

A TAXONOMIC REVISION OF THE GENUS *ERIOBOTRYA* LINDL. (ROSACEAE)MUHAMMAD IDREES^{1,2}, MENG LI³, MITRA LAL PATHAK², MUHAMMAD QAISER⁴,
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Abstract

A comprehensive taxonomic revision of the genus *Eriobotrya* (Rosaceae) in Southeast Asia, the Himalayas and Western Malaysia were carried out. All published names or referable to *Eriobotrya* were studied and discussed here. Thirty two species and nine varieties are recognized, of which five species and one variety are endemic to China. One species (*E. grandiflora*) is redescribed, one new hybrid (*E. × balgooyi*), and four new combinations, *E. bengalensis* var. *intermedia*, *E. bengalensis* var. *contracta*, *E. petiolata* var. *glabrescens*, and *E. elliptica* var. *victoriensis*, are proposed here. Four names are reduced to synonymy, and seven names are typified. Two names, *E. platyphylla*, and *E. merguiensis*, are listed as dubious species, and nineteen names are excluded. In addition, the taxonomic treatment, key to the species and varieties, distributions, habitat ecology, phylogeny, taxonomic notes, and records of specimens examined for each taxon are given.

Key words: *Eriobotrya*, Habitat, Lectotypication, Rosaceae, Synonym, Taxonomic revision.

Introduction

The genus *Eriobotrya* Lindl. (Rosaceae, Jussieu 1789), are evergreen shrubs and small to medium sized trees with white flowers that bloom in the fall and early winter and ripens in the spring. The species are mainly distributed in East Asia, with the highest concentration of species in China, and secondly in the Himalayas (Bhutan, Nepal and Sikkim); southern Japan; Taiwan, and southeast Asia (mainly Cambodia, Indonesia, Laos, Myanmar, Thailand, and Vietnam) (Lin *et al.*, 2004; Pham, 2000; Vidal, 1965, 1968; Yang *et al.*, 2005) (Fig. 1). Its taxonomy has been a source of considerable difficulty due to the high morphological variability within species and the often small differences between species. These unclear boundaries have created confusion around species delimitation, resulting in dramatic changes in taxonomy and nomenclature over the years. The generic name *Eriobotrya* was first described with four taxa by Lindly (1821: 96, 102), and later the generic circumscription was expanded by Hooker (1878; Rehder & Wilson, 1912; Nakai, 1924; Vidal, 1965) and since then nearly 65 names have been published in the last two centuries. It should be noted that *Eriobotrya* is sometimes subsumed with *Rhaphiolepis* (Liu *et al.*, 2020a). *Eriobotrya* can be readily distinguished from *Rhaphiolepis* by the following morphological characters: 1) In *Eriobotrya* the primary lateral veins reaching at the leaf margin, often in a tooth (craspedodromous), while in *Rhaphiolepis*, the primary veins consistently end without reaching the margins (camptodromous); 2) the inflorescence are paniculate in *Eriobotrya* and racemose in *Rhaphiolepis*; 3) flower white and carpels (2 or) 3–5 in *Eriobotrya* while flower pink and carpels (–1)2 in *Rhaphiolepis*; 4) the sepals are persistent on the fruits in *Eriobotrya*, while in *Rhaphiolepis*, the sepals are early deciduous, leaving an annular ring at the summit of the fruit (Rohrer *et al.*, 1991; Gu & Spongberg, 2003).

There is no comprehensive treatment of the genus *Eriobotrya* Lindl. (s.l.) from East and Southeast Asia,

the Himalayas, and Western Malaysia. The only treatment available is that of Vidal (1965) which is more than a century and quarter old. Since then lot of nomenclatural changes have taken place, and large number of species have been accumulated. Therefore, it seemed desirable to conduct a detailed taxonomic study of the genus *Eriobotrya*. Hence, we provided a complete taxonomic revision of the genus *Eriobotrya* in East, Southeast Asia, the Himalayas, and Western Malaysia, together with the distributions, habitat and ecology data based on herbarium specimens, details of taxonomic notes and records of specimens examined for each taxon are also provided.

Material and Methods

Plant materials: The taxonomic revision of the genus *Eriobotrya* was carried out, based on the original protologues, the type specimens, living material collected by authors and herbarium specimens deposited in relevant herbaria (A, AU, B, BM, CDBI, CANT, HITBC, HENU, HUH, HGAS, IBK, IBSC, K, KATH, KUN, K, L, LINN, M, N, NAS, NYBG, P, PE, SYS, SZ, TAIF, U, US, UPS, WU, WUK, YU) (acronyms according to Thiers 2016). For the designation of types, protologues were compared with original material and the most complete and informative herbarium specimen was selected in accord with the current ICN [International Code of Nomenclature for algae, fungi and plants (Shenzhen Code); Turland *et al.*, 2018]. Where necessary, original author citations and original name spelling has been updated in accord with ICN (Art. 46, & Art. 60, Turland *et al.*, 2018). Any lectotype previously designated (including inadvertent lectotypifications; i.e., when authors were unaware that they were lectotypifying was confirmed, and a second-step lectotypification was proposed, and when the type was not previously reduced to a single specimen or illustration in a former lectotypification (ICN; Arts. 7. 11 & 9.17 (Turland *et al.*, 2018).

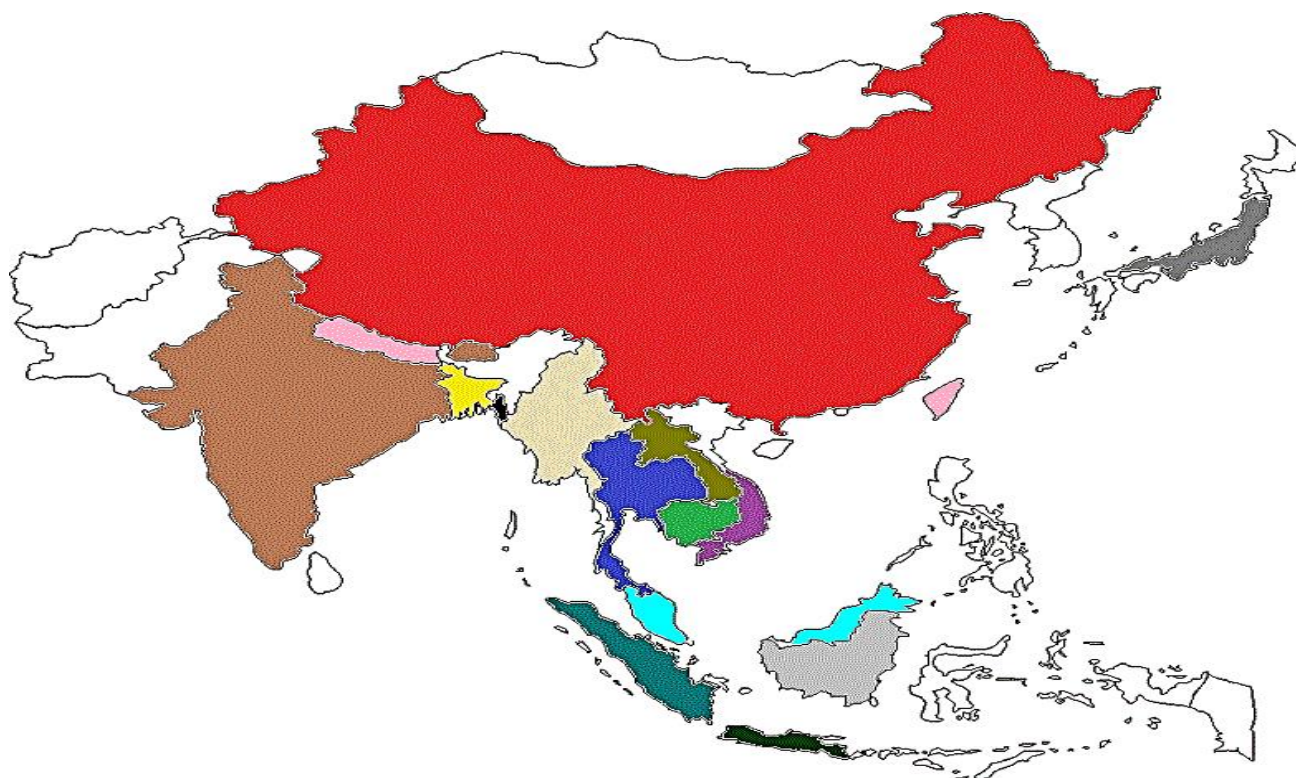


Fig. 1. Distribution of the genus *Eriobotrya* in Asia and Southeast Asia. Distribution pattern compiled from herbarium specimens and original protologue data.

Morphological parameters: Morphological characters (12 quantitative and 3 qualitative) were carried out based on a total of 87 accessions, including 36 accessions of *E. deflexa*, 36 accessions of *E. cavaleriei* and 8 accessions of *E. fulvicoma*, 6 accessions of *E. grandiflora* and 1 accession of *E. kwangsiensis* were used in present study to confirm interspecies relationship. Measurements were performed on each herbarium specimen (including types), using a ruler or ImageJ software.

Data analysis: Cluster analysis and scatter plot analysis were performed using PAST software (Hammer *et al.*, 2001). A Principal Coordinate Analysis (PCoA) was conducted on the basis of all morphological characters by using the methodology of Nobis *et al.*, (2016). Principal Component Analysis (PCA) was performed on the basis of correlation matrix (Sokal & Sneath, 1963). Each accession was marked with the symbol on the scatter plot. Factors with eigenvalues > 0.2 were chosen according to the Kaiser criterions (Kaiser, 1960).

Eriobotrya Lindl., *Trans. Linn. Soc. London* 13(1): 102.1821.
Lectotype species: *Eriobotrya japonica* (Thunb.) Lindl.
(= *Mespilus japonica* Thunb.).

Systematic treatment

Key to the species

- 1a. Leaf blades and petioles glabrous.
- 2a. Lateral veins 6–14 pairs.
- 3a. Leaves small, (4–) 5–7 (–8) cm long, completely entire, inflorescence dense capitate head **4. *E. capitata***
- 3b. Leaves large upto 22 cm long, crenate, serrate or sometimes serrate at the upper part, entire at the base. Inflorescence a panicle.

An evergreen shrubs or small to medium size tree; leaves simple, papery to coriaceous, subsessile or petiolate; leaf margins entire or serrated, midvein prominent on both surface; secondary venation camptodromous or craspedodromous, tertiary venation reticulate; stipules caducous or persistent, lanceolate, intrapetiolarly connate or free. Inflorescence in panicle terminal or compound raceme, panicle contracted or spreading, and tomentose or glabrescent; flowers white or yellowish, numerous, and usually tomentose or glabrescent; hypanthium obconoid or cupular; calyx reflexed apically in fruit and tomentose; calyx-tube obconic or turbinate; lobes persistent, small, spreading or erect; petals 5, orbicular or obovate, margins sinuate, base clawed, yellow or white, glabrous or villous at base; sepals 5, triangular to triangular-ovate, tomentose outside, glabrous inside; bracts subulate, persistent; stamens 15–40, free; ovary 2–5 celled, inferior or semi-inferior, with 2–5 ovules in each celled, glabrous or pubescent apically; styles 5, free or connate at base, glabrous or villous at base; fruit a pome with persistent incurved sepals, dry or more or less fleshy, exocarp tomentose; mesocarp thin to hard; endocarp membranous and glabrous; generally 1–2 seeds; seeds large, ovoid and angular; testa papery thin and cotyledons generally thick.

- 4a. Leaf margins crenate; peduncle 5 mm **6. *E. condaoensis***
 4b. Leaf margins completely serrate at the upper part, entire at the base; peduncle 10 cm.
 5a. Fruits ellipsoid **9. *E. dubia***
 5b. Fruits globose to subglobose.
 6a. Leaf apex subacute or obtuse **1. *E. angustissima***
 6b. Leaf apex distinctly acute to acuminate
 7a. Flowers sessile mostly clustered together; Stamens 30 **24. *E. poilanei***
 7b. Flowers pedicellate, pedicels 2–4 mm, not clustered; Stamens 20.
 8a. Flowers reddish orange; panicle 6–10 mm long **22. *E. obovata***
 8b. Flowers white or yellowish; panicle 12–16 cm long.
 9a. Leaf blades 7–20 × 2.5–6 cm; petioles 1.5–2.5 cm long **3. *E. bengalensis***
 9b. Leaf blades 16–22 × 6–9 cm; petioles 3.5–5 cm long **23. *E. petiolata***
 2b. Lateral veins 16–30 pairs.
 10a. Leaves narrowly-oblongate or lanceolate; leaf margins revolute **20. *E. longifolia***
 10b. Leaves elliptic or oblong to oblong-obovate; leaf margins not revolute.
 11a. Small tree (4–10 m); petals obovate, 6–9 × 5–10 mm, glabrous at base **18. *E. laoshanica***
 11b. Large tree (18–20 m); petals elliptic or ovate, 3.5–4.5 × 2.5–3 mm, villous at base.
 12a. Pedicels and peduncle densely rusty tomentose; styles 5, villous **10. *E. elliptica***
 12b. Pedicels and peduncle densely brown or yellow tomentose; styles 3–4, glabrous **31. *E. platyphylla***
 1b. Leaf blades pubescent or tomentose and petioles pubescent or tomentose.
 13a. Pedicels and peduncle rusty or yellow tomentose.
 14a. Flowers sessile; blades 20–30 × 5–10 (–13) cm; styles 3 or 4 **28. *E. serrata***
 14b. Flowers pedicellate, pedicel 2–4 mm; blades 7–16 × 3–6 cm; styles 2 or 3.
 15a. Inflorescence ca 15 cm long, spreading **19. *E. latifolia***
 15b. Inflorescence ca 5 cm long, contracted.
 16a. Leaves oblong or oblanceolate, apex obtuse; styles 3 to 4 **27. *E. seguinii***
 16b. Leaves linear-lanceolate or oblanceolate, apex acuminate; styles 2.
 17a. Leaf blades obovate-lanceolate, or narrowly elliptic; lateral veins 15–20 pairs **26. *E. salwinensis***
 17b. Leaf blade broadly elliptic or oblong-oblanceolate; lateral veins 10–12 pairs.
 18a. Petioles usually 1 cm; lateral veins 18–25 pairs **21. *E. malipoensis***
 18b. Petioles 2.5–4 cm; lateral veins 9 (–10) pairs.
 19a. Leaf margins remotely, sharply serrate; blades 2.5–11 × 0.7–3.5 cm **15. *E. henryi***
 19b. Leaf margins incurved, serrate; blades 20–30 × 5–10 (–13) cm.
 20a. Flowers sessile; leaves papery-leathery, apex acuminate **7. *E. × daduheensis***
 20b. Flowers pedicellate, pedicel 2–4 mm; leaves coriaceous, apex obtuse.
 21a. Leaves abaxially tomentose, adaxially rugose; petals ovate, apex obtuse; styles 5, pubescent apically **17. *E. japonica***
 21b. Leaves abaxially glabrous or glabrescent, not rugose; petals orbicular, apex emarginated; styles 2–4, glabrous **14. *E. grandiflora***
 13b. Pedicels and peduncle brown or brownish gray tomentose.
 22a. Leaf margins coarsely obtusely serrate, revolute **8. *E. deflexa***
 22b. Leaf margin shallowly or sharply serrate, not revolute.
 23a. Stipules obtuse (5 mm); lateral veins 10–14 pairs **5. *E. cavaleriei***
 23b. Stipules elliptic or semi-lunate; lateral veins 20–30 pairs.
 24a. Leaves abaxially initially rusty pubescent, glabrescent; flowers ca 2 cm in diameter, stalked **29. *E. tengyuehensis***
 24b. Leaves abaxially yellow villous; flowers ca 1 cm in diameter, stalked or sessile.
 25a. Stipules including bracts ovate; pedicels and peduncle gray tomentose; styles 2 or rarely 3 **25. *E. prinoides***
 25b. Stipules including bracts subulate; pedicels and peduncle densely rusty tomentose; styles 3 or 4 (–5).
 26a. Leaf margins remotely inconspicuously serrate at upper part, entire at the base; style 4 or 5 **11. *E. fragrans***
 26b. Leaf margins completely entire; style 2–3.
 27a. Hypanthium campanulate, tomentose abaxially; lateral veins 20–30 pairs **16. *E. hookeriana***
 27b. Hypanthium copular, glabrous abaxially; lateral veins 7–10 pairs.
 28a. Leaves oblong or oblong-lanceolate, blades 7–11 × 3–4 cm; petioles 1–2 cm **12. *E. fulvicoma***
 28b. Leaves broadly elliptic or oblanceolate, blades 15–20 × 7–10 cm; petioles 3.8–5 cm.
 29a. Lateral veins 11–13 pairs; inflorescence in panicle corymbs terminal, glabrous; styles 3–5 **30. *E. wardii***
 29b. Lateral veins 5–8 pairs; inflorescence a reduced panicle with rachis, subglabrous; style 1.
 30a. Shrubs or 0.5–2 m high; leaf margins completely entire; lateral veins 5–8 pairs **2. *E. × balgooyi***
 30b. Medium sized tree, upto 5 m high; leaf margins remotely serrate or undulate at upper part, entire at base; lateral veins 12–15 pairs.
 31a. Leaves elliptic- or oblong-ovate, blades 11–20 × 6.5–8 cm; petioles 2.4–4 cm; Stamens 20 **13. *E. fusca***
 31b. Leaves oblong, blades 8–10 × 2.5–3 cm; petioles 1 cm; Stamens 15 **32. *E. merguiensis***

1. *Eriobotrya angustissima* Hook.f., *Fl. Brit. Ind.* [J.D. Hooker] 2(5): 372. 1878.

