200m and higher.

7. Rubus Linnaeus

Revisions:

Zandee, M & C Kalkman. 1981. *The Genus Rubus (Rosaceae) in Malesia. 1. Subgenera Chamaebatus and Idaebatus*. Blumea 27: 75-113.

Kalkman, C. 1984. *The Genus Rubus (Rosaceae) in Malesia. 2. The subgenus Malachobatus*. Blumea 29: 319-386.

Kalkman, C. 1987. *The Genus Rubus (Rosaceae) in Malesia. 3. The subgenus Micranthobatus*. Blumea 32: 323-341

Rubus benguetensis Elmer, LPB 1 (1908) 296; *ibid.* 2 (1908) 449; --Focke, Bibl. Bot. 17, 72 (1910) 66; --Merr., EPFP 2 (1923) 227; --Kalkm., Blumea 29 (1984) 337; Fl. Males. ser. 1, 11 (1992) 268.
–Type: Elmer 8383 (K, L*, MO*, NY*, US*, iso). Luzon: Benguet prov., Baguio, 'in rock crevices of limestone outcroppings in the pine region at 4500ft', Mar 1907.

Borneo (Sarawak; Sabah), N Philippines, Sulawesi. LUZON: Benguet (Baguio), Isabela (Mt Moises). Montane thickets, on limestone at c. 1300m in Benguet.

Rubus clementis Merr., PJS 3 c (1908) 139; --Kalkm., Blumea 32 (1987) 325; Fl. Males. ser. 1, 11 (1992) 253. --Type: MS Clemens 740 (PNH, holo, lost; iso: K, US* and as Clemens *sn* in G).
Mindanao: Lanao del Sur prov., Camp Keithley.

Rubus lucens Focke ssp. clementis (Merr.) Focke, Bibl. Bot. 72 (1911) 213; --Merr., EPFP 2 (1923) 228.
N Sumatra, Borneo (Sarawak, Sabah, Kalimantan), N & C Sulawesi and Philippines.
MINDANAO: Lanao del Sur (Camp Keithley), Bukidnon (Mt Dumalucpihan).

Rubus copelandii Merr., PJS 1 Suppl. 3 (1906) 194, as 'copelandi'; EPFP 2 (1923) 227; --Zandee & Kalkm., Blumea 27 (1981) 98; --Kalkm., Fl. Males. ser. 1, 11 (1992) 259. --Type: Merrill 4810 (iso in NY*, US*). Luzon: Benguet prov., Pauai.

LUZON: Mountain Province, Benguet. More or less open spots in mossy forest, forest edges and thickets, altitude 1700-2450m.

Rubus cumingii Kuntze, Meth. Speciesbeschr. (1879) 72, 76; --Focke, Bibl. Bot. 17, 72 (1910) 58, Fig. 21; --Merr., EPFP 2 (1923) 227; --Kalkm., Blumea 29 (1984) 332; Fl. Males. ser. 1, 11 (1992) 271. --Type: Cuming *sn* (B, holo). Philippines, with no definite locality.

Philippines. Known only from the type which has no indicated definite locality on the label. According to Focke, this comes from Luzon.

Rubus edanoi Merr., PJS 13 c (1918) Bot. 14; EPFP 2 (1923) 227, 'edanoi'. --Type: BS 26505 Ramos & Edaña (US*, iso). Luzon: Nueva Ecija prov., Mt Umingan. Mossy forest, altitude c. 300m, 6 Sept 1916.
LUZON: Nueva Ecija. Known only from the type.

According to Merrill (1918), this is allied to *R. cumingii* Kuntze, from which it is distinguished at once, among other characters, by its sharply acuminate leaves.

Rubus ellipticus JE Sm. in Rees, Cyclop. 30 (1815) Rubus spec.16; --Merr., EPFP 2 (1923) 227; --

Zandee & Kalkm., *Blumea* 27 (1981) 109; --Kalkm., *Fl. Males. ser. 1*, 11 (1992) 260. --Type from Nepal.

Sri Lanka, India to S China and Vietnam, N Philippines. Introduced in Java, Australia, Hawaii, Jamaica, Puerto Rico, Africa and possibly elsewhere.

LUZON: Benguet. Montane oak forest, pine forest and in secondary growth, altitude 1000-2400m.