Lectotype: India. Khasia Mts: “Simons, alt. 5000 ft., without date”, *J.D. Hooker et T. Thomson s.n.* (designated by Vidal 1965: K000758406!, isotype: BM000602192!).

Syntypes: Khasia between Myrung and Nunklow, 26 July 1850, *s.coll.s.n.* (K000758404!); Mooshye, Shrub 4 feet, 23 Sept. 1850, *s.coll.s.n.* (K000758406!).

Specimens examined: Inde.: *Hooker & Thomson s.n.*, 1855 (P!), *Simons s.n.*, (L!), *Collet 62*, April 1890 (K!), *Clarke 44259(K!)*; *Clarke 37359* (BM!); Vietnam. *A. Chevalier 38714*, 28 Aug. 1918 (P!, L!), *A. Chevalier 38856*, 28 Oct. 1918 (P!), *E. Poilane 31061*, 20 Oct. 1940 (P!), *E. Poilane 32548*, 25 Nov. 1941 (P!), *E. Poilane 30751*, 12 Oct. 1940 (P!), *E. Poilane 38714*, 12 Oct. 1940 (P!).

Distribution: N. E India (Khasia), and S. Vietnam (Nhatrang, Dilinh, and Chu-yang-sing).

Habitat and Ecology: *E. angustissima* found on the slopes among scrub, along River side (Khasia), and in the forest trees at altitude 1500 m. Flowering and fruiting between August–September.

Phylogeny: *E. angustissima* formed a clade with *E. stipularis* (Yang *et al.*, 2017).

Notes: We observed that *E. angustissima* Hook.f. (1878: 372) had close resemblance to *E. henryi* Nakai (1924: 70), but differed from the latter by having abaxially glabrous leaves (*vs.* abaxially rusty tomentose leaves in *E. henryi*), 3–6 cm long inflorescence (*vs.* 2.5–4.5 cm long inflorescence in *E. henryi*), and glabrous panicle (*vs.* tomentose panicle in *E. henryi*).

2. *Eriobotrya* × *balgooyi* (K.M. Wong & Ent) X.F. Gao & M. Idrees, *hybrid et stat. nov.*

Eriobotrya balgooyi K.M. Wong & Ent, *Pl. Ecol. Evol.*, 147(1): 136. 2014.

Holotype: Malaysia. Sabah, Ranau District: “Bukit Babi [Pig Hill] on the south-east side of Mount Kinabalu”, 6°03'N, 116°36'E, 2000–2300 m, 25 May 1984, *J.H. Beaman 9871* (K000618095!; isotype: MSC!).

Specimens examined: Borneo. Sabah, Kinabalu Park, Mount Tambuyukon, *Van der Ent et al.*, *SNP 24531*, 14 Apr. 2011 (SING!); *Van der Ent et al.*, *SNP25940*, 4 May 2011 (SING!); *Van der Ent et al.*, *SNP 26155 6*, May 2011 (L!, SING!).

Distribution: Malaysian Borneo, Sabah, Ranau District, Bukit Babi, and Mount Kinabalu.

Habitat and Ecology: *E. balgooyi* found in vegetation on shadow ultramafic soils (Bukit Babi), on a hill near the eastern ridge of Mount Kinabalu at alt. 4095 m and summit ridge of mount Tambuyukon at alt. 2579 m.

Notes: We examined the original protologue and type specimens, and observed that the morphological characters of *E. balgooyi* such as smaller leaves (2–6.2 × 1.5–4.7 cm), more shrubby (0.5–2 m), with fewer pair of lateral veins (5–8 pairs), camptodromous, and dark green with reddish purple veins; racemose inflorescence; light pink flowers; only 1 styles, and purple color fruits, all these characters are found in the genus *Rhaphiolepis* (Fig. 2). However, this species have only one character, fruit with persistent sepals, by which he included this species in the genus *Eriobotrya*. It is concluded that this species possibly as a hybrid between *E. bengalensis* and *R. indica*. Therefore, *E. balgooyi* is consider as the intergeneric hybrid between *E. bengalensis*, and *R. indica*, and propose here a new rank: *E. × balgooyi* (K.M. Wong & van der Ent) X.F. Gao and M. Idrees, *hybrid et stat. nov.*

3. *Eriobotrya bengalensis* (Roxb.) Kurz, *Prel. Rep. Forest Pegu APP*. A.p. lvii (1875).

A variable species, 4 varietis are recognized on the basis of inflorescence (spreading *vs.* contracted) and number of lateral veins.

Key to varieties

- 1a. Inflorescence spreading.
- 2a. Lateral veins (7–) 10 pairs, leaf apex acute, rarely shortly acuminate, fruits obovate; stipule triangular **3(i). var. *bengalensis***
- 2b. Lateral veins 12–15 (–18) pairs, leaf apex acuminate, fruits ovate; stipules caduceous **3(iii). var. *intermedia***
- 1b. Inflorescence contracted.
- 3a. Leaf margins remotely shallowly serrate; lateral veins 10 pairs, panicle ca. 5 cm **3(iv). var. *contracta***
- 3b. Leaf margins remotely incised-serrate, lateral veins 10–15 pairs, panicle 5–10 cm **3(ii). var. *angustifolia***

3(i). var. *bengalensis*

Mespilus bengalensis Roxb., *Fl. Ind.* ed. 2: 510. 1832 [“*Mespilus bengalensis* Roxb.”, *Cat. Hort. Beng.* 38. 1814. *nom. illeg.*, *Eriobotrya bengalensis* (Roxb.) Hook.f., *Fl. Brit. Ind.* [J.D. Hooker] 2(5): 371. 1878, *isonym*].

Neotype: India. “Silhet Mountains”, 1824, *Wallich 668.2* (K000758401!, designated by Idrees *et al.*, 2021a; isoneotypes: K00111550!, K000758403!).

Photinia dubia Wall. *Cat.* 668/2, 668/3, 668/4.668/E (1829). *nom. nud.*

Eriobotrya stipularis Craib, *Bull. Misc. Inform. Kew* 4: 109. 1929. *syn. nov.*

Lectotype: Thailand. “Siam, Satul, Adang, 1500 m, on rocky ridge”, 16 January 1928, *A.F.G. Kerr 14125* (K000758408!, designated by Liu *et al.*, 2020b, **corrected here**; isoelectotypes: K000758409!, BK257292!, TCD0016606!).



Fig. 2. **A.** Type image of *Eriobotrya balgooyi* (J.H. Beaman 9871, K!), **B.** Flowers of *E. balgooyi*, **C.** Fruit of *E. balgooyi*, **D.** Type image of *E. bengalensis*, **E.** Flowers of *E. bengalensis*, **F.** Fruits of *E. bengalensis*, **G.** Lectotype of *Rhapsiolepis indica* (Lindl.) (*Anon s.n.*, LINN!), **H.** Flowers of *Rhapsiolepis indica*, **I.** Fruits of *Rhapsiolepis indica*.

Eriobotrya tinctoria Kurz, *Prelim. Rep. For. Veg. Pegu, App. B.* 48. 1875, in *calvi*.

Neotype: Myanmar. Karen Country and Hills; 1891, *Kurz 191* (designated here: M0213895!).

Alsodeia grandis Miquel, *Fl. Ned.Ind. Eerste Bijv.* 3: 391 (1861).

Holotype: Indonesia.Sumatra, *HB 4023* (U0005827!).

Specimens examined: China. Guizhou, *Qiannan Team 1311*, 7 May 1959 (HGAS!), *Qiannan Team 1638*, 14 May 1959 (HGAS!); Yunnan.*Anonymous 8000*, 20 April 1957 (KUN!), *Anonymous s.n.* (IBSC!), *B.Y. Qiu 54462*, 23 Mar. 1957 (KUN!), *B.Y. Qiu 58825*, 28 Mar. 1964

(KUN!), *G.P. Yang 110*(HITBC!), *B. Qiu 59179*, 24 May 1964 (IBK!); Bengal.: *Griffith 2089*, 1862 (P!), *A. Kostermas 5961*, 20 July 1951 (P!), 668/3 (K!), 668/4 (K!), 668/E (K!); Indonesia, *A. Nitta 15019*, 28 Dec 1977 to 11 Jan. 1978 (K!), *H.F. Sun 62* (PE!), *H.F. Sun s.n.*, 1955 (IBSC!); Cambodia, *Anonymous s.n.*, May 1870 (P!), *Anonymous 599*, May 1870 (P!), *Cardot s.n.*, May 1917 (P!), *Muller 705*, Dec 1938 (L!), *Muller 603*, 6 Dec. 1938 (P!), *N. Mark, L. Jean-Noel, I. Oudomphone, C. Loic & L. Viboth 2148*, 21 Dec. 2008 (P!); *Pierre 599*, 1866 (P!), *Pierre 599*, Sept. 1869 (P!), *Pierre 599*, April 1877 (P!), *Pierre 599*, Mar. 1877 (P!), *E. Poilane 14075*, 17 Nov. 1927 (P!), *E. Poilane 14028*, 7 Nov. 1927 (P!), *E. Poilane 13968*, 14 Aug. 1928 (P!), *E. Poilane 22494*, 30 Nov. 1933 (P!); India, *Griffith 1843* (P!), *Griffith in Herb.Hance 2862* (P!), *F. Hooker & Thomson s.n.*, (Khasia) (P!); Laos, *E. Poilane 2315*, 8 Nov. 1920 (P!), *E. Poilane 8263*, 17 Oct. 1923 (P!), *E. Poilane 14075*, 17 Nov. 1927 (P!), *E. Poilane 16189*, 28 Oct. 1928 (P!), *E. Poilane 32306*, 13 Mar. 1941 (P!), *J.E. Vidal 2594*, 1 Jan 1954 (P!), *J.E. Vidal 4394*, 9 Nov. 1965 (P!); Malaysia, *M. Nur 32859*, 3 April 1937 (P!); Myanmar, *Griffith 2091*, 1861-2 (P!), *M. H. Khin 023952*, 27 May 2002 (KUN!), *T. A. Than & M. H. Khin 021360*, 2 Feb. 2001 (KUN!); Thailand, *Anonymous 46368*, 25 Dec. 1964 (P!), *Bosehproefalton 077*, 13 Feb. 1923 (L!), *K. Bunchuai1417*, 30 Nov. 1964 (P!), *R. Geesink & C. Phengkhilal 6178*, 7 July 1973 (P!), *K.P. Hootecom 752*, 19 Jan. 1969 (L!), *A.F.G. Kerr 5580*, 4 June 1921 (P!), *H. Koyama, H. Nagamasu & W. Nanakhorn 48825*, 1 Dec. 1984 (L!), *C. Niyomdhan & W. Ueachirakan 3553*, 1 Mar. 1994 (IBSC!), *M. Shigeyuki T. Yahara & H. Nagamasu 46487*, 6 Dec 1984 (L!), *T. Smitinand 10296*, 23 Nov. 1967 (P!), *T. Smitinand & H. Sleumer 1155*, 20 Sept. 1963 (L!), *P. Suvarnakoses 1619*, 14 Feb 1961 (P!), *J.E. Vidal 576*, Dec. 1971 (L!); Vietnam, *A. Chevalier 29944*, 13 Jan. 1914 (P!), *A. Chevalier 36640*, 19 Feb. 1918 (P!), *A.F.G. Kerr 8220*, 7 Jan. 1924 (P!), *Krishna 1509* (P!), *Van D. Phung 192*, 21 Dec. 1922 (P!), *M. Schnoid s.n.*, 22 April 1953 (P!), *VH 223*, 23 Feb. 1995 (P!), *VH 140*, 23 Feb. 1995 (P!), *VH 2111*, 29 Nov. 1995 (P!).

Distribution: Eastern Himalayan region (Sikkim, Khasia); China (Yunnan, Ghizhou), Bengal, Cambodia (Pursat; Phom da Thon), Indonesia, Laos, Myanmar, Vietnam (Sud); Thailand (Satul, Adang, Chanthaburi, Chiengmal, Doi Inthanon) and West Malaysia (Borneo: Kutei, Sekrat, Sangkulirang; Sumatra, Malaya).

Habitat and Ecology: Found often on the limestone or dry open forest and/or above sea level at altitude 800–1200 m. flowering between December–January, and fruiting between June–July (ripens).

Phylogeny: *E. bengalensis* var. *bengalensis* is sister to clade containing *E. bengalensis* var. *angustifolia*, *E. salwinensis*, and *E. deflexa* var. *buisanensis* (Yang et al., 2017; Idrees et al., 2020a).

Notes: In the protologue, *Eriobotrya stipularis* Craib (1929: 109) indicated close resemblance to *E. bengalensis*, but differed from the latter by persistent stipules and bracts, style apically free and connate at base. Vidal (1965) also stated that the species had close resemblance to *E. bengalensis* by the persistent stipules, and it might be a forma of *E. bengalensis*. Idrees et al., (2021b) confirmed that *E. bengalensis* and *E. stipularis* were closely related to each other, and there were no such characters which could distinguish both taxa from each other, except persistent or caducious stipules (Table 1). In addition, in one of the isotypes of *E. bengalensis* “Wallich 668.2” kept at P02143254, stipules persistent are can be seen clearly (Fig. 3). Herein, we propose that *E. stipularis* may be sunk in the synonymy of *E. bengalensis*. Liu et al., (2020b) designated the specimen “A.F.G. Kerr14125” kept at K000758408, as the lectotype. However, we found that the designated lectotype and isotype were cited under the same barcode, which was problematic. We found two duplicate sheets at K (000758408 and 000758409). Hence, we correct here the specimen of “A.F.G. Kerr 14125” kept at K000758408 as the lectotype, and the duplicate sheet at K000758409 as isolectotype (According to Art. 9.17 of the ICN, Turland et al., 2018).

In the protologue of *Eriobotrya tinctoria* Kurz (1875) cited a key to the species, without providing any locality or type. We found one specimen collected by Kurz from Myanmar, kept at Munchen herbarium (M). The sheet does not have any floral or fruit characters, but the leaf blade size, shape and texture, glabrous leaves on both surfaces, pairs of lateral veins, and petioles size has close resemblance to *E. bengalensis*. Hereafter, we propose here this species should be treated as synonym of *E. bengalensis* and designate here the original specimen of “Kurz 191” kept in M (0213895!) as the neotype.

3 (ii). var. *angustifolia* Cardot, *Not. Syst.* 3: 371. 1918.

Eriobotrya bengalensis (Roxb.) Hook.f. fo. *angustifolia* (Cardot) Vidal, *Adansonia* 5: 569. 1965.

Lectotype: China.Yuanna: Hay-y près Lou-Lan, Pau Ngueou, 29 May 1907, *Ducloux 4719* (P02143256!), first-step designated by Vidal 1965; second-step designated by Liu et al., (2020b), isolectotype: P02143257!).

Specimens examined: China.: Yunnan, *K.M. Feng 10937* (PE!), *K.M.Feng 22101*, 24 Nov. 1962 (NAS!), *E.D. Liu et al.,3574*, 23 Mar. 2012 (KUN!), *Y.M. Shui002081*, 25 April 1993 (PE!), *Y.M. Shui 002039*, 12 April 1993 (PE!), *Y.M. Shui002039*, 12 April 1993 (PE!), *Y.M. Shui 003397*, 11 Aug. 1993 (PE!), *H.F. Sun 51*(PE!), *H.T. Tsai 51799*, 14 Feb. 1933 (PE!), *Y. Tsiang 13140*, 1933 (PE!), *C.W. Wang & Y. Liu 97387*, 3 Mar. 1940 (PE!), *C.W. Wang & Y. Liu 87360*, 29 Feb. 1940 (PE!), *C.W. Wang & Y. Liu 87387*, 03 Mar. 1940 (PE!), *C.W. Wang & Y. Liu 88637*, 17 April 1940 (PE!), *Y.Z. Wang et al., 4110*, 18 Oct. 1998 (PE!); Vietnam,*A.F.G. Kerr 9768*, 25 Dec. 1924 (P!), *A.F. G. Kerr 18045*, 10 Jan. 1930 (P!), *A.F.G. Kerr 18469*, 8 Mar. 1930 (P!), *E. Poilane 7986*, 14 Sept. 1923 (P!).

Table 1. Morphological comparison of *E. bengalensis* var. *bengalensis* and *E. stipularis*.

Characters	<i>E. bengalensis</i> var. <i>bengalensis</i>	<i>E. stipularis</i>
Leaves	Oblong to oblong-lanceolate	Oblong-lanceolate
Dimensions (cm)	7–20 × 2.5–6	9–18 × 3.5–7
Leaf base	Shortly cuneate or attenuate	Cuneate
Leaf apex	Shortly acuminate or acute	Acuminate
Leaf margins, space (mm)	Remotely shallowly serrate, space 7–8, glabrous	coarsely serrate, 5–10, glabrous
Petioles (cm)	1.5–2.5	1.5–2.7
Stipules (cm)	Caduceus, triangular, 4 × 1, also observed 14 × 4	Persistent, elliptic, 6–13 × 4–10
Lateral veins (pairs)	10	10
Inflorescence (cm)	14	8
Pedicels (mm)	2–3	1–4
Indumentum of pedicel and peduncle	Tomentose	Tomentose
Petals (mm)	Ovate to broadly obovate, 4 × 2.4 mm, vilous at base or glabrous	Broadly ovate, 4 × 3, villous at base
Ovary	Pubescent apically	Pubescent apically
Styles	2 or 3, villous at base	2, villous at base

Table 2. Morphological comparison of *E. bengalensis* var. *bengalensis* and *E. bengalensis* var. *intermedia*.

Characters	<i>E. bengalensis</i> var. <i>bengalensis</i>	<i>E. bengalensis</i> var. <i>intermedia</i>
Leaves	Oblong to oblong-lanceolate	Oblong-lanceolate
Dimensions (cm)	7–20 × 2.5–6	12–24 × 4–8
Leaf base	Shortly cuneate or attenuate	Acute
Leaf apex	Shortly acuminate or acute	Acuminate
Leaf margins	Remotely shallowly serrate glabrous	Deeply serrate or crenate, glabrous
Petioles (cm)	1.5–2.5	1.5–2
Lateral veins (pairs)	10	12–15 (–18)
Inflorescence (cm)	14	5–10
Styles	2 or 3, villous at base	2, villous at base

Distribution: China: SE Yunnan, and NE Guizhou (Fanjing Shan), and Vietnam (Nhatrang, de Hue, Quang Nam, Buchma).

Habitat and Ecology: Found in the mixed forests, and limestone slopes, at alt. 1200–1800 m. Flowering between November–February.

Phylogeny: *E. bengalensis* var. *angustifolia* is sister to a clade containing *E. bengalensis*, *E. salwinensis* and *E. deflexa* fo. *buisanensis* (Yang *et al.*, 2017; Idrees *et al.*, 2020a).

Notes: We observed that this variety could be easily distinguished from type variety by having elliptic to oblong-lanceolate leaves, blades 7–15 × 2.5–4 cm (vs. oblong to oblong-lanceolate leaves, blades 7–20 × 2.5–6 cm in type variety), leaf margins deeply dentate, remotely incised-serrate (vs. leaf margins remotely shallowly serrate in type variety), 5–10 cm long and contracted inflorescence (vs. 14 cm long and spreading inflorescence in type variety), and 1.5–2 cm long fruit (vs. 1–1.5 cm long fruit in type variety).

3 (iii). var. *intermedia* (Vidal) X.F. Gao & M. Idrees, *comb. et stat. nov.*

Eriobotrya bengalensis (Roxb.) Hook.f. fo. *intermedia* Vidal, *Adansonia* 5: 568. 1965.

Lectotype: Myanmar. “In thicket on the western flank of the N’Maikha-Salween divide, east of Hpimaw”. Lat. 26°N, alt. 10000 ft., East Upper Burmarh, April 1919, *G. Forrest 17845* (E00072976!), designated by Liu *et al.*, 2020b; isolectotype: E00072977!).

Paratypes: Vietnam. “Province de Hue: Bach Ma, 1500 m”, *J.E. Vidal 35A* (P03650235!). Vietnam. “Prov. de Hue: Bach Ma, 1500 m”, *J.E. Vidal 35B* (P03650234!). Vietnam. “Prov. de Hue: Bach Ma, 1500 m, *J.E. Vidal 35C* (P03650231).

Eriobotrya bengalensis (Roxb.) Hook.f. fo. *multinervata* Vidal, *Adansonia* 5: 569. 1965. *syn. nov.*

Lectotype: Thailand. “Province Payap: Sisawat, Khanburi”, 16 July 1922, *A.F.G. Kerr 6293* (P03650228!), designated by Idrees *et al.*, 2021a; isolectotype: BM000602195!).

Specimens examined: China. Guangxi: *S.F. Yuan 6522*, 29 April 1963 (NAS!); Yunnan, *Anonymous 5366*, 28 Feb. 1957 (KUN!), *Anonymous 2215*, 10 Feb. 1965 (KUN!), *S.K. Wuet al.* 396, 30 Oct. 1995 (KUN!); Thailand, *B. Hasan, S. Gunner & T. Smitinand 10797*, 1964, (P!), *B. Hasan 10793* (P!), *K. Bunchuai & T. Smitinand 1489*, 25 Dec. 1964 (P!), *B. Sangkhachand & T. Smitinand 869*, 23 Nov. 1962 (P!), *A.F.G. Kerr 6293*, 16 Jan. 1922 (BM!), *A.F.G. Kerr 5372*, 7 May 1921 (P!, BM!), *A.F.G. Kerr 6293*, Sept. 1965 (P!), *J.F. Maxwell 91747*, 13 Aug. 1991 (P!), *C. Niyomdham 6206*, 31 May 1979 (P!), *Pot 4494*, 22 Dec. 1931 (P!), *T. Santisuk 1504*, 5 Dec. 1977 (P!); Vietnam, *A.F.G. Kerr 6433*, 22 Oct. 1922 (P!), *E. Polani 35584*, 25 Feb. 1946 (P!), *M. Schniod 1472*, Dec. 1952 (P!).

Distribution: China: Yunnan, Central Vietnam (Hua region, Bachma), and Thailand (Seng Khong, Sisawat, Khanburi, Doi Pa Kao, Doi Angka, Province Payap and Rachaburi).

Habitat and Ecology: Found in evergreen forests, or dense humid mountain, at alt. 1200–1400 m.

Phylogeny: *E. bengalensis* var. *intermedia* is sister to a clade containing *E. salwinensis* and *E. tengyuehensis* (Idrees et al., 2020a).

Notes: Vidal (1965) described and illustrated *Eriobotrya bengalensis* (Roxb.) Hook.f. (1878: 371) fo. *intermedia* Vidal (1965: 568–569), and stated that the presence of 4 styles in proportions of 20 %, by this character showed a close resemblance to both *E. bengalensis* (2–3 styles), and *E. serrata* Vidal (3–4 styles). We examined both the protologues and the type specimens, and concluded that this forma differed from *E. bengalensis* by having dentate leaf margins and more pairs of lateral veins. We also agree with Vidal (1965) observation and propose to treat it as a variety of *E. bengalensis* as *E. bengalensis* var. *intermedia* (Table 2). Our molecular study based on ITS sequences confirmed its phylogenetic position and formed a clade containing *E. salwinensis* and *E. tengyuehensis* (Idrees et al., 2020a).

Vidal (1965) described and illustrated *Eriobotrya bengalensis* (Roxb.) Hook.f. (1878: 371) fo. *multinervata* Vidal (1965: 569), and stated that this forma differed from *E.*

bengalensis by 15–20 pairs of lateral veins. The character of 15–20 pairs of lateral veins, in this this forma was similar to *E. bengalensis* var. *intermedia* (lateral veins 12–15 (–18) pairs), and we propose to treat forma *multinervata* as a synonym of *E. bengalensis* var. *intermedia* (Fig. 4).

3(iv).var. *contracta* (Vidal) X.F. Gao & M. Idrees, *comb. et stat. nov.*

Eriobotrya bengalensis (Roxb.) Hook.f. fo. *contracta* Vidal, *Adansonia* 5: 569 (1965).

Lectotype: Vietnam (Sud). “Region de Hue”, 6 Sept. 1938, *E. Poilane* 27620(P03650248!), designated by Idrees et al., 2021a; isolectotype: P03650249!).

Eriobotrya metrosideros (Lour.) A. Chevalier, *Cat. Pl. Jard. Bot. Saigon* p. 64. 1919. *syn. nov.*

Lectotype: Vietnam. *Cochinchina*, 4 Sept. 1918, *Loureiro s.n.* (BM0009060622!, designated by Idrees et al., 2021a).



Fig. 3. Similarity between *E. bengalensis* and *E. stipularis*. A. Isotype of *E. bengalensis* (Wallich 668/2, P!), B. Stipules persistent in *E. bengalensis*, C. Isotype of *E. stipularis* (A.F.G. Kerr 14125, K!), D. Stipules persistent in *E. stipularis*.



Fig. 4. Similarity between *Eriobotrya bengalensis* var. *intermedia* and *E. bengalensis* fo. *multinervata*.

A. Lectotype of *E. bengalensis* var. *intermedia* (G. Forrest 17845, E!) B. Iso-type of *E. bengalensis* var. *intermedia* (G. Forrest 17845, E!) C. Paratype of *E. bengalensis* var. *intermedia* (J.E. Vidal 35C, P!) D. Paratype of *E. bengalensis* var. *intermedia* (J.E. Vidal 35B, P!), E. Paratype of *E. bengalensis* var. *intermedia* (J.E. Vidal 35A, P!), F. Lectotype of *E. bengalensis* fo. *multinervata* (A.F.G. Kerr 6293, P!).

Specimens examined: Vietnam.: A. Chevalier s.n., 5 July 1918 (P!), A. Chevalier 38718, 31 Aug. 1918 (P!), A. Chevalier 38892, 4 Sept. 1918 (P!), E. Poilane 35584, 26 April 1939 (P!), E. Poilane 35584, 29 April 1947 (P!), E. Poilane 27620, 6 Sept. 1938 (P!), E. Poilane 27620, 26 April 1939 (P!), M. Counillon s.n., July 1889 (P), E. Poilane 7986, 26 April 1939 (P!), E. Poilane 8110, 18 Sept 1923 (P!), E. Poilane 8110, May 1924 (P!), J.E. Vidal 36, 23 Aug. 1943 (P!), E. Poilane 31104, 12 Oct. 1940 (P!), E. Poilane 31104, 25 Nov. 1941 (P!), E. Poilane 35584, 29 May 1947 (P 03650241!); Thailand. B. Hansen, G. Seidenfaden & T. Smitinand 10797, 20 Jan. 1964 (P!).

Distribution: Central Vietnam: Province de Hua, Province Quang Nam, Province Kontoum and Province Nha Trang.

Habitat and Ecology: Found in dense moist forest, at alt. 1000–1500 m.

Phylogeny: *E. bengalensis* var. *contracta* formed a clade with *E. maliopensis* (Idrees *et al.*, 2020a).

Notes: Vidal (1965) stated that *Eriobotrya bengalensis* (Roxb.) Hook.f. fo. *contracta* Vidal (1965: 569) differed from *E. bengalensis* by having contracted inflorescence. This variety could be distinguished from the type variety

by having 5 m small tree (vs. 15–27 m tall tree in type variety), 6 cm long and contracted inflorescence (vs. 14 cm and spreading inflorescence in type variety) (Table 3). This variety could be distinguished from variety *angustifolia* by these characters: leaf margins remotely shallowly serrate (vs. leaf margins remotely incised-serrate in *E. bengalensis* var. *angustifolia*), lateral veins 10 pairs (vs. lateral veins 10 (–15) pairs in *E. bengalensis* var. *angustifolia*), 6 cm long inflorescence (vs. 5–10 cm long inflorescence in *E. bengalensis* var. *angustifolia*) (Table 3). Therefore, we propose this forma be treated as a variety of *E. bengalensis* as *E. bengalensis* var. *contracta*. The phylogenetic study based on ITS sequences confirmed the phylogenetic position of *E. bengalensis* var. *contracta* (Idrees et al., 2020a).

4. *Eriobotrya capitata* Aver., *Pl. Diversity Fl. Veg. Hin Nam No* 118. 2019.

Holotype: Laos. “Khammouane prov., Boualapha distr., Nong Seng village, southern sandstone slopes at summit of Phou Chuang (Poujeuang) Mt. around point 17°35'18.1"N, 105°47'47.5"E”, 5 May 2018, L. Averyanov, Khang Sinh Nguyen, T. Maisak, Littideth Xaiyavongsa, Siphanom Keovankham, AL 680a (LE01048257!).

Specimens examined: Laos. Khammouane province: L. Averyanov et al. 680a IC (LE!), L. Averyanov et al. 680a 2C (LE!), L. Averyanov et al. 680a 3C (LE!), L. Averyanov et al. 680a 4C (LE!), L. Averyanov et al. 680a 5C (LE!), L. Averyanov et al. 680a 6C (LE!), L. Averyanov et al. 680a 7C (LE!).

Distribution: Laos (Khammouane Province: Non Seng)

Habitat and Ecology: Found in evergreen mixed and coniferous dense wind-formed forest at elev. 1000–1400 m. Flower mostly in May.

Notes: *Eriobotrya capitata* Aver. (2019) had close resemblance to *E. condaoensis* X.F. Gao, M. Idrees & T.V. Do (2018) in having leaves cluster at the apex of the branches, leaf blade glabrous on both surfaces, yellowish, sessile flowers and pair of lateral veins, but could be distinguished from the latter by small tree, upto 5 cm tall (vs. 8–12 m tall tree in *E. condaoensis*), (4)5–7(8) cm long leaves (vs. 8–12 cm long leaves in *E. condaoensis*), leaf margins completely entire (vs. leaf margins crenate in *E. condaoensis*), peduncle absent (vs. 5 mm long peduncle in *E. condaoensis*).

5. *Eriobotrya cavaleriei* (H.Lév.) Rehder, *J. Arnold Arbor.*, 13: 307. 1932.

Hiptage cavaleriei H.Lév., *Repert. Spec. Nov. Regni Veg.*, 10: 372. 1912.

Lectotype: China. Kouy-Tcheou (Guizhou): “Pin-fa, montagne en pente”, 20 May 1907, *J. Cavalerie* 3220 (E00011330!), designated by Liu et al., 2020b; isotype: A00055347!, E00284669!, E00011330!, K000758387!, P02143258!).

Eriobotrya brackloi Hand.-Mazz., *Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl.* liv: 102. 1922. *Eriobotrya cavaleriei* (H.Lév.) Rehder var. *brackloi* (Hand.-Mazz.) Rehder, *J. Arnold. Arbor.* 13(3): 308. 1932.

Lectotype: China. Kwangtung (Guangdong), “In silva and austro-occid. jugi Tsatmukngao prope oppidum lienping ad bor.-or. urbis Kanton sita ad rivus”, 800 m, substr. crystallino, 15 July 1920, *R.E. Mell* 659 (WU0059394!), designated by Liu et al., 2020b; isolectotype: A00026469!).

Eriobotrya brackloi Hand.-Mazz. var. *atrachophylla* Hand.-Mazz., *Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl.* liv: 103. 1922.

Lectotype: China. Hunan: austro-occ., “In monte Yün-scha prope urbem Wukang, in silva elata frondosa umbrosa”, alt. 950 m, 6 June 1918, *H.F. von Handel-Mazzetti* 12032 (WU0059395!), designated by Liu et al., 2020b; isolectotype: A00026471!).

Syntype: Same locality: *Handel-Mazzetti*, No. 12060 (A00026470!), WU0059396!, WU0059397!).

Specimens examined: China. Chongqing: *Chuangqi Team* 499, 1 June 1956 (PE!); Fujian, *J. He* 2002 (PE!), *Q.M. Hu* 3671, (PE!), *H. Lin* 896, 3 July 1934 (PE!), *H. Lin* 4134, 25 Oct. 1932 (PE!), *W.Q. Zhong* 186, 5 Oct. 1930 (PE!); Guangdong, *X.P. Gao* 51207, 25 Mar. 1931 (PE!), *X.P. Gao* 50478, 6 May 1930 (PE!), *X.P. Gao* 53532, 26 Oct. 1933 (PE!), *Y.G. Liu* 02969, 5 Nov. 1958 (PE!), *X.G. Li* 202267, 28 July 1958 (PE!), *W.T. Tsang* 22179, 1 May 1933 (P!), *W.T. Tsang* 22631, 4 July 1933 (P!), *W.T. Tsang* 21363, 4 Aug. 1933 (P!), *W.T. Tsang* 21684, 8 Sept. 1932 (P!), *Y.W. Taam* 114, 31 Nov. 1937 (P!), *Y.W. Taam* 553, 21 April 1938 (P!); Guangxi, *Anonymous* 00516 (PE!), *Z.Z. Chen* 50117, 23 July 1956 (PE!), *Z. Huang* 39423, 18 June 1936 (PE!), *Z. Huang* 40218, 16 Oct. 1936 (PE!), *Z. Huang* 40218, 16 Oct. 1936 (PE!); Guizhou, *W.T. Tsang* 21363, 4 Aug. 1932 (PE!), *Y. Tsiang* 6620, 23 Aug. 1930 (PE!), *W.T. Tsang* 21684, 8 Sept. 1932 (PE!), *Y. Tsiang* 4663, 18 Oct. 1930 (PE!), *W.Q. Zhong* 852, 15 July 1939 (PE!); Hubei, Guoxun: *G.X. Fu & Z.S. Zhang* 1940, 6 Oct. 1957 (PE!), *C.T. Hwa* 0448, 28 April 1948 (PE!), *D. Lunying & Q. Zhonghai* 950, 1 Sept. 1951 (PE!), *L.Y. Dai & Z.H. Qian* 1007, 6 Sept. 1951 (PE!); Hunan, *X.P. Gao* 54224, 2 May 1934 (PE!), *Handel-Mazzetti* 12032 (WU!); Jiangxi, *Q.M. Hu* 1766, 8 June 1958 (PE!); Sichuan, *W.P. Fang* 13422, 6 June 1939 (PE!), *Hsuing* 32487 (PE!), *J. Hua* 10146, 1947 (PE!), *F.T. Wang* 20540, 19 April 1930 (PE!), *J.H. Xiong X.S. Zhang & X.L. Jiang* 31013, 9 June 1952 (PE!), *J. Xiong, X. Zhang & X. Jiang* 32578, 14 Sept. 1952 (PE!), *C.W. Yao* 3569 (PE!); Yunnan, *S. Xu* 3556, 4 April 1959 (PE!); Vietnam, *M. Petelot* 4591, 1980 (P!), *M. Petelot* 8998 (P!), *M. Petelot* 8598, April 1944 (P!), *E. Poilane* 12785, 2 Aug. 1926 (P!), *E. Poilane* 12793, 2 Aug. 1926 (P!), *E. Poilane* 13113, 2 Aug. 1926 (P!).

Distribution: China: Chongqing, Fujian, Guangdong, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan) and Vietnam (Chapu, Chobo).

Habitat and Ecology: Found in vegetation on shadow ultramafic soils (Bukit Babi), fairly common dry silt sandy soil thicket, river side forests, on a hill near the eastern ridge of Mount Kinabalu at alt. 4095 m and summit ridge of mount Tambuyukon at alt. 2579 m. Flower mostly in May and fruiting between July–August.

Phylogeny: *E. cavaleriei* is sister to *E. fragrans* (Yang *et al.*, 2017).