Rubus fraxinifolius Poir. in Lam., *Encycl. Méth.* 6 (1806) 242; --Merr., *EPFP* 2 (1923) 227; --Zandee & Kalkm., *Blumea* 27 (1981) 109.

Rubus fraxinifolius Poir. var. *haightii* Elmer, *LPB* 2 (1908) 461. --Type: a Mearns specimen from Pauai ('Mr. Haight's Place'), Luzon. This may be BS 4459 Mearns, cited by Merrill under *R. merrillii*.

Rubus merrillii Focke, *Bibl. Bot.* 72 (1911) 153; --Merr., *EPFP* 2 (1923) 228. --Type: BS 862 Merrill or BS 6637. Luzon: Benguet prov., Pauai.

Taiwan, Java, Lesser Sunda Isls, Borneo, Philippines, Sulawesi, Moluccas, New Guinea, Solomon Isls, Bismarck Archipelago.

N LUZON to MINDANAO. More or less open sites such as forest edges and gaps, along trails, streambanks, abandoned cultivations, etc, altitude 0-2500m.

Rubus cf. glomeratus Blume, *Bijdr.* (1826) 1111; --Kalkm., *Blumea* 29 (1984) 377; *Fl. Males. ser. 1*, 11 (1992) 272.

Rubus vanoverberghii Merr., *PJS* 9 c (1914) Bot. 448; *EPFP* 2 (1923) 230. --Type: Vanoverbergh 2683 (PNH, holo, lost; iso: Kalkman 1984). Sumatra, Peninsular Malaysia, Java, S Sulawesi, New Guinea, New Britain. *R. vanoverberghii* Merr. is known from LUZON: Mountain Province, in forests, altitude c. 1700m.

Rubus heterosepalus Merr., *PJS* 20 (1922) 387; *EPFP* 2 (1923) 228; --Kalkm., *Blumea* 29 (1984) 344; *Fl. Males. ser. 1*, 11 (1992) 273. --Type: BS 37609 Ramos & Edaño (PNH, holo, possibly lost; iso: A, K, L*, US*). Luzon: Mountain Province, Mt Polis, mossy forest, altitude 1800m, Feb 1920.

LUZON: Mountain Province-Ifugao border (Mt Polis), Ifugao (Banawe). Mossy forest and associated thickets, 1800-1900m.

Rubus luzoniensis Merr., *PJS* 1 Suppl. 1 (1906) 195; --Elmer, *LPB* 2 (1908) 452; --Focke, *Bibl. Bot.* 17, 72 (1910) 59; --Merr., *EPFP* 2 (1923) 228; --Kalkm., *Blumea* 29 (1984) 328; *Fl. Males. ser. 1*, 11 (1992) 274. --Type: Merrill 4596 (PNH, holo, lost; iso: BO, K, L*, NY*). Luzon: Mountain Province, Mt Data, Nov 1905.

LUZON: Ifugao (Mt Polis), Mountain Province (Mt Data), Benguet (Mt Pulag). Mossy forest and associated clearings, altitude c. 2000- 2500m.

Rubus mearnsii Elmer, *LPB* 2 (1908) 448; --Merr., *PJS* 5 c (1910) Bot. 353; --Focke, *Bibl. Bot.* 17, 72 (1910) 74; --Merr., *EPFP* 2 (1923) 228; --Kalkm., *Blumea* 29 (1984) 341; *Fl. Males. ser. 1*, 11 (1992) 275. --Type: BS 4304 Mearns (not seen, possibly no surviving specimens). Luzon: Benguet prov., Pauai near Mr Haight's place, Jul 1907.

LUZON: Mountain Province (Mt Data), Benguet (Pauai; Mt Nangaoto; Mt Pulag; Mt Singakalsa). Reported from mossy forest, but seen along roadside clearings, c. 2200-2400m. Kalkman (1984) hints at some possibility that this taxon might be conspecific with *R. benguetensis* Elmer.

Rubus moluccanus L., *Sp. Pl.* (1753) 1197; --Kalkm., *Blumea* 29 (1984) 346, fig. 1a-b; 2a; *Fl. Males. ser. 1*, 11 (1992) 275, Fig. 5 a-b. --Type: No specimen found. As lectotype: Rumph. *Herb. Amboin.* 5 (1747) 88, pl. 47, Fig. 2.

var. moluccanus

Rubus vidalii Focke, *Bibl. Bot.* 17, 72 (1910) 98, Fig. 40; --Merr., *EPFP* 2 (1923) 230. --Type: Cuming 750 (A, BM, K, L*, NY*, iso). Luzon: Quezon prov., Mt Banahaw.