Notes: Yang (2005) concluded that *E. cavaleriei* closely resembled morphologically with *E. fragrans* (1852), and suggested that one of them should be reduced to a varietal level. However, Idrees *et al.*, (2020a) study based on ITS sequences confirmed that *E. cavaleriei* and *E. fragrans* were distantly related to each other. *E. fragrans* formed a clade with *E. serrata*, *E. grandifolia*, whereas *E. cavaleriei* formed a monophyletic subgroup. We observed that both species had some common morphological characters but could be distinguished from one another by leaves shape, leaf margins, pairs of lateral veins, petals shape, styles number, indumentum of ovary and fruit size characters.

6. *Eriobotrya condaoensis* X.F. Gao, M. Idrees & T.V. Do, *Phytotaxa* 365(3): 290. 2018.

Holotype: Vietnam. “Ba Ria-Vung Tau Province, Con Dao National Park”, 21 March 2017, *D.V. Truong VNMN_CN 633* (VNMN!, isotype: CDBI!).

Distribution and Habitat: *Eriobotrya condaoensis* currently known from type locality only, southern Vietnam. It grows on slope of hill under tropical evergreen forest, at elevation ca. 20 m.

Phylogeny: *E. condaoensis* formed a trichotomy with *E. malipoensis*, *E. seguinii*, and with the rest of the genus (Idrees *et al.*, 2018).

Notes: In the protologue, it is mentioned that *Eriobotrya condaoensis* has similarity to *E. bengalensis* (Roxb.) Hook.f. (1878) in having glabrous leaves on both surfaces, styles number, fruits shape and size, but can be distinguished from the latter by combination of various morphological characters, such as leaf blade size and shape, leaf margins, length of petioles, pairs of lateral veins, size of panicle, length of pedicels and peduncle, flower colour, petals size and colour, styles shape, and indumentum of ovary.

7. *Eriobotrya* × *daduheensis* H.Z. Zhang ex W.B. Liao, Q. Fan & M.Y. Ding, *Phytotaxa* 212(1): 97. 2015.

Eriobotrya prinoides Rehder & E. H. Wilson (1912: 194) var. *daduheensis*, H. Z. Zhang, *Acta Horti.Sin.* 8. 1990. *nom. nud.*

Holotype: China. Sichuan: “Hanyuan County, Dashu Town, Xinmin Village, Mt. Shizishan, in the forest edge at the foot of the mountain, 970 m, 29°17'48.18"N, 102°39'44.94"E”, 19 December 2007, *Q. Fan 9292* (SYS00168451!, isotypes: SYS00174910!, SYS190936!, IBSC0820985!).

Specimens examined: China. Sichuan: *Q. Fan 9600*, 20 April 2008 (SYS!), *Q. Fan 9604*, 20 April 2008 (SYS!), *Q. Fan 9607*, 21 April 2008 (SYS!), *Q. Fan 9287*, 19 Dec. 2007 (SYS!), *Q. Fan 9349*, 20 Dec. 2007 (SYS!), *Q. Fan 9388*, 21 Dec. 2007 (SYS!), *Q. Fan 9394*, 22 Dec. 2007 (SYS!), *Q. Fan 9396*, 22 Dec. 2007 (SYS!), *Q. Fan 9401*, 22 Dec. 2007 (SYS!), *Q. Fan 9417*, 22 Dec. 2007 (SYS!), *Q. Fan 9421*, 22 Dec. 2007 (SYS!), *H.Z. Zhang 85018*, 28 April 1986 (PE!).

Distribution: China: Sichuan Province, Hanyuan Country (Dashu town, Xinmen village, Shizishan), Shimian Country (Xieluo Township, Tianping and Chengbei Township, Xiaping).

Habitat and Ecology: Found in the open forest or forest edge, along Daduhe River Basin at altitude about 900–1135 m. Flowering between October–January and fruiting between April–May.

Phylogeny: *E. × daduheensis* is hybrid between *E. japonica* and *E. prinoides* (Fan *et al.*, 2014). *E. × daduheensis* formed a clade with *E. japonica* (Idrees *et al.*, 2020a).

Notes: Fan *et al.*, (2014) confirmed the hybrid status of *E. prinoides* Rehder & Wilson var. *daduheensis* Zhang in the basis of molecular evidence which was consistent with the previous conclusions of Tang, (1997); Wang *et al.*, (2002). Liao *et al.*, (2015) validly published as hybrid species by giving both Latin and English description and selected “*Q. Fan 9292*” as the type. Most of habit foliage and characters of *Eriobotrya × daduheensis* has close resemblance to *E. japonica* and can be distinguished by leaf blades 14–21 × 3.5–7 cm (*vs.* leaf blades 12–30 × 3–9 cm in *E. japonica*), 1–2.5 cm long petioles (*vs.* 6–10 mm long petioles in *E. japonica*), 8–12 cm panicle (*vs.* 10–19 cm panicle in *E. japonica*), 3 or 4 styles (*vs.* 5 styles in *E. japonica*), and others remaining characters and habit foliage closely resemble to *E. japonica*.

Key to varieties

- 1a. 1a. Leaves 11–25 × 3–7 cm, with shortly caudate apex; fruit ellipsoid 10(i). var. *deflexa*
 1b. 1b. Leaves 7–14 × 1.5–3 cm, with obtuse apex; fruit globose 10(ii). var. *buisanensis*

8. *Eriobotrya deflexa* (Hemsl.) Nakai, *Bot. Mag.* (Tokyo) 30: 18, in adnot. 1916.

A variable species particularly plant height leaf size and apex. Two varieties are recognized.

8 (i). var. *deflexa*

Photinia deflexa Hemsl., in *Ann. Bot.* ix. 153. 1895.

Lectotype: Taiwan.Formosa: “BankinSing”, May 1894, A. Henry 498 (K000758389!), designated by Vidal 1965; isolectotype: A00026740!).

Specimens examined: China. Hainan: *DiaoLuoshan Team 2654*, 14 Nov. 1954 (IBSC!), *DiaoLuoshan Team 2797*, 25 Nov. 1954 (IBK!, IBSC!, PE!), *DiaoLuoshan Team 2993*, 18 Dec. 1954 (PE!), X.P. Gao 53015, 10 July 1933 (IBSC!, PE!), F.C. How 72715, 2 June 1935 (PE!), F.C. How 73073, 4 July 1935 (PE!), S.K. Lau 123-A, 19 June 1932 (PE!), X.Q. Liu 6318, 24 May 1935 (IBSC!), X.Q. Liu 27145, 16 June 1936 (PE!; KUN!), Y. Zhong 4054, 20 May 1961 (PE!); Taiwan, B. Bartholomew 7677, 3 Dec. 1997 (PE!), Chen 4751, 18 April 1982 (TAI!), P. Ching, W. P. Liu & C.H. Chen 13370, 24 July 1990 (PE!), A. Faurie 276, 24 April 1914 (P!), S.F. Huang 589, 6 April 1984 (TAI!), Huang 8819, 20 June 1982 (TAI!), S.F. Huang 75, 23 Sept. 1983 (TAI!), IS 1583, 28 Mar. 1971 (TAI!), Y.C. Jeng 1868, 2 Oct. 1977 (TAI!), T. Kiang & C.F. Hsieh 114, 12 Feb. 1971 (TAI!), M.T. Kao 7271, 13 June 1968 (PH!), Y. Kudo & S. Suzuki 3287, 21 April 1929 (TAI!), M. Kudo 2645, 28 Dec. 1930 (TAI!), T.S. Liu & H. Keng 2834, 9 Aug. 1955 (TAI!), J.Q. Liu et al., 808, 4 Dec. 1997 (PE!), Masamune 2792, 4 Feb. 1940 (TAI!), K. Mori s.n., 13 Sept. 1931 (TAI!), J. Murata, H. Murata & M. Hasebe 30127, 16 May 1989 (PE!), H. Ohashi, Y. Tateishi, T. Nemoto, H. Hoshi & T. Kajita 23833, 9 Oct. 1988 (PE!), S. Saito 7738, 31 Mar. 1926 (TAI!), H. Shimizu 665, 10 Jan. 1935 (TAI!), T. Shimizu & M. T. Kao 11924, 2 April 1961 (TAI!), S. Suzuki 6124, 23 Sept. 1930 (TAI!), C.M. Wang & C.Y. Li 04848, 15 April 2001 (PE!), Q.M. Wang & H. Zhang W00536, 18 Nov. 1993 (PE!), Y. Yamamoto s.n., 5 Jan. 1931 (TAI!), S. Yamada YD6, 23 Mar. 1941 (TAI!), Y. Yoshimatsu & K. Mori 305, 2 Aug 1937 (TAI!). Yunnan: C.W. Wang 87387, 1940 (KUN!), C.W. Wang 88072, 1940 (KUN!). Vietnam. E. Poilane 8372, 24 Oct. 1924 (P!), E. Poilane 5140, 11 Nov. 1922 (P!).

Distribution: China: Guangdong, Guangxi, Hainan, Jiangxi, Taiwan and S. Vietnam.

Habitat and Ecology: Found in broad-leaved forests on steep slopes, dry, sandy soil, at low or medium altitudes (lower than 1500 m). Flowering between May–June and fruiting between June–August. Gu & Sponberg (2003) considers it as endemic to Taiwan, China (Fig. 5, A).

Phylogeny: *E. deflexa* formed a clade with *E. kwangsiensis* (Yang et al., 2017).

Notes: We observed close resemblance of this species with *Eriobotrya elliptica* Lindl. (1821: 102) var. *petelotii* Vidal (1965: 552), but differed from the latter by 10–12 (–14) pairs of lateral veins (vs. 15–20 pairs of lateral veins in *E. elliptica* var. *petelotii*), brown tomentum on pedicels and peduncle (vs. rusty

tomentum in *E. elliptica* var. *petelotii*), and 3 styles (vs. 5 styles in *E. elliptica* var. *petelotii*).

8 (ii). var. *buisanensis* (Hayata) Hayata, *Cat. Governm. Herb. Formos.* p. 246. 1930.

Photinia buisanensis Hayata, *Icon, Pl. Formosan* 3: 100. 1913.

Lectotype: Taiwan. Buizan: 23 March 1910, S. Sasak s.n. (TAI!), designated by Hayata 1930; isotype: IBSC0299109!).

Paratype: *E. Matuda* s. n. (TAI055007).

Eriobotrya deflexa f. *buisanensis* (Hayata) Nakai, *Bot. Mag. Tokyo* 30: 18. 1916.

E. buisanensis Kaneh, *FormosTree* p. 218. 1918.

E. buisanensis (Hayata) Makino & Nemoto, *Fl. Japan* ed. 2: 464. 1931.

E. deflexa (Hemsl.) Nakai var. *buisanensis* (Hayata) Kaneh. et Sasaki in Sasaki, *Formos. Tree rev.* p. 260. 1936.

E. deflexa (Hemsl.) Nakai var. *koshunensis* Kaneh. & Sasaki, *Formos trees rev.* p. 261. 1936.

E. deflexa (Hemsl.) Nakai f. *koshunensis* (Kaneh. & Sasaki) H. L. Li, *Lloydia*, 14(4): 232 (1951).

Specimens examined: China. Taiwan: C.F. Chen 3158, 17 Jan. 2012 (TAI!), C.C. Chen & S.W. Chung 7376, 20 Mar. 2000 (TAI!), C.C. Chen & S.W. Chung 7347, 20 Mar. 2000 (TAI!), S.W. Chen 2330, 20 Mar. 2000 (TAI!), T.T. Chen 4407, 21 May 1994 (TAI!), T.T. Chen 1822, 3 Sept. 1993 (TAI!), T.T. Chen 7414, 15 Dec. 1995 (TAI!), W.L. Chiou 11963, 23 Oct. 1973 (TAI!), R.S. Chiou 7417, 15 Dec. 1995 (TAI!), T.I. Chuang 4935, 18 April 1962 (TAI!), A. Faurie 277, 1914 (P!), T.C. Huang & M.T. Kao 592, 23 Oct. 1972 (TAI!), M.T. Kao 4935, 18 April 1962 (TAI!), M.T. Kao 7271, 13 June 1968 (PH!), S.Y. Liu 18378, 19 Feb. 1986 (TAI!), S.Y. Liu s.n., 8 Mar. 2010 (TAI!), S.Y. Liu 16138, 10 May 1985 (TAI!), T.S. Liu & H. Keng s.n., 9 Aug. 1955 (PH!), S. Lu 16138, 10 May 1985 (TAI!), E. Matuda s.n., 30 Mar. 1917 (TAI!), S. Nakai s.n., 9 Dec. 1912 (NTUF!), C.L. Pan, G.F. Kuo & S.H. Wu 1251, 25 July 2001 (TAI!), S. Sasaki s.n., 2 Mar. 1920 (TAI!), H. Shimizu 3922, 22 July 1937 (TAI!), T. Suzuki 7964, 6 Jan. 1932 (TAI!), T. Suzuki 8893, 14 April 1933 (TAI!), C.S. Yang 442, 19 Mar. 1996 (TAI!), C.S. Yang 576, 11 May 1996 (TAI!), C.S. Yang 303, 24 Dec. 1995 (TAI!).

Distribution: China.Taiwan: Pingtung Country, Kosyun Peninsula.

Habitat and Ecology: Found in forest of Hengchun peninsula and Taitung and considered to be endemic in China.

Phylogeny: *E. deflexa* var. *buisanensis* is sister to clade containing *E. deflexa* and *E. Kwangsiensis* (Yang et al., 2012). *E. deflexa* var. *buisanensis* also formed a clade

with *E. salwinensis* (Yang *et al.*, 2017). *E. deflexa* var. *buisnanensis* formed a clade with *E. hookeriana*, *E. petiolata* and *E. bengalensis* (Idrees *et al.*, 2020a).

Notes: The small leaves, leaf margins and flowers easily distinguished this variety from *Eriobotrya deflexa* Hemsl. Var. *deflexa* Nakai (Fl. Taiwan, 1918: 18) and considers it to be endemic to Taiwan, China.

9. *Eriobotrya dubia* (Lindl.) Decne., *Nouv. Arch. Mus. Par. Ser. 1*, 10: 145. 1874.

Photinia dubia Lindl., *Trans. Linn. Soc. London* 13(1): 104, t. 10 (1821).

Lectotype: Nepal. “Wallich (Lambert)” “*Mespilus an bengalensis* Rb. E. Napalia, January 1818”. *E. Gardner s.n. in Wallich* (BM013717909!), designated by Idrees & Shaw 2021; Syntypes: BM013717910!, BM013717911!, BM013717912!).

Mespilus tinctoria D. Don, *Prodr. Fl. Nepal* p. 238.1825. *nom. superfl.*

Crataegus shicola Buchanan-Hamilton ex D. Don, *Prodr. Fl. Nepal* p. 238. 1825.

Lectotype: Nepal. “Narainhetty (= Narayan Hiti)”, 11 Feb. 1802, *F. Buchanan-Hamilton s.n.* (BM000940227!), designated by Idrees & Shaw 2021).

Specimens examined: Bhutan.: *G. King s.n.*, 1974 (P!); E. Himalayas. *Griffith 2092*, 1862 (P!), *J.D. Hooker & Thomson 631*, May 1917 (P!); Myanmar. *A. Rodgar & I.F. Esq., I.F.S. 738*, 4 Mar. 1917 (NAS!); Nepal. *Amatyaz, M.M. 12771*, 17 Mar. 1970 (KATH!), *M.M. Amantya 14690*, 24 May 1973 (KATH!), *M.M. Amantya, I. Sharma & R. Shoestha 156/76*, 19 May 1976 (KATH!), *Anonymous 11625*, 16 Mar. 1970 (KATH!), *Anonymous 14690*, 24 May 1973 (KATH!), *Anonymous 13394*, 12 Nov. 1970 (KATH!), *Anonymous 13394*, 19 Nov. 1970 (KATH!), *Anonymous 13394*, 19 Nov. 1990 (KATH!), *Anonymous 8316*, 13 Dec. 1967 (KATH!), *L. Epither 12614*, 7 Oct. 1927 (KATH!), *R. Joshi &*

Ghimira 74-297, 12 Jan. 1975 (KATH!), *D.A. Joshi & R. Rajbhandari 75/696*, 18 Mar. 1975 (KATH!), *H. Kanal 25*, 13 Feb. 1959 (KATH!), *Manandhar & Party 8316*, 13 Dec. 1967 (KATH!), *Murari & Madhavi 74-55*, 24 Nov. 1974 (KATH!), *D.H. Nicolson 3253*, 24 April 1967 (KATH!), *Prabha & Ramola 6704*, 14 Feb. 1967 (KATH!), *P. Pradhhan & S. Gurung 10561*, 3 July 1968 (KATH!), *P. Pradhan & M.R. Amatyaz 285*, 12 June 1974 (KATH!), *K.R. Rajbhandari, S. Bhattari, H.K. Sainju, L. Joshi, M. Kayaosha & R. Joshi 10373*, 29 April 1984 (KATH!), *Z. Ramola 4349*, 26 Mar. 1969 (KATH!), *T.B. Shrestha & Sakya 11625*, 16 Mar. 1970 (KATH!), *Stainton, Sykes & Williams 8895*, 12 Oct. 1954 (KATH!), *Wallich Cat.668/3 (K!)*, *Decaving 249*, 15 Nov. 1976 (P!).

Distribution: Eastern and Western Himalaya (Myanmar, Sikkim, Bhutan) and Nepal (Godavari, Phulchoki; Sheopuri; Sundarijar, Chandragiri Lekh (Kathmandu), Sattewati).

Habitat and Ecology: Found in moist evergreen forest at alt. 1300–2800 m. Flowering between September–November and fruiting between February–April.

Notes: We observed that most of the characters and habit foliage had close resemblance to *E. bengalensis* (Roxb.) Hooker (1878: 371), but differed from the latter by the following morphological characters: 8–10 m tall tree (*vs.* tree large, 15–27 m tall tree in *E. bengalensis*), lateral vein 9–14 pairs (*vs.* lateral veins 7–10 pairs in *E. bengalensis*), 5–10 mm long inflorescence (*vs.* 1.5–2.5 cm long inflorescence in *E. bengalensis*). Vidal (1965) stated that the ovary was apically glabrous in *E. dubia*, where as Hooker (1878) reported apically villous ovary.

10. *Eriobotrya elliptica* Lindl., *Tran. Linn. Soc. London* 13(1): 102. 1821.

Three varieties of this variable species are recognized

Key to varieties

- 1a. Leaf margins apically serrated; panicles large **10(i). var. *elliptica***
 1b. Leaf margins completely entire or sharply serrate; panicles short **2**
 2a. Lateral veins 15–20 pairs; Inflorescence contracted, densely rusty tomentose; flowers subsessile **10(ii). var. *petelotii***
 2b. Lateral veins 12–14 pairs; Inflorescence spreading, glabrous or glabrescent; flowers with pedicel **10(iii). var. *victoriensis***

Table 3. Morphological comparison of *E. bengalensis* var. *bengalensis*, *E. bengalensis* var. *contracta* and *E. bengalensis* var. *angustifolia*.

Characters	<i>E. bengalensis</i> var. <i>bengalensis</i>	<i>E. bengalensis</i> var. <i>contracta</i>	<i>E. bengalensis</i> var. <i>angustifolia</i>
Tree (m)	15–27	5	8–10
Leaves	Oblong to oblong-lanceolate	Lanceolate or oblong-lanceolate	Elliptic to oblong-lanceolate
Leaf apex	Acute to shortly acuminate	Acute or obtuse	Acuminate
Leaf margins, space (mm)	Remotely shallowly serrate, space 7–8	Remotely shallowly serrate, 6–10	Remotely incised-serrate, 7–9
lateral veins (pairs)	(–) 10	10	10 (–15)
Inflorescence (cm)	14, spreading	6, contracted	5–10, contracted

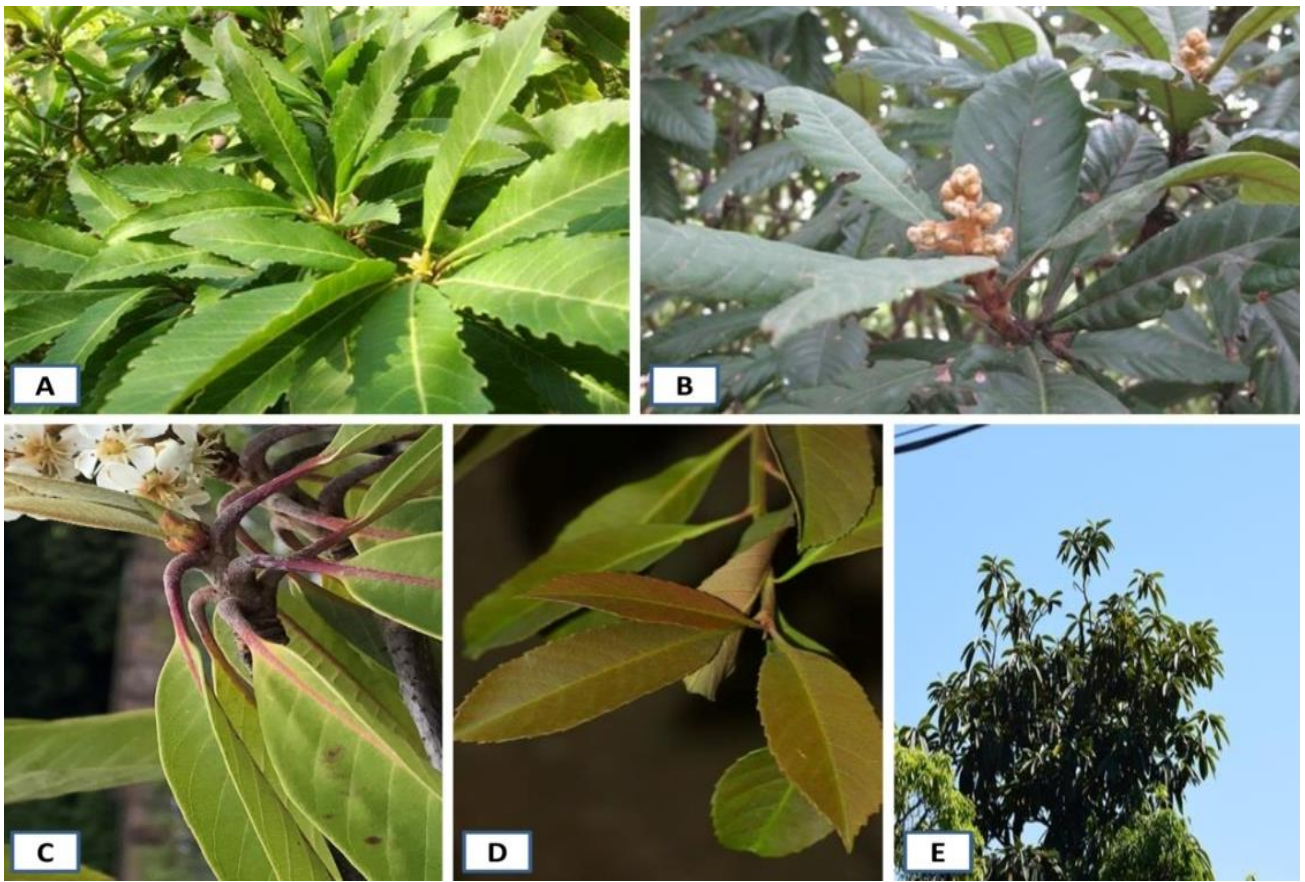


Fig. 5. Endemic species **A.** *E. deflexa*, **B.** *E. prinoides*, **C.** *E. longifolia*, **D.** *E. obovata*, **E.** *E. malipoensis*.



Fig. 6. **A.** Type of *Eriobotrya glabrescens* var. *victoriensis* (F. Kingdon-Ward 21915), **B.** Iso-type of *E. elliptica* (Wallich 667, NY!).

10 (i). var. *elliptica*

Holotype: Nepal. “Narainhetty”, 1 Feb. 1803, *F. Buchanan-Hamilton s.n.* (BM000521994!).

Mespilus cuila Buchanan-Hamilton. Mss. nom. superfl.

Mespilus cuila Buchanan-Hamilton ex D. Don, *Prodr. Fl. Nepal*. 238. 1825. nom. superfl.

Eriobotrya elliptica Hook.f. & Thomson, *Fl. Brit. India* [J.D. Hooker] 2(5): 370. 1878. nom. superfl.

Photinia elliptica G. Nicholson, *Ill. Dict. Gard.* iii. 108. 1886.

Cotoneaster ellipticus Hort ex Loudon, *Encyc. Pl.* 1208. 1866. syn. nov.

Cotoneaster lindleyi Steud., *Nomencl. Bot.* [Steudel], ed. 2.i. 426. 1840. syn. nov.

Cotoneaster laevis Hort. ex Steud., *Nomencl. Bot.* [Steudel], ed. 2.i. 426. 1840. syn. nov.

Cotoneaster nummularius Lindl., *Loud. Arb. & Frut. Brit.* ii. 872. 1838. syn. nov.

Specimens examined: China.: Xizang, *Anonymous s.n.*, 4 Sept. 1974 (PE!), *Anonymous 2460*, 11 Sept. 1974 (PE!), *Anonymous 2514*, 12 Sept. 1974 (PE!), *Anonymous 5096*, 11 Sept. 1974 (PE!), *Anonymous 2663*, 18 Sept. 1974 (PE!), *Anonymous 74-430*, 4 Aug. 1974 (KUN!), *Anonymous s.n.*, 1990 (NAS!), *S.S. Li & S.Z. Cheng 02490*, 12 Jan. 1983 (PE!), *Qinghai-Xizang Exped. 4030*, 4 Aug. 1974 (PE!), *Qinghai-Xizang Exped. 5096*, 11 Sept. 1974 (KUN!), *H. Yao et al.*, 3557, 28 Aug. 1990 (NAS!); Nepal, *Anonymous 8534*, 24 April 1967 (KATH!), *Anonymous 330*, 23 April 1976 (KATH!), *L.S. Bowes 67* (E), *N. Joshi & B. Silwal 561*, 25 Mar. 2002 (KATH!), *R.K. Manandhar & Party 6825*, 5 Mar. 1967 (KATH!), *J.J. Metz 92/112*, 21 May 1992 (KATH!), *D.H. Nicolson 2950*, 2 May 1967 (KATH 007832!), *O.S. Polunin & L.H.J. Williams 3837*, 4 April 1952 (P!), *O.S. Polunin & L.H.J. Williams 3871*, 6 April 1952 (P!), *Prabha & Z. Ramol 6780*, 14 Feb. 1967 (KATH!), *J.D.A. Stainton 4210* (E), *J.D.A. Stainton 4866*, 19 May 1965 (P 03240093!), *J.D.A. Stainton 6621*, 30 Oct 1969 (P!), *L.H.J. Williams 300*, 31 May 1969 (P!), *Wallich s.n.*, 8 April 1921 (NYBG!), *Wallich 667*, 1831 (K!, P!), *Wallich 665* (E!).

Distribution: China: SE Xizang (Medog Xian), Nepal (Chimkhola Village to Dirmiju Village; Phulchoki; Golpole Dada; NW slope of Nagargjung Hill; Godawari) and Tibetan Plateau.

Habitat and Ecology: Found in moist evergreen broad-leaves forest at alt. 500–2800 m. Flower mostly in April and fruit in June.

Phylogeny: *E. elliptica* is sister to clade containing *E. serrata* and *E. elliptica* var. *petioletii* (Yang *et al.*, 2017).

Notes: After going through the protologue and critically examining the type specimen it was found that *E. elliptica* closely resembled *E. petiolata* Hook.f. (1878: 370), but differed from the latter by having leaf margins obtusely serrate, space 7–8 mm (vs. leaf margins slightly undulate or serrated apically, space 4–5 mm in *E. petiolata*), 2–4 cm petioles (vs. 3.5–5 cm petioles in *E. petiolata*), contracted inflorescence (vs. spreading inflorescence in *E. petiolata*).

10 (ii). var. *petelotii* J.E. Vidal, *Adansonia* 5: 552. 1965.

Lectotype: Vietnam. “Province Kao Lay Chapa, 1500 m”, Jan 1929, *Petelot s.n.* (P02143261!), designated by Liu *et al.*, 2020b; isolecotype: P02143262!).

Specimens examined: Vietnam: *Anonymous s.n.* (P!), *M.S. Nuraliev & D.D. Sokoloff 288*, 23 Feb. 2011 (MW!), *Petelot 3285*, Sept. 1928 (P!).

Distribution and Habitat: N. Vietnam: Sapa, Province Laocai and Bhutan (Phodrang) at alt. 1500–2280 m. Flowers mostly in January and Fruits in September.

Phylogeny: *E. elliptica* var. *petelotii* is sister to clade containing *E. elliptica* and *E. serrata* (Yang *et al.*, 2017).

Notes: According to the protologue, this variety distinguished from *Eriobotrya elliptica* by having leaf margins deeply sharply serrate, deep ca. 3 mm. We examined the type specimen and concluded that *E. elliptica* var. *petelotii* differed from *E. elliptica* by oblanceolate or broadly lanceolate leaves, blades 20–28 × 8–10 cm, with sharply serrate and ca. 10 cm long inflorescence. In contrast, *E. elliptica* has oblong to oblong-lanceolate or obovate leaves, blades 12–22 (–30) × 4–9 cm, leaf margins obtusely serrate apically, and entire at base and 7–14 cm long inflorescence. *E. elliptica* var. *petelotii* had also close resemblance to *E. serrata* Vidal (Vidal 1965) by having almost similar leaf size and leaf base, and inflorescence size but can be distinguished from the latter by having leaf margins sharply and deeply serrate (vs. leaf margins sharply incurved-serrate in *E. serrata*), 2–4 cm long petioles (vs. 1.5–2.5 cm long petioles in *E. serrata*), and lateral veins 15–20 pairs (vs. lateral veins 10–14 pairs in *E. serrata*).

10 (iii). var. *victoriensis* (J.E. Vidal) X.F. Gao and M. Idrees, *comb. et stat. nov.*

Eriobotrya glabrescens var. *victoriensis* J.E. Vidal, *Adansonia* 5: 555. 1965.

Holotype: Myanmar. Kachin State: “Birmanie centrale: Mt Victoria, 1300 m, 2 April 1956, *F. Kingdon-Ward 21915* (BM000602190!).

Specimens examined: Myanmar: N.M. Taung, P. Srisanga 097768, 10 March 2014 (SING!); Chin State: *H. Nagamasu, K. Yonekura, O.T. Tetsuo & S. Maung 35384*, 2006 (TI!), *H. Nagamasu, K. Yonekura, O.T. Tetsuo & S. Maung 35323*, 2006 (TI!), *J. Murata et al. 24736*, 2002 (TI!), *N. Kuroiwa, K. Fujikawa, & H. Sonoki 30343*, 2004 (TI!), *N. Tanaka et al. 23613*, 2002 (TI!).

Distribution: Myanmar: N. Burma, Mt. Victoria

Notes: We observed a close resemblance of *Eriobotrya glabrescens* var. *victoriensis* Vidal to *E. elliptica* in habit foliage and characters, but could be distinguished from the latter by short, ca. 8 cm long, spreading inflorescence and 3 or 4 styles. In contrast, *E. elliptica* has 9–14 cm, contracted inflorescence and 5 styles. *E. glabrescens* var. *victoriensis* can also be distinguished from type variety by inflorescence shape and styles number, while other remaining characters are almost similar to type variety (Fig. 6, Table 4). Therefore, we propose here to treat *E. glabrescens* var. *victoriensis* as a variety of *E. elliptica*.

Key to varieties

- 1a. Petioles 1.5–3 cm long; panicles 7–11 cm; pedicel 3–5 mm; densely brown tomentose **11(i). var. *fragrans***
 1b. Petioles 1.5–3 cm long; Panicles 5–6 cm; pedicel 1–2 mm; densely rusty tomentose **11(ii).var. *furfuracea***

11. *Eriobotrya fragrans* Champ. ex Benth., *Hooker's J. Bot. Kew Gard. Misc.* 4: 80. 1852.

Two varieties are recognized in the present treatise.

11(i).var. *fragrans*

Lectotype: China.Hong Kong: “Mt. Victoria”, 2 June 1985, *J.G. Champion s.n.* (K000758384!, selected by Vidal 1965, **first-step** “type”; **second-step** designated here: isolectotype: K000758383!).

Specimens examined: China. Fujian: *Fujian Compl.Exped.2297*, 25 April 1965 (NAS!); Guangdong, *N.Q. Chen 41087*, 24 May 1930 (PE!), *N.Q. Chen 41316*, 22 July 1930 (PE!), *N.Q. Chen 41674*, 25 Aug. 1930 (PE!), *T.S. Chu 642*, 20 June 1951 (IBSC!), *L. Deng 2311*, 15 Aug. 1956 (PE!), *L. Deng 1070*, 28 Aug. 1956 (PE!), *L. Deng 8669*, 29 Nov. 1958 (PE!), *H.T. Fu 701136* (IBSC!), *X.P. Gao 51322*, 15 April 1931 (PE!), *Guangdong Wood Survey Group 769* (IBSC!), *Z. Huang 32283*, 30 April 1932 (PE!), *Z. Huang 30935*, 15 July 1931 (PE!), *Y.W. Taam 114*, 31 Nov. 1937 (IBSC!), *P.X. Tan 58735*, 10 July 1958 (PE!), *P.X. Tan 58945*, 11 Aug. 1958 (PE!), *W.T. Tsang 21587*, 26 April 1932 (NAS!), *W.T. Tsang 20479*, 15 May 1932 (P!, PE!), *W.T. Tsang 20479*, 15 May 1930 (PE!), *W.T. Tsang 20573*, 26 May 1932 (PE!), *W.T. Tsang 28674*, (IBSC!), *T.M. Tsui 814*, July–Sept. 1932 (P!, PE!), *Z.F. Wei 121006*, 2 July 1958 (PE!), *Z.F. Wei 121617* (NAS!), *Z.F. Wei 121617*, 5 Sept. 1958 (PE!); Guangxi, *S.Q. Chen 4637*, 4 Mar. 1944 (IBSC!), *S.K. Lau 123-A*, 19 June 1932 (P!), *R.C. Qin 8074*, 21 Oct. 1928 (PE!), *Z.Z. Xin 9047* (IBSC!), *H. Zhang 12860* (IBK!); Jiangxi, *L. Deng 4104*, 6 April 1957 (PE!); Hong Kong, *Anonymous 397* (K!), *Ford s.n.*, 2 June 1885 (K!), *S.Y. Hu 11618*, 23 Mar. 1972 (PE!), *S.Y. Hu 13559*, 28 Mar. 1975 (PE!), *S.Y. Hu 13209*, 31 Mar. 1973 (PE!), *S.Y. Hu 13238*, 7 April 1973 (PE!), *S.Y. Hu 10750*, 30 July 1970 (PE!), *S.Y. Hu 11255*, 20 Nov. 1971 (PE!), *Y. Tsiang 242*, 18 April 1928 (PE!).

Distribution: China: Fujian, Guangdong, Guangxi, Jiangxi, Xizang and Vietnam (Honba, Phukhanh).