Sri Lanka, Thailand, Vietnam (?), Sumatra, Peninsular Malaysia (incl. Penang and

Langkawi Is), Singapore, Java, Lesser Sunda Isls (Bali; Sumbawa; Flores; Timor), Borneo (Sarawak; Sabah; Kalimantan), Philippines, Sulawesi, Moluccas (Seram; Ambon; Kai Isls), New Guinea, New Britain, Solomon Isls, Carolines, Fiji, Australia (Queensland). LUZON: Mountain Province, Ifugao, Benguet, Isabela (San Mariano), Pampanga (Mt Pinatubo), Bataan (Mt Mariveles), Rizal (Antiopolo; Bosoboso; Mt Irid), Quezon, Camarines Sur (Her-it River; Panagan River), Albay, PALAWAN (Victoria Mtns), PANAY: Capiz, NEGROS: Mt Katugasan; CEBU (Mt Mauyog), MINDANAO: Misamis Occidental (Mt Malindang), Bukidnon, Davao (Mt Apo), Davao Oriental (Mt Mayo). Forest edges and gaps, secondary forests, streambanks, thickets, along trails, chiefly at medium to higher elevations, in the everwet regions down to near sea-level.

var. angulosus Kalkm., *Blumea* 29 (1984) 364, Fig. 1f; 4; Fl. Males. ser. 1, 11 (1992) 278, Fig. 5 f.
--Type from Banka.

Andaman and Nicobar Isls, Thailand, Vietnam, Sumatra and adjacent small islands, Peninsular Malaysia, Singapore, Java, Lesser Sunda Isls, Borneo, Philippines, Sulawesi.

var. discolor (Blume) Kalkm., *Blumea* 29 (1984) 359, Fig. 1d; Fl. Males. ser. 1, 11 (1992) 278, Fig. 5d-e; --*Rubus sundaicus* Blume var. *discolor* Blume, *Bijdr.* 17 (1827) 1111. --Type from Java. Sumatra, Peninsular Malaysia (Pahang), Pulau Tioman, Java, Lesser Sunda Isls (Lombok; Sumbawa; Flores, Sumba; Timor; Alor; Wetar; Damar), Borneo (Sarawak; Sabah; Kalimantan), Philippines, Sulawesi (including Buton Is), Moluccas (Sula Isls; Seram; Ambon), New Guinea, Bismarck Archipelago, Solomon Isls, Vanuatu, New Caledonia. LUZON:

var. obtusangulus Miq., *Fl. Ind. Bat.* 1, 1 (1855) 383; --Kalkm., *Blumea* 29 (1984) 362, Fig. 1c; 2b; 3; Fl. Males. ser. 1, 11 (1992) 280, Fig. 5 c, 6. --Type from Java.

Myanmar, Thailand, Vietnam, Sumatra, Peninsular Malaysia, Java, Borneo, Philippines, New Guinea, New Britain.

Rubus niveus Thunb., *Diss. Rubo* (1813) 9, Fig. 3; --Merr., *EPFP* 2 (1923) 229; --Zandee & Kalkm., *Blumea* 27 (1981) 107; --Kalkm., *Fl. Males.* ser. 1, 11 (1992) 264. --Type from Java.

Sri Lanka, Kashmir to Vietnam, Taiwan, Sumatra, Java, Lesser Sunda Isls, N Philippines, Sulawesi.

Rubus pectinellus Maxim., *Mél. Biol. Acad. St. Pétersb.* 8 (1872) 324 (=Bull. Acad. St. Pétersb. 17); --Merr., *EPFP* 2 (1923) 229; --Zandee & Kalkm., *Blumea* 27 (1981) 78; --Kalkm., *Fl. Males.* ser. 1, 11 (1992) 284. --Type from Japan.

SE China (Jiangxi, Fujian, Sichuan, Guizhou), Taiwan, Japan (Honshu, Shikoku, Kyushu, Yakushima), Philippines. LUZON: Ilocos Norte (Mt Bubonbilit), Abra, Mountain Province (Bontoc; Mt Data), Ifugao (Mt Polis), Benguet (Mt Tabayoc; Mt Pulag; Pauai; Baguio; Mt Sto. Tomas), Quezon (Mt Banahaw), MINDORO: Mindoro Oriental (Mt Halcon), MINDANAO: Bukidnon (Mt Lipa), Davao (Mt Apo). Primary and secondary forests, also in mossy forest, altitude c. 750-2750m.