Habitat and Ecology: Found in stream side, dry forest ground or woody species of low area or in a ravine on Mount Victoria at alt. 800–900 m. Flowering between April–May and fruiting between August–Septembers.

Phylogeny: *E. fragrans* formed a clade with *E. cavaleriei* (Yang *et al.*, 2017). *E. fragrans* formed a clade with *E. grandiflora* (Idrees *et al.*, 2020a).

Notes: In the protologue, Champion (1852: 80) mentioned the locality: Mount Victoria from China, Hong Kong, but did not indicate the type. Vidal (1965) cited the specimen from Hong Kong, Mt. Victoria “*Champion s.n.*” kept at K as the type [first step]. We found 2 duplicate sheets bearing

the same locality, kept at K from which the lectotype could be chosen. Both the sheets have complete information in accordance with the protologue. We designate here the blooming specimen of “*J.G. Champion s.n.*” and labeled with a red printed tag “TYPE” kept in K000758384, as the lectotype [second-step, according to Art. 9.17 of the ICN], and the duplicate specimen at K000758383, as the isolectotype. We observed that *E. fragrans* had close resemblance to *E. prinooides* Rehder & Wilson (1912), but differed from the latter by having leaf margins remotely apically, inconspicuously serrate, space 3–5 mm (vs. leaf margins remotely crenate or obtusely serrate, space 6–10 mm in *E. prinooides*), elliptic or broadly ovate petals, 8 × 5 mm (vs. ovate petals, 4–5 mm in *E. prinooides*), triangular-ovate sepals (vs. oblong-ovate sepals in *E. prinooides*), 4 or 5 styles (vs. 2 or rarely 3 styles in *E. prinooides*). Idrees *et al.*, (2020) study based on ITS sequences confirmed its position, and formed a clade with *E. grandiflora*.

11(ii).var. *furfuracea* J.E. Vidal, *Adansonia* 5: 557. 1965.

Lectotype: Vietnam (Sud-Annam). Nha Trang: “Massif du Hon Ba”, 1000–1500 m”, en fleurs, 5 September 1918, *A. Chevalier 38893* (P02143263!, designated by Liu *et al.*, 2020b; isotypes: A00026481!, C10017884!, K000758407!, L0019413!, P02143264!, P02143265!, P02143266!).

Distribution: S. Vietnam (Chatrang).

Habitat and Ecology: Found in forest at alt. 1000–1500 m. Flowers and fruits mostly in September.

Notes: We observed that this variety differed from *E. fragrans* by having broadly oblong to oblong-elliptic leaves with sharply apically serrate and entire at base margins, ca. 4 cm petioles, ca. 4 mm calyx tube, ca. 2 mm lobes and 5–6 cm panicle.

12. *Eriobotrya fulvicoma* W. Y. Chun ex W. B. Liao, F. F. Li & D. F. Cui, *Ann. Bot. Fenn.* 49(4): 264. 2012.

Holotype: China. Guangdong: “Xinyi County, Dawuling Natural Reserve, 45 m”, 28 April 1932, *Z. Huang 32257* (WUK0109531!; isotypes: IBSC0298975!, IBK00060958!, IBK00060976!, KUN0116268!, PE00799336!, SZ00194329!).

Paratype: China. Guangdong: “Dawuling Natural Reserve, Xinyi city, growth in mixed forest of valley, alt. 45 m a.s.l.”, 23 April 1932, *Z. Huang 32174* (IBSC0298973!, IBK00060963!, IBK00060963!, IBSC0298973!, KUN0116267!, PE00799340!, SZ00194441!, WUK0110493!, SN007751!, SZ00194441!).

Eriobotrya kwangsiensis Chun, *Acta Hort.* 750: 221. 2007. *syn. nov.*

Holotype: China. Guangxi, 18 June 1936, Wang 39423 (IBK00061038!).

Specimens examined: China. Guangdong: Z. Huang 6369, 10 March 1963 (IBK!), W.Y. Chun 42628, 2 April 1933 (IBSC!), X.P. Gao 53015, 10 July 1933 (SN!, KUN!), Marriott 60151, 1963 (JXU!), Marriott 60458, 1963 (JXU!), W.T. Tsang, 25004, 20 Oct. 1935 (IBSC!).

Distribution: China. Province Guangdong: Ruyuan Guangdong (National nature protection), and Province Guangxi: Dayao Mountain (Jinxu country), the Rong River (North of Guangxi), Hezhoumajin

Habitat and Ecology: Found mostly growing in mixed forest of valley, alt. 45–165 m a.s.l. Flowering between April–June and fruiting between September–November.

Notes: We studied the original protologue, the type specimens and observed that *Eriobotrya fulvicoma* had close resemblance to *E. kwangsiensis* in the following characters; oblong-lanceolate or oblong leaves, blades 7–11 × 3–4 cm (vs. oblong-lanceolate or elliptic-oblong leaves, blades 12–18 × 3–6 cm in *E. kwangsiensis*), with shortly acuminate apex and cuneate base (vs. acuminate apex and cuneate base in *E. kwangsiensis*), 1–2 cm petioles (vs. 1–2.5 cm petioles in *E.*

kwangsiensis) (Fig. 7, Table 5). Morphometric analysis was carried out by us on the basis of quantitative and qualitative characters to further confirm whether the species was closely related or distinct. Most of the specimens of *E. fulvicoma* (including isotype, “Z. Huang 32257” and paratype, “Z. Huang 32174” in different herbaria of China (IBK, IBSC, KUN, PE, SZ), either labelled as *E. cavaleriei* or *E. deflexa*. Thus, *E. cavaleriei* or *E. deflexa* was also included in the analysis to confirm its interspecies relationships. A total of 81 accessions including 36 accessions of *E. cavaleriei*, 36 accessions of *E. deflexa* and 8 accessions of *E. fulvicoma* and 1 accession of *E. kwangsiensis* were used in present study. A total of 12 quantitative and 3 qualitative characters were included. However, fruits length and diameter were excluded because most of the sheet of *E. fulvicoma* and *E. kwangsiensis* did not bear fruits. Cluster analysis separated into 4 main clusters. Cluster I was divided into 3 subclusters, subcluster 1 consisted of *E. fulvicoma* and *E. kwangsiensis* accessions, showing their close relationship, whereas subcluster 2 and 3 consisted of *E. deflexa*. Cluster II consisted of *E. deflexa* accessions, cluster III and IV consisted of *E. cavaleriei* (Fig. 8). Our results support the view that *E. fulvicoma* and *E. kwangsiensis* are closely related, and propose here *E. kwangsiensis* be reduced to the synonymy of *E. fulvicoma*.

Table 4. Morphological comparison of *E. glabrescens* var. *victoriensis* and *E. elliptica*.

Characters	<i>E. glabrescens</i> var. <i>victoriensis</i>	<i>E. elliptica</i>
Leaves	Elliptic-oblong	Oblong to oblong-lanceolate
Leaf dimensions (cm)	15–25 × 6–8	12–22 (–30) × 4–9
Leaf margins	entire along whole length or obscure teeth apically	obtusely serrate apically
Leaf base	Attenuate	Attenuate
Lateral veins (pairs)	14–15	12–16 (–18)
Petiole (cm)	3–4	3.5–5
Inflorescence	8, glabrous or glabrescent, contracted	9–14, glabrescent, spreading
Pedicel s (mm)	2–3	Subsessile
Styles	3 or 4, villous	5, villous

Table 5. Morphological characteristics of *E. fulvicoma* and *E. kwangsiensis*.

Characteristic	<i>E. fulvicoma</i>	<i>E. kwangsiensis</i>
Tree height (m)	24	15–30
Leaf blades	Oblong-lanceolate or oblong	Oblong-lanceolate or elliptic-oblong
Leaf length x width (cm)	7–11 × 3–4	12–18 × 3–6
Apex	Shortly acuminate or acute	Acuminate
Base	Cuneate	Cuneate or attenuate
Leaf margins	Irregularly incurved-serrate	serrate or crenate
Petiole Length (cm)	1–2	1–2.5
Lateral vein (pairs)	7–10	8–14
Midvein	Prominent on both surfaces	Prominent on both surfaces
Inflorescence (cm)	6–7	8–10
Indumentum of pedicels and peduncle	Densely brown	Densely brown
Petals	White	White
Styles	3, and connate at base	(–) 3 (–4), and connate at base



Fig. 7. Similarity between *E. fulvicoma* and *E. kwangsiensis*.
A. Isotype of *E. fulvicoma* (Z. Huang 32257, PE!), **B.** Isotype of *E. fulvicoma* (Z. Huang 32257, KUN!), **C.** Isotype of *E. fulvicoma* (Z. Huang 32257, IBK!), **D.** Isotype of *E. fulvicoma* (Z. Huang 32257, IBSC!), **E.** Isotype of *E. fulvicoma* (Z. Huang 32257, PE!), **F.** Paratype of *E. fulvicoma* (Z. Huang 32157, IBSC!), **G.** Paratype of *E. fulvicoma* (Z. Huang 32157, IBK!), **H.** Type image *E. kwangsiensis* (Z. Huang 39432, IBK!).

13. *Eriobotrya fusca* Kuan ex Gao & Idrees, *Bangladesh J. Bot.* 49 (4): 1077-1084. 2020b.

Holotype: SW China. Yunnan Province: “Lushui Xian, Yanzijiao, alt. 1450 m”, March 1957, *Liu Wei-Xin 103* (PE!, Isotypes: PE!, KUN!).

Distribution: SW China: Yunnan Province

Habitat and Ecology: Found on streamside or along river side, at alt. 1450 m.

Phylogeny: *E. fusca* formed a trichotomy with *E. fragrans* and *E. serrata* (Idrees *et al.*, 2020b).

Note: *Eriobotrya fusca* Kuan ex Gao & Idrees had close resemblance to *E. salwinensis* Hand.-Mazz. (1929), but differed from it by having elliptic-oblong or oblong-ovate leaves, 12–15 pairs of lateral veins, lanceolate bracteoles, peduncle ca. 10 mm long, pedicels absent, both densely brown tomentose, suborbicular petals with emarginate apices, triangular sepals with acute apices, and styles with connate base. In contrast, *E. salwinensis* has obovate-lanceolate leaves, 15–20 pairs of lateral veins, ovate bracteoles, peduncle absent, 2–3 mm pedicel, both densely rusty tomentose, obovate petals with rounded apices, ovate sepals with obtuse apices, and styles with free base.

14. *Eriobotrya grandiflora* Rehder & E.H. Wilson, *Pl. Wilson.* (Sargent) 1(2): 193. 1912.

Lectotype: China. Western Szech’uan (Western Sichuan): “alt. 1600m, May 1904, *Veitch Exped. 3506* (A00026472, designated by Liu *et al.*, 2020b; isolectotypes: A00026473!, BM000602187!, HBG511040!, K000758386!, P02143267!).

Eriobotrya deflexa var. *grandiflora* Nakai, *J. Arn.Arb.*5: 72. 1924.

Specimens examined: China. Sichuan: *S. Tzu-pu 38150*, 1954 (PE!), *Wilson 2999*, *C.W. Yao 3569* (PE!).

Distribution: China: Sichuan Province.

Habitat and Ecology: One specimen (*E.H. Wilson 3506*) was collected from Sichuan without precise locality at 1600 m altitude and the other specimen (*E.H. Wilson 2999*) was collected in Mupin at alt. of 1300 m.

Phylogeny: *E. grandiflora* formed a clade with *E. fragrans* (Idrees *et al.*, 2020a).

Notes: The phylogenetic study based on ITS sequence showed that *E. grandiflora* should be considered a distinct species. Phylogenetically it is closely related to *E. fragrans* (Idrees *et al.*, 2020a).

15. *Eriobotrya henryi* Nakai, *J. Arnold.Arb.*5: 70. 1924.

Lectotype: China. Yunnan: “Szemao, 19000”, *A. Henry 13018* (A00026474!, designated by Liu *et al.*, 2020b; isolectotype: K000758388,

Syntype: *A. Henry 11644* (A00063057!, A11644A!, A00026475!).

Specimens examined: China. Guangxi: *N.S. Albert & H.C. Cheo 93*, 29 Mar. 1933 (P!), *Anonymous 954* (South China Team), 22 May 1989 (IBSC!); Guizhou, *S.W. Teng 1025*, 23 Aug. 1935 (IBSC!), *Y. Tsiang 4444*, 25 Oct. 1930 (PE!); Yunnan, *Anonymous 0149*, 14 Mar. 1957 (KUN!), *Anonymous 0178*, 15 Mar. 1957 (KUN!), *Anonymous 307*, 25 Mar. 1957 (KUN!), *Anonymous 380*, 29 Mar. 1957 (KUN!), *Anonymous 4919*, 27 Mar. 1991 (KUN!), *Anonymous 8072*, 13 April 1960 (PE!), *Anonymous 2473*, 2 May 1990 (KUN!), *Anonymous 3291*, 11 July 1990 (KUN!), *Anonymous 3345*, 12 July 1990 (KUN!), *Kunming Team 04422* (PE!), *K.Z. Hou 74320*, 4 Feb. 1940 (PE!), *K.Z. Hou 74434*, 10 Mar. 1940 (IBSC!), *F.C.Hou 74434*, 10 Mar. 1940 (PE!), *Y. Jiang & X. Wang 16131*, Mar. 1939 (IBSC!), *Y. Jiang & X. Wang 16142*, Mar. 1939 (IBSC!), *W.X. Liu 0174*, 8 April 1957 (PE!), *J.S. Yang 91-002*, 21 Mar. 1991 (PE!), *W.Q. Yin 0149*, 14 Mar. 1957 (PE!), *W.Q. Yin 307*, 25 Mar. 1957 (PE!), *W.Q. Yin 380*, 29 Mar. 1957 (PE!), *W.Q. Yin 657*, 13 April 1957 (PE!), *W.Q. Yin 693*, 14 April 1957 (PE!), *W.Q. Yin 702*, 15 April 1957 (PE!), *C.W. Wang 88072*, 23 Mar. 1940 (PE!), *W. Xiao 41529*, 6 Sept. 1939 (IBSC!), *W. Xiao 41538*, 7 Sept. 1939 (IBSC!), *Zhang 74*, 1939 (IBS!), *Z.Q. Zhong 35*, 15 April 1943 (PE!), *Z.Q. Zhong 79*, 16 April 1943 (PE!), *Z.Q. Zhong 79*, 16 April 1943 (PE!).

Distribution: China: Guangxi, Guizhou and Yunnan.

Habitat and Ecology: Found at edge of rivers at alt. 500–2000 m. Flowering between May–June and fruiting between July–August.

Phylogeny: *E. henryi* formed a clade with *E. seguinii* (Xie *et al.*, 2009; Yang *et al.*, 2017; Idrees *et al.*, 2020a).

Notes: We observed that *Eriobotrya henryi* Nakai (1924: 70) had close resemblance to *E. angustissima* Hook.f. (1878: 372), but could be distinguished from the latter by 3–7 m tall tree (*vs.* 15–18 m tall tree in *E. angustissima*), linear-lanceolate narrow leaves, blades 2.5–11 × 0.7–3.5 cm (*vs.* linear lanceolate to oblong leaves, blades 5–10 (–15) × 1–5 cm in *E. angustissima*), with sharply and remotely serrate margins, space 2–3 mm, not revolute (*vs.* leaf margins remotely serrated apically, entire near base, space 6–8 mm, revolute in *E. angustissima*), lateral veins 14–18 pairs (*vs.* lateral veins 8–12 pairs in *E. angustissima*), 2.5–4.5 cm inflorescence (*vs.* 3–6 cm inflorescence in *E. angustissima*), and ovoid fruit, 1 cm in diameter (*vs.* subglobose fruit, 1–1.5 × 0.8–1.2 cm in *E. angustissima*).

16. *Eriobotrya hookeriana* Decne., in *Nouv. Arch. Mus. Par. Ser. I*, x. 146. 1874.

Holotype: India. Sikkim: alt. 5000 pds, 8 Oct. 1862, *M. D. Anderson 490* (P02143268!, designated by Vidal 1965; isolectotype: A00026483!).

Photinia subsessilis King ex Hook.f., *King in Herb. Cat.; Fl. of Brit. Ind.* 2: 371. 1878. *num. nod.*

Specimens examined: Bhutan: *B. Bartholomew & D.E. Boufford* 3885, 31 Mar. 1986; *Griffith* 2094 (K!); *H. Ohashi, H. et al.*, 5334 in Herb. Uni., Tokyoensis, 16 April 1967; India. Sikkim, *M.D. Anderson* 490, 8 Oct. 1862 (HUH!, P!), *Clarke* 25258 (E!, K!, BM!), *H. Hara, H. Kanai & G. Murata* 343, 18 May 1960 (KATH!), *J.D. Hooker & Thomson s.n.*(P!, K!), *Watt* 5636 (E!); Nepal, *G. Gurata, M. Togashi & T. Tuyamu* 6301812, 27 Nov. 1963 (KATH!), *Noshiro et al.*, 9263246 (E!), *S. Noshiro, S. Akiyama & N. Acharya* 9263246, 24 June 1992 (KATH!), *P.R. Shaky*a 4121, 21 April 1977 (KATH!).

Distribution: Eastern Himalaya, Sikkim (Yokusan, Bakkim), Bhutan and E. Nepal (Bhalukhop, Rektin; Chyangthaphu-Chyangthaphu, Birwa; Memeng; Prangbung; Khetum Khola bridge; Dabale Deurali, Panchitar Dist.)

Habitat and Ecology: Found in mixed broad-leaves evergreen forest at alt. 1400–2400 m. Flowering between October–November and fruiting between March–June.

Phylogeny: *E. hookeriana* formed a clade with *E. petiolata* (Idrees et al., 2020a).

17. *Eriobotrya japonica* (Thunb.) Lindl., *Trans. Linn. Soc. London* 13: 102. 1780.

Mespilus japonica Thunb., *Nova Acta Regiae Soc. Sci. Upsal.* 3: 208. 1780; *Fl. Jap.* 206. 1784.

Holotype: Japan. *Thunberg s.n.* (UPS-THUNB11908!).

Crataegus bibas J. de Loureiro, J. de, *Fl. Cochinch.* 1: 319. 1790.

Holotype: Macau and Cantone. *D. Cunningham s.n.* (plate *Amaltheum Botanicum*, page 26, fig. 2).

Photinia japonica (Thunberg) Franchet & Savatier, *Enum. Pl. Jap.* 1: 142. 1873. *nom. superfl.*

Photinia japonica (Thunberg) G. Bentham & Hook.f. ex P.F.A. Ascherson & Schweinfurth, *Mém. Inst. Égypt.* pp. 73. 1887. *nom. superfl.*

Specimens examined: Japan: *Z. Tashiro s.n.*, 18 Nov. 1934 (SYS!), *Thunberg s.n.*, *Thunberg* 666.1, 666.B, 666.C, 666.D, 666.Suppl. (K!), *C. Wright s.n.*, 1853–56 (NYBG!); China. Fujian, *H.H. Chung* 538, 17 Nov. 1922 (PE!), *Xiamen Meihuashan Acquisition Team* 24, 8 Sept. 1987 (AU!), *H.G. Ye* 6698, 31 Oct. 2001 (IBSC!); Gansu, *K.T. Fu* 2292, 3 Nov. 1937 (PE!), *Z.Y. Zhang* 14591, 7 Sept. 1959 (PE!); Guangdong, *N.Q. Chen* 41927, 23 Oct. 1930 (PE!), *N.K. Chun* 7823, 1929 (PE!), *G.W. Groff* 2439, Mar. 1918 (PE!), *Z. Huang* 38868, 8 Dec. 1935 (PE!), *W.T. Tsiang* 20841, 2 Nov. 1932 (PE!); Guangxi, *S.G. Li* 81279, 21 Oct. 1935 (PE!), *Libo team* 1888, 13 Sept. 1959 (PE!); Guizhou, *Anonymous s.n.* (Sichuan Team), 5 April 1996 (PE!), *Y. Tsiang* 9489, 29 Oct. 1930

(PE!), *J.W. Xiao* 5625, 30 April 2003 (PE!), *W.Q. Zhong* 291, 15 Nov. 1927 (PE!); Hubei, *H.C. Chow* 1861, 3 Nov. 1934 (PE!), *K. Liu* 0738 (PE!), *S.Y. Liang* 1530, 20 April 1959 (PE!), *Z.Y. Liu* 15217, 2 Feb. 1994 (PE!), *K.M. Liou* 8752, 3 June 1938 (PE!), *T.P. Wang* 12118, 16 Oct. 1939 (PE!); Hunan, *Y.F. Deng* 10916, 17 April 1997 (PE!), *Q. Kuang* 1140, 10 Nov. 2003 (PE!), *Z. Li* 940 (PE!), *M.H. Li* 1585, 15 Oct. 1996 (IBSC!), *J.D. Li* 460, 25 Oct. 2003 (PE!), *J. Ren* 286, 24 April 2008 (HENU!), *J. Ren* 287, 24 April 2008 (HENU!), *J. Ren* 288, 24 April 2008 (HENU!), *J. Ren* 106, 26 April 2008 (HENU!), *J. Ren* 149, 29 April 2008 (HENU!); Jiangsu, *H.T. Feng* 7, 9 Dec. 1924 (PE!), *Wu County Census Team* 158, 8 Aug. 1961 (PE!), *T. Zhou & Y. Liu* 502, 20 Mar. 1950 (PE!); Shaanxi, *Q. He* 1848 (PE!), *K.T. Fu* 4062, 27 Oct. 1942 (PE!), *Z.B. Wan* 20410, 9 Jan 1972 (PE!); Sichuan, *H. Hopkingson* 313, 30 May 1930 (PE!), *Pei* 8277 (PE!), *J.J. Yang* 4176 (PE!), *F.F. Wang* 9, Oct. 1931 (PE!), *Z.L. Wu, Z. L.* 10035 (PE!), *J.J. Yang* 13198 (PE!), *Y.C. Yang* 4178, 17 Mar. 1941 (PE!), *F.T. Wang* 20725, 20 April 1930 (PE!); Yunnan, *Z.Y. Liu* 18166, 7 Feb. 1994 (PE!), *Q. Wang & H. Liu* 83413, 12 Oct. 1939 (PE!), *S.W.Y. Yu* 65007, 18 Mar. 1965 (PE!), *T.T. Yu* 14463, 25 Dec. 1937 (PE!); Zhejiang, *X.B. Li* 18212140, 21 June 1989 (PE!), *J.Q. Xing* 107, 1 May 1959 (PE!), *S.Y. Zhang* 16, 19 Mar. 1957 (PE!), *S.Y. Zhang* 1854, 22 Nov. 1957 (PE!); Turkey, *C. F. Deaver* T1, 11 Dec. 1965 (E!); Dominican Republic, *M. Mejia, M. Johnson & T. Zanoni* 8816, 28 Oct. 1980 (NYBG!); Jamaica (Walderson), *G.R. Proctor* 22918-b, 14 Nov. 1962 (NYBG!); Brazil, *P. Dusen* 11607, 5 April 1911 (NYBG!); Nepal, *D.D. Joshi & K.R. Rajbrandari* 75/033, 11 Dec. 1975 (KATH!), *P. Pradhan & Z. Zhapa* 6431, 7 Aug. 1966 (KATH!).

Distribution: Native and cultivated in SE & S China (Anhui, Chongqing, Fujian, Gongdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang), Nepal (Gokarna, Bhangari Darbar, Nagarkdh), India, Japan, Malaysia. Cultivated in Pakistan, Turkey and South America.

Habitat and Ecology: Found in dry sandy soil, on hill slope, among wood at altitude 900–1200 m. Flowers mostly in October–December and fruiting between April–June.

Phylogeny: *E. japonica* formed a clade with *E. malipoensis* (Yang et al., 2017).

Notes: *Eriobotrya japonica* (Thunb.) Lindl. (1821) is widespread, and widely cultivated worldwide as fruit tree in home garden and commercially, at low-medium altitudes throughout the tropics and subtropics.

18. *Eriobotrya laoshanica* W.B. Liao, Q. Fan & S.F. Chen, *Phytokeys* 146: 64. 2020.

Holotype: China. Malipo County: “Mount Laoshan, in thin forests on the slopes of limestone hills”, 22°59.08'N, 104°50.48'E, 1160 m a.s.l., 14 October 2019, *Q. Fan* 17570 (SYS!, isotypes: IBSC!, SYS!).

Paratypes: China. Yunnan: “Malipo, Laoshan natural reserve”, 22°58.66'N, 104°50.80'E, 1135 m a.s.l., 16

September 2015, *Q. Fan 13700* (SYS!); the same locality, 16 September 2015, *Q. Fan 13701* (SYS!); the same locality, 1358 m a.s.l., 26 September 2019, *Q. Fan 17543* (SYS!); the same locality, 22°59.10'N, 104°50.64'E, 1140 m a.s.l., 30 November 2015, *Q. Fan 13887* (SYS!); the same locality, 1140 m a.s.l., 30 November 2015, *Q. Fan 13901* (SYS!); the same locality, 1140 m a.s.l., 30 November 2015, *Q. Fan 13900* (SYS!); the same locality, 1160 m a.s.l., 26 September 2019, *Q. Fan 17540* (SYS!).

Specimens examined: China. Yunnan: *Q. Fan 13700*, 16 Sept. 2015 (SYS!), *Q. Fan 13701*, 30 Nov. 2015 (SYS!), *Q. Fan 13887*, 30 Nov. 2015 (SYS), *Q. Fan 13900*, 30 Nov. 2015 (SYS!), *Q. Fan 13901*, 26 Sept. 2019 (SYS!), *Q. Fan 17540*, 26 Sept. 2019 (SYS!).

Distribution: This species is currently known only from two localities in Laoshan Natural Reserve, Malipo County, southeastern Yunnan, China.

Habitat and Ecology: Found in thin forests on the slopes of limestone hills at altitudes of 1100–1358 m. Flowering between September–October and fruiting between November–December.

Phylogeny: *E. laoshanica* formed a clade with *E. malipoensis* (Chen *et al.*, 2020).

19. *Eriobotrya latifolia* Hook.f., *Fl. Brit. India* [J. D. Hooker] 2(5): 370. 1878.

Holotype: Myanmar. Moalmayne: “Thoung Gyne, alt. 5000 ft.”, 1857, *T. Lobb s.n.* (K000758400!).

Distribution and habitat: Myanmar, Moalmayne (Thoung Gyne) at alt. 1500 m known only from the type specimen.

Notes: We observed that *E. latifolia* had close resemblance to *E. petiolata* Hook.f. (1878: 370), but differed from the latter by the following morphological characters: small tree, up to 3–4 m tall (*vs.* large tree, ca. 20 m tall in *E. petiolata*), leaf margins entire along whole length (*vs.* leaf margins slightly undulate or serrated apically in *E. petiolata*), lateral veins 10–12 pairs (*vs.* lateral veins 12–16 (–18) pairs in *E. petiolata*), rounded calyx lobes (*vs.* semicircular calyx lobes in *E. petiolata*), and glabrous petals (*vs.* glabrous or slightly villous petals near base in *E. petiolata*).

20. *Eriobotrya longifolia* (Decne.) Hook.f., *Fl. Brit. India* [J. D. Hooker] 2(5): 370. 1878.

Photinia longifolia Decne., in *Nouv. Arch. Mus. Par. Ser. I*, x. 142. 1874.

Lectotype: Bangladesh. East Bengal: “Mishmi Hills, 1862–63”, *Griffith 2093* (P02143220!), designated by Liu *et al.*, 2020b; isotype: K000758398!).

Specimens examined: Myanmar: *Keenam, U Tun Aung & U Tha Hla 3602*, 10 Mar. 1962 (K!, E!).

Distribution: East Bengal (Mishmi) and Mynamar (Kachin state, Sumprabum).

Habitat and Ecology: Found on a hill near Mishmi, or evergreen forest, at altitude 2440 m. Vidal (1965) considers it as endemic to Bangladesh (Fig. 5, C).

Notes: *Eriobotrya longifolia* Decaisene (1874: 142) resemble closely with *E. hookeriana* Decne. (1874: 146) by having similar leaf dimension, pairs of lateral veins and inflorescence size, but differed from the latter by narrowly-oblanceolate or lanceolate leaves, with attenuate base (*vs.* elliptic- or oblong-lanceolate leaves with truncate base or subacute in *E. hookeriana*), leaf margins completely entire (*vs.* leaf margins sharply serrate in *E. hookeriana*), cochleate petals (*vs.* orbicular petals in *E. hookeriana*), and sessile peduncle (*vs.* 0.5 cm peduncle in *E. hookeriana*) (Table 6).

21. *Eriobotrya malipoensis* K.C. Kuan, *Acta Phytotax. Sin.* 8: 231. 1963.

Holotype: China. Yunnan: “Mar-li-poc Country, Hwang-jin-yinn”, 1200 m, 21 January 1940, *C.W. Wang & Y. Liu 86318* (PE00004573!, isotypes: KUN0116367!, IBSC0299391!, KUN0116367!).

Paratype: China. Yunnan: “ibidem, in silvis”, 9 Nov. 1947, *K.M. Feng 13123* (KUN0116370!, KUN0116370!, PE00004572!, PE00004572!).

Specimens examined: China. Guangxi: *S.Q. Chen 11598*, 5 June 1957 (NAS!), *Z.Z. Ding & J.Z. Wang 1441*, 4 Jan. 1959 (NAS!); Yunnan, *K.H. Cai 963*, 8 May 1953 (PE!), *K.M. Feng 13123* (Paratype), 9 Nov. 1947 (PE!, KUN!), *Y. Tsiang 21306*, 1933 (NAS!), *C.W. Wang 83170*, 13 Jan. 1940 (PE!), *C.W. Wang 87243*, 27 Feb. 1940 (PE!).

Distribution: China: SE Yunnan, Guangxi. Gu & Sponberg (2003) considers it as endemic to Yunnan, China (Fig. 5, E).

Habitat and Ecology: Found in ravine, wood forests or mixed forests Mar-li-po and ibidem (Southeastern Yunnan) at alt. 1200–1500 m. Flowers mostly in June and fruiting between July–August.

Phylogeny: *E. malipoensis* formed a clade with *E. japonica* (Yang *et al.*, 2017).

Notes: *Eriobotrya malipoensis* Kuan (1963: 231) closely related to *E. japonica* (Thunb.) Lindl. (1821), and *E. × daduheensis* Zhang ex Liao, Q. Fan & M.Y. Ding (2015: 95–98) in morphology, and molecular level (Yang *et al.*, 2017; Idrees *et al.*, 2020a).

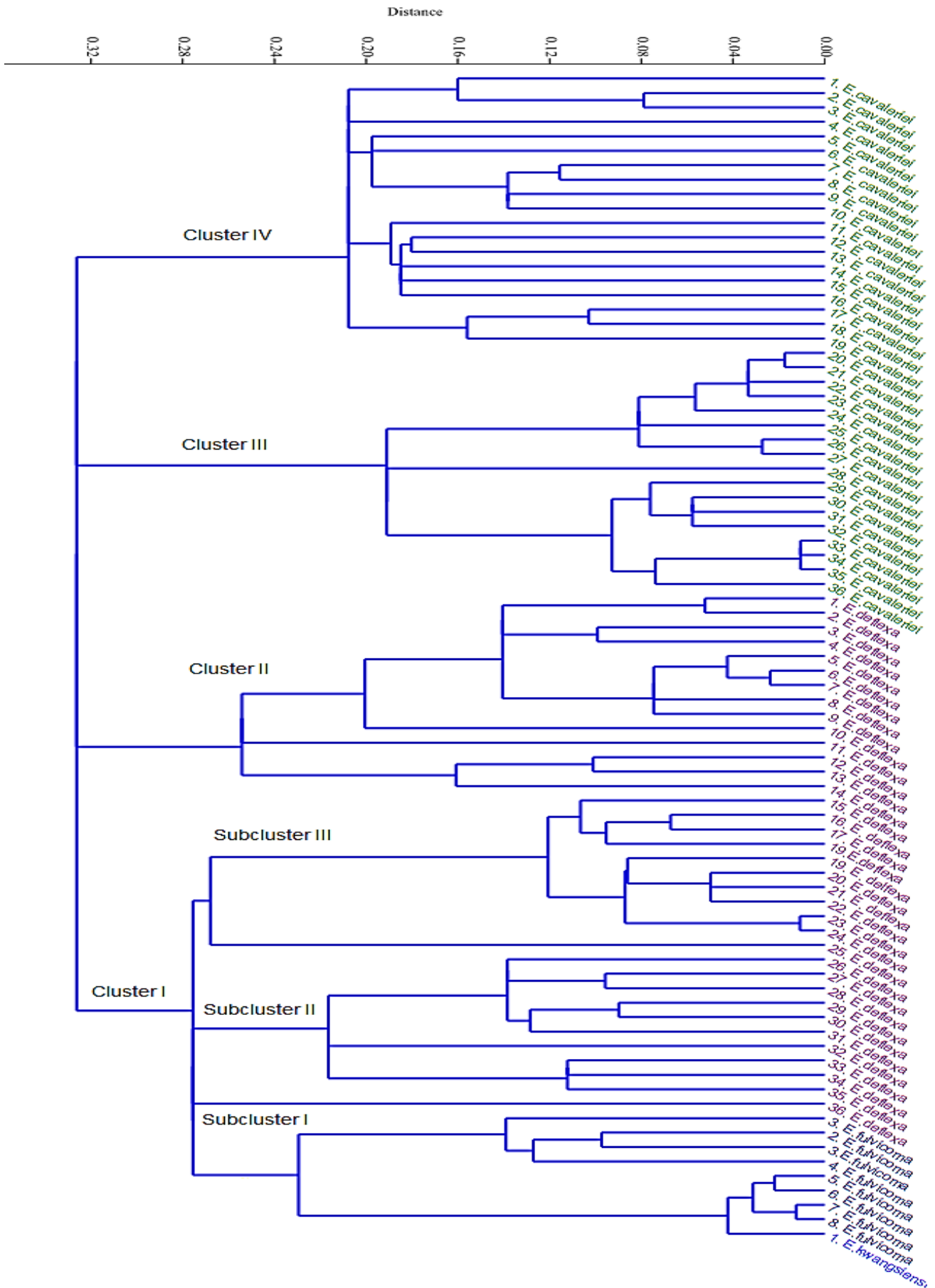


Fig. 8. Cluster analysis on basis of both quantitative and qualitative characters of *cavaleriei* accessions, *E. deflexa* accessions, *E. fulvicoma* accessions and *E. kwangsiensis*.

22. *Eriobotrya obovata* W.W. Sm., *Notes Roy. Bot. Gard. Edinburgh*, 10: 29. 1917.

Holotype: China. Yunnan: “in the vicinity of Yunnanfu”, Nov. 1906, *E.E. Maire 2450* (E00011331!; isotypes: E00284668!, K000758390!).