Rubus perfulvus Merr., *PJS* 20 (1922) 386; *EPFP* 2 (1923) 229; --Kalkm., *Blumea* 29 (1984) 374; *Fl. Males.* ser. 1, 11 (1992) 280. --Type: BS 38566 Ramos & Edaño. Mindanao: Bukidnon prov., Mt Lipa

MINDANAO: Bukidnon (Mt Lipa). Only known from the type collection.

Rubus pyrifolius JE Sm., *Pl. Icon. Hact. Ined.* 3 (1791) t. 61 [*sphalm.* `pirifolius']; --Focke, *Bibl. Bot.* 17, 72 (1910) 64, Fig. 23; --Merr., *EPFP* 2 (1923) 229; --Backer & Bakh.f., *Fl. Java* 1 (1964) 516; --Kalkm., *Blumea* 29 (1984) 333; *Fl. Males.* ser. 1, 11 (1992) 280. --Type from Java.

Rubus philippinensis Focke in Elmer & Focke, *LPB* 5 (1913) 1617; --Focke, *Bibl. Bot.* 17, 83 (1914) 28; --

Merr., EPFP 2 (1923) 229. --Type: Elmer 13606 (PNH, holo, lost; iso: A, BISH*, BM, BO, GH, K, L*, NY*, P, U, US*). Mindanao: Agusan del Norte prov., Cabadbaran, Mt Urdaneta (=Mt Hilong-hilong), 'moist stony soil of dense woods at 3750ft or between Duros & Cawilanan peaks', Aug 1912.
Rubus brevipetalus Elmer, LPB 2 (1908) 450. --Type: Elmer 10099 (PNH, holo, lost; iso: A, BISH*, BM, BO, K, L*, NY*, US*). Negros: Negros Oriental prov., Cuernos Mtns, 'in humid woods at 4000ft', May 1908.

Thailand, Laos, S Vietnam, S China (Sichuan; Guangxi; Guangdong), Sumatra, Java, Lesser Sunda Isls (Bali; Lombok; Flores), Borneo, Philippines, Sulawesi. NEGROS: Negros Oriental (Cuernos Mtns), LEYTE: Leyte (Cabalian), MINDANAO: Zamboanga, Agusan del Norte (Mt Hilong-hilong), Davao (Mt Apo). Altitude 900-1200m, forest and forest edges.

Rubus rolfei Vidal, Phan. Cuming. (1885) 171; --Merr., EPFP 2 (1923) 281; --Kalkm., Blumea 29 (1984) 371, Fig. 5; Fl. Males. ser. 1, 11 (1992) 281. --Types: Cuming 808, lecto; Vidal 294. Both from Luzon.

Rubus elmeri Focke, Bibl. Bot. 72 (1910) 112; --Merr., EPFP 2 (1923) 227. --Types: Merrill 4651, BS 4305 Mearns. Luzon.

Taiwan and the Philippines. LUZON, MINDORO, NEGROS. Forests and more open places like clearings at higher altitudes, alt. (900-)1500-2700m.

Rubus rosifolius JE Sm., Pl. Icon. Hact. Ined. 3 (1791) t. 60 [*sphalm.* `rosaefolius']; --Merr., EPFP 2 (1923) 230; --Zandee & Kalkm., Blumea 27 (1981) 81; --Kalkm., Fl. Males. ser. 1, 11 (1992) 265. --Type from Mauritius.

Rubus tagallus Cham. & Schlechtend., Linnaea 2 (1827) 9; --Merr., EPFP 2 (1923) 230. --Type: Chamisso s.n. (LE, holo; iso: B, cited by Zandee & Kalkm., 1981). Luzon.

Rubus comintanus Blanco, Fl. Filip. ed. 2 (1845) 298. Type not known to exist. Neotype (designated by Zandee, 1981): Merrill Sp. Blancoanae 721 (L*). Luzon: Rizal prov., Montalban, Dec 1914.

Rubus apoensis Elmer, LPB 5 (1913) 1618. --Type: Elmer 10464 (L*, holo; iso: NY*, US*). Mindanao: Davao, Mt Apo, Todaya, altitude 4000ft, May 1909.

India (Assam), Cambodia, Vietnam, Japan?, Taiwan, Philippines, Borneo, Sulawesi, Java, Lesser Sunda Isls, New Guinea, Bougainville Is, New Britain, New Hebrides, New Caledonia, Australia (Queensland, New South Wales). Introduced and naturalized in the Hawaiian Isls, in many parts of Africa (Cameroon, Fernando Poo, S Africa, Uganda, Tanzania, islands in the Indian Ocean (Mauritius, Rodrigues, Seychelles, possibly Madagascar) and parts of America (several isls of Lesser Antilles, S Brazil). LUZON: Ilocos Norte (Mt Semenuhlen; Bangui), Mountain Province, Benguet, Ifugao, Aurora (Dingalan), Pampanga (Mt Pinatubo), Bataan (Lamao River; Mt Mariveles), Bulacan, Rizal (Montalban; Mt Irid), Laguna (Mt Makiling), Quezon (Dolores), Albay (Mayon Volcano), Sorsogon (Mt Bulusan), MINDORO: Mindoro Oriental (Mt Yagaw), NEGROS: Negros Oriental (Cuernos Mtns; Lake Balinsasayao), MINDANAO: Misamis Occidental (Mt Malindang), Bukidnon (Mt Kitanglad), Davao (Mt Apo). In open secondary places like clearings, forest edges, roadsides, landslides, grasslands, riverbanks, fallow gardens, also in shrubberies and rarely in the undergrowth of the lighter types of forest, altitude from sea-level up to 2000m, rarely higher.

Rubus sorsogonensis Elmer, LPB 10 (1939) 3777; --Kalkm., Blumea 29 (1984) 339; Fl. Males. ser. 1, 11 (1992) 282. --Type: Elmer 14607 (A, BISH*, BM, BO, K, L*, MO*, NY*, P, U, iso). Luzon: Sorsogon prov., Irosin, Mt Bulusan, 'climbing upon trees and sprawling over their tops in wet earth of deep woods at 1500ft altitude', Oct 1915.

LUZON: Sorsogon (Mt Bulusan). Only known from the type. Altitude 450m.

Dubious and doubtful species:

Rubus mindanaensis Focke, Ann. Cons. Jard. Bot. Genève 20 (1917) 104.

“Considered by Focke to be related to *R. niveus* which, according to the material seen, is in the Philippines restricted to Luzon. Type (Warburg 14483) not seen”. –Kalkm., Fl. Males. ser. 1, 11 (1992) 285.

Rubus zambalensis Elmer, LPB 2 (1908) 451; --Merr., EPFP 2 (1923) 231; --Kalkm., Blumea 29 (1984) 385. –Type: FB 8085 Curran & Merritt. Luzon: Zambales prov.,

“The correct disposition of this name remains enigmatic. The type specimen obviously had only young flower buds and Elmer described them as placed in small glomerules and as subtended by a 4-lobed involucre, which seems rather strange”. –Kalkm., 1984, loc. cit.

Cultivated:

Fragaria vesca L., Sp. Pl. (1753) 494; --Kalkm., Fl. Males. ser. 1, 11 (1993) 285.

Temperate Eurasia. In the Philippines commercially grown in N LUZON: Benguet and Mountain Province.

Malus domestica Borkh., Handb. Forstbot. 2 (1803) 1272.

Originated in W Asia, now spread all over the world. In Malesia cultivated in E Java, Timor, the Philippines, and probably some other islands. LUZON: Mountain Province, Benguet. Apple.

Pyracantha M Roemer

Pyracantha angustifolia (Franch.) CK Schneid., Ill. Handb. Laubholz. 1 (1906) 761; --
Cotoneaster angustifolius Franch., Pl. Delav. (1889) 221. –Type from China.

Originating from SW China (Yunnan), planted as an ornamental in Europe and North America. LUZON: Cordillera Highlands, Baguio-Bontoc Road, based on *PNH 20368 Mendoza* and *Steenis 17923*, collected from the same locality and date, apparently from cultivated plants, as well as *PNH 39575 Steiner*, probably collected in the same general locality. According to Kalkman, these specimens represent a globose form of *P. angustifolia* which is wild in Yunnan and is sometimes planted as an ornamental in Europe and N America.

Pyrus pyrifolia (Burm.) Nakai

Pyrus serotina Rehder

Oriental pear.

Rosa cultivars