Specimens examined: China. Yunnan: *Anonymous 54462*, 17 Jan. 1973 (PE!), *Kunming Team 099*, 3 May 1961 (PE!), *Y.H. Li 011679*, 25 May 1974 (SYS!), *Y.H. Li 011723*, 29 May 1974 (SYS!), *Y.H. Li 012351*, 19 June 1974 (SYS!), *E.E. Maire 2450*, 28 Oct. 1912 (E!), *E.E. Maire 2450*, 1906 (E!), *B.Y. Qiu 59179*, 29 May 1964 (KUN!), *Y. Tsiang 4444*, 25 Oct. 1930 (PE!), *G.D. Tao 013563*, 5 Dec. 1974 (SYS!), *H.T. Tsai 53512*, 10 June 1933 (PE!), *W.Q. Yin 248*, 20 Mar. 1957 (PE!), *W.Q. Yin 272*, 21 Mar. 1957 (PE!), *W.Q. Yin 580*, 6 April 1957 (PE!).

Distribution: China, Yunnan (E-Shan Hsien). Gu & Sponberg (2003) considers it as endemic to Yunnan, China (Fig. 5, D).

Habitat and Ecology: Found mostly on slopes and forest at alt. 1650–3000 m. Flower mostly in May and fruits in July.

Phylogeny: *E. obovata* is sister to a clade containing *E. salwinensis*, *E. bengalensis* and *E. bengalensis* var. *angustifolia* (Xie *et al.*, 2009).

Notes: *Eriobotrya obovata* W.W.Sm. (1917: 29) closely resembles *E. prinoides*, but differs from the latter by having obovate leaves (*vs.* oblong or elliptic leaves in *E. prinoides*), obovate petals (*vs.* ovate petals in *E. prinoides*), 2–3 styles (*vs.* 2 styles in *E. prinoides*).

23. *Eriobotrya petiolata* Hook.f., *Fl. Brit. Ind.* [J.D. Hooker] 2(5): 370. 1878.

Two varieties are recognized.

Key to varieties

- 1a. Panicles 11 cm long, densely rusty tomentose; lateral veins 12–16 (–18) pairs **23(i). var. *petiolata***
 1b. Panicles 8 cm long, glabrous or glabrescent; lateral veins 20 pairs **23(ii). var. *glabrescens***

23(i). var. *petiolata*

Lectotype: India. “Sikkim, alt. 9000 ft.”, *J.D. Hooker s.n.* (K000758394!, designated by Liu *et al.*, 2020b; isolectotypes: P02143225!, L1900280!).

Specimens examined: Bengal.: *Griffith 2085*, 1861–2 (P!), *Griffith 2086*, 1862–3 (P!, L!); Bhutan, *B. Bartholomew 1664*, 12 May 1984 (PE!), *Griffith s.n.* (E!); India. Sikkim, *Anonymous 370*, 13 April 1913 (P!), *M. Harmond s.n.*, May 1917 (P!), *J.D. Hooker & Thomson s.n.*, 1855 (P!, L!); Khasia, *M.D. Anderson s.n.* in herb. Pierre (P!); Manipur, *J.L. Lister s.n.*, 1878 (M!), *G. Watt 6702*, 22 April 1882 (P!).

Distribution and Habitat: Eastern Himalaya (Sikkim), East Bengal, Bhutan (Trongsa) at altitude of 1500–2700 m.

Phylogeny: *E. petiolata* formed a clade with *E. × daduheensis*, *E. prinoides* and *E. prinoides* var. *laotica* (Yang *et al.*, 2017); *E. petiolata* also formed a clade with *E. hookeriana* (Idrees *et al.*, 2020a).

Notes: *Eriobotrya petiolata* Hook.f.(1878) has close resemblance to *E. elliptica* (1821), but differs from the latter by the following characters: elliptic-oblong or oblong-ovate leaves (*vs.* oblong to oblong-lanceolate leaves in *E. elliptica*), leaf margins slightly undulate or serrated apically, space 4–5 mm (*vs.* leaf margins obtusely serrate, space 7–8 mm in *E. elliptica*), 3.5–5 cm petioles (*vs.* 2–3 mm petioles in *E. elliptica*).

23(ii). var. *glabrescens* (Vidal) X.F. Gao & M. Idrees. *comb. et stat. nov.*

Eriobotrya glabrescens J.E. Vidal, *Adansonia* 5: 554. 1965.

Holotype: Myanmar. N. Burma: “Hkinlum: Mt. Victoria”, 300 m, 4 April 1953, *F. Kingdon-Ward 20616* (BM000602189!; isotypes: A00026482!, E00011336!).

Specimens examined: Myanmar. Burma: *F.G. Dickason 7535*, April 1937 (L!), *Prachaya et al.*, 097310, 25 Feb. 2014 (E!), *Prachaya et al.*, 097350, 27 Feb. 2014 (E!), *Prachaya et al.*, 097435, 1 Mar. 2014 (E!), *Prachaya et al.*, 097768, 10 Mar. 2014 (E!), *Monthon et al.*, 097544 (E!).

Distribution: Myanmar: N. Burma, Triangle, Hkinlum village.

Habitat and Ecology: Found in warm evergreen temperate forest at alt. 2000–2500 m. Flower mostly in April.

Notes: In the protologue, *E. glabrescens* Vidal (1965: 554) mentioned close resemblance to *E. petiolata* Hook.f. (1878: 370), but mainly differed from the latter by having glabrous or glabrescent inflorescence. Vidal (1965) noticed 20 pairs of lateral veins, but we observed 12–15 pairs of lateral veins. According to our observations, *E. glabrescens* had close resemblance to *E. petiolata*, but can be distinguished from latter by having leaf margins serrate or with shallow teeth, space 5 mm (*vs.* leaf margins slightly undulate or serrated apically, space 4–5 mm in *E. petiolata*), and glabrous or glabrescent inflorescence as described Vidal (1965) by (*vs.* initially tomentose, later glabrescent in *E. petiolata*). After extensive examination, we propose *E. glabrescens* may be treated as a variety of *E. petiolata* (Fig. 9, Table 7).

In the protologue, Vidal (1965) selected “*F. Kingdon-Ward 20616*” kept at BM as the type [Holotype at BM and isotype at E]. Recently, Liu *et al.*, (2020b) designated the sheet “*F. Kingdon-Ward 20616*” at BM000602189, as the lectotype, an inadvertent lectotyfication according to Art. 7.11 of ICN (Turland *et al.*, 2018), because Vidal (1965) already cited the same sheet as the holotype in the protologue. We could not locate any duplicate specimen at BM. Hence, the specimen “*F. Kingdon-Ward 20616*” kept at BM000602189 is the “Holotype” according to Art. 9.1 Note 1 of the ICN (Turland *et al.*, 2018).

24. *Eriobotrya poilanei* J.E. Vidal, *Adansonia* ser.2, 5: 557. 1965.

Lectotype: Vietnam. “Haut Donnai province: Laouan”, 5 June 1933, *E. Poilanei 22591* (P02143226!, designated by Liu *et al.*, 2020b; isolectotypes: C10017885!, P02143227!, P0214322!, L0019414!).

Specimens examined: Vietnam: *E. Poilanei 22591*, 5 June 1933 (P!, L!, C!), *E. Poilanei 13537*, 2 July 1927 (P!), *E. Poilanei 18727*, 29 Oct. 1930 (P!), *E. Poilanei 30919*, 14

Oct. 1940 (P!, M!).

Distribution: Vietnam, Province Haut Donnai, Laouan, Lamdong.

Habitat and Ecology: Found at forests edge at altitudes 1200–2000 m. Flowers in June and fruits in Oct.

Notes: In the protologue, *E. poilanei* Vidal (1965: 557) indicated close resemblance to *E. elliptica* Lindl. (1821: 102) var. *petelotii* Vidal (1965: 552), and distinguished from the latter by having larger leaves, with more pair of lateral veins, persistent stipules, styles 5 and larger fruits. We agree with Vidal (1965) observations, but the leaves are glabrous on both surface, sessile flowers and clustered together are other important characters, which can easily distinguish it.

25. *Eriobotrya prinoides* Rehder & E. H. Wilson in Sargent, *Pl. Wilson* 1(2): 194. 1912.

A variable species, two varities are recognized on the basis of leaf size and margins.

Key to varieties

- 1a. 1a. Leaves 10–15 × 3–6 cm, with remotely crenate margins; pedicels 2–5 mm long **25(i). var. *prinoides***
- 1b. 1b. Leaves 7 × 5 cm, with apically serrated margins; pedicels 1–2 mm long **25(ii). var. *laotica***

25(i).var. *prinoides*

Lectotype: China. Yunnan: “Mengtze (Mengzi), alt. 1500 m”, *A. Henry 9878* (A00026476!, designated by Liu *et al.*, 2020b; isolectotypes: A000264478!, B100295749!, E00011334!, K00075839!, MO176738!, MO176739!, NY00436210!, NY00436211!, NY00436212!, US00097491!).

Specimens examined: China. Yunnan: *Anonymous 374* (IBSC!), *Anonymous 13325* (IBSC!), *F. Ducloux 6323*, 5 Jan. 1090 (P!), *M.I. Delavay s.n.*, April 1885 (P!), *M.I. Delavay s.n.*, May 1884 (P!), *M.I. Delavay 558*, May 1884 (P!), *M.I. Delavay s.n.*, 13 Dec. 1889 (P!), *M.I. Delavay 1990*, 27 Dec. 1889 (P!), *M.I. Delavay s.n.*, 27 Dec. 1889 (P!), *G.J. Feng 04486*, 10 Oct. 1954 (PE!), *G. Forrest 13325*, Sept. 1914 (PE!), *A. Henry 9878* (PE!, B!), *K.Z. Hou 74519*,

1 April 1940 (IBSC!), *S.M. Liu 018233*, 13 Mar. 1941 (PE!), *Y.Y. Mao 01777*, 17 Nov. 1952 (PE!), *H.T. Tsai 51463*, 1 Jan. 1933 (PE!), *H.T. Tsai 51368*, 1 Dec. 1932 (PE!), *Q. Wang & H. Liu s.n.*, 23 Oct. 1939 (PE!), *E.H. Wilson 3507*, 3 Nov. 1903 (P!), *Y. Zhao 22152*, 17 Nov. 1939 (PE!), *Z.G. Zhong 80*, 16 April 1943 (PE!); Sichuan, *W.P. Fang 5311*, 1 Oct. 1930 (SYS!), *W.P. Fang 1748* (IBSC!), *D.Yu 1748*, 1932 (PE!), *T.T. Yu 1748*, 20 Oct. 1932 (PE!).

Distribution: China: Yunnan and Sichuan.

Habitat and Ecology: Found along the river banks, rock hills forest or dry forest at alt. 800–1700 m. Flowering between December–January and fruiting between July–August. Gu & Sponberg (2003) considers it as endemic to Sichuan and Yunnan, China (Fig. 5, B).

Table 6. Morphological comparison of *E. longifolia* and *E. hookeriana*.

Characters	<i>E. longifolia</i>	<i>E. petiolata</i>	<i>E. hookeriana</i>
Leaves	Narrowly- oblanceolate or lanceolate	elliptic-oblong or oblong-ovate	Elliptic- or oblong-lanceolate
Leaf dimensions	15–25 × 2–3	16–22 × 6–9	12–25 × 4–8
Leaf base	Attenuate	Acute or shortly cuneate	Truncate
Leaf margins	Entire along whole length, revolute	Serrate apically, entire near base	Sharply serrate, not revolute
Petals	Cochleate, glabrous	Orbicular, glabrous	Orbicular, glabrous
Peduncle	Subsessile	Subsessile	0.5 cm

Table 7. Morphological comparison of *E. glabrescens* and *E. petiolata*.

Characters	<i>E. glabrescens</i>	<i>E. petiolata</i>
Leaves	Elliptic-oblong	Elliptic-oblong or oblong-ovate
Leaf dimensions (cm)	20–25 × 6–8	16–22 × 6–9
Leaf margins and space (mm)	Serrate or with shallow teeth, 5	Slightly undulate or serrated apically, 4–5
Lateral veins (pairs)	12–15	12–16 (–18)
Petioles (cm)	3–4	3.5–5
Inflorescence	Glabrous or glabrescent	Rusty tomentose, later glabrescent
Pedicels (mm)	2–3	2–3
Styles	5 (–4), and villous	2–5, villous
Ovary	Villous	Villous

Table 8. Morphological comparisons of *E. merguiensis*, *E. henryi* and *E. longifolia* (updated from Vidal 1965).

Characters	<i>E. merguiensis</i>	<i>E. henryi</i>	<i>E. longifolia</i>
Leaf dimensions (cm)	10 × 3	8 × 2.5	20 × 3
Leaf apex	Obtuse	Acute	Acute
Leaf margins	Entire	Serrate	Entire
Lateral veins (pairs)	12	10	25
Inflorescence size (cm)	3	5	10

Phylogeny: *E. prinoides* formed a clade with *E. petiolata* (Yang *et al.*, 2017).

Notes: We observed close resemblance of *Eriobotrya prinoides* (1912 p. 194) to *E. salwinensis* Hand.-Mazz. (1933: 475–476), but could be distinguished from the latter by having abaxially grayish tomentose leaves (*vs.* abaxially yellow tomentose leaves in *E. salwinensis*), lateral veins 10–12 pairs (*vs.* lateral veins 15–20 pairs in *E. salwinensis*) and 1.5–2 cm long petioles (*vs.* 2–3 mm long petioles in *E. salwinensis*). This species has also close resemblance to *E. bengalensis*, but can be easily distinguished by the following characters: small tree, up to 4–10 m tall (*vs.* large tree, up to 15–27 m tall in *E. bengalensis*), leaf margins remotely crenate or obtusely serrate (*vs.* leaf margins remotely shallowly serrate in *E. bengalensis*), and ovate stipules (*vs.* triangular stipules in *E. bengalensis*).

25(ii).var. *laotica* J.E. Vidal, *Adansonia* 5: 573. 1965.

Lectotype: Laos. “Xieng Khouang: 1200 m, en fleurs”, 3 Nov. 1920, *E. Poliane* 2243 (P02143229!, designated by Liu *et al.*, 2020b; isolectotypes: P02143230!, P02143231!).

Distribution: N. Laos: Xieng Khouang, Ko Mi.

Habitat and Ecology: (Based on the annotated specimen) on limestones, in the middle of stunted vegetation at alt. 1200 m. Flower mostly in November.

Phylogeny: *E. prinoides* var. *laotica* is sister to clade containing *E. prinoides* and *E. petiolata* (Yang, 2017).

Notes: Vidal (1965) stated that this variety could be distinguished from type variety by the following characters:

sub-orbicular leaves, lateral veins 8–10 pairs and small flower. We agree with Vidal (1965) observation, while the other remaining characters including broadly obovate or suborbicular leaves, blades 7 × 5 cm (*vs.* elliptical to oblong, rarely ovate leaves, blades 10–15 × 3–6 cm in *E. prinoides*), calyx tube and lobes (4 + 4 mm long) bigger than type variety (3 + 2 mm long), and smaller petioles (1–1.5 cm) than type variety (1.5–2 cm) could easily distinguish both the taxa.

26. *Eriobotrya salwinensis* Hand.-Mazz., *Symb.Sin.pt.* 7: 475. 1933.

Lectotype: China.Yunnan: “m str. Laubwalde des birm. Mons. am Ufer des Salwin um Tschamutong von Sijitong bis unter Tjiontson, Phyllit und kristallinischer Kalk, 1625–1700 m”, 13 July 1916, *H.R.E. von Handel-Mazzetti* 9573 (WU0059392!, designated by Liu *et al.*, 2020b; isolectotypes: WU0059393!, A00026480!).

Paratype: China. Yunnan: “Mekong–Salwin-Kette, in Gebüsch an Bächen der Seitentäler am, 28°12', 2420 m”, *G. Forrest* 16400 (WU0059392_a!).

Specimens examined: China.Yunnan: *Anonymous* 8773, 23 May 1960 (PE!), *K.M. Feng* 6967, 26 Aug. 1940 (PE!), *K.M. Feng* 7038, 28 Aug. 1940 (PE!), *K.M. Feng* 7374, 4 Sept. 1940 (PE!), *Handel-Mazzetti* 9107 (WU!), *Qinghai-Tibet Vegetation Group* 4455, 30 June 1975 (PE!), *Qingzang Team* 8136, 18 July 1982 (PE!), *Qingzang Team* 7390, 23 July 1982 (PE!), *T.T. Yu* 19180, 25 June 1938 (PE!), *Zhongdian team* 63-4234, 19 Aug. 1963 (LBG!); Myanmar, *F. Kingdon-Ward* 20699 (E!, MB!), *H. Li, Y.H. Ji & H. Li* 14212, 13 April 2002 (CAS!), *H. Li et al.*, 33001, 11 Aug. 2006 (CAS!); Thailand, *J.F. Maxwell* 06-116, 3 Feb. 2006 (Fl. Thailand), *J.F. Maxwell* 05-680, 3 Nov. 2005 (Fl. Thailand).

Distribution: NW. China: Province (Yunnan), Thailand (Chiang Rai), North Burma (Myanmar) and India

Habitat and Ecology: Found mixed broad-leaved forests at alt. 1600–1700 m. Flowering between April–May and fruiting between July–August.

Phylogeny: *E. salwinensis* formed a clade with *E. deflexa* f. *bussianensis* (Yang et al., 2017).

Notes: Vidal (1965) noticed that the presence of sessile flowers could distinguish this species from *E.*

tengyuehensis. We also observed that *Eriobotrya salwinensis* had close resemblance to *E. tengyuehensis* Smith (1917: 30), but could be differentiated easily from the latter by its habit shrubs or small tree, upto 4 m tall (vs. large tree, upto 20 m tall in *E. tengyuehensis*), obovate-lanceolate or narrowly elliptic leaves (vs. oblong, elliptic or subobovate leaves in *E. tengyuehensis*), lateral veins 15–20 pairs (vs. lateral veins 10–15 pairs in *E. tengyuehensis*), and 1.5 cm in diameter fruit (vs. 7 mm in diameter fruit in *E. tengyuehensis*).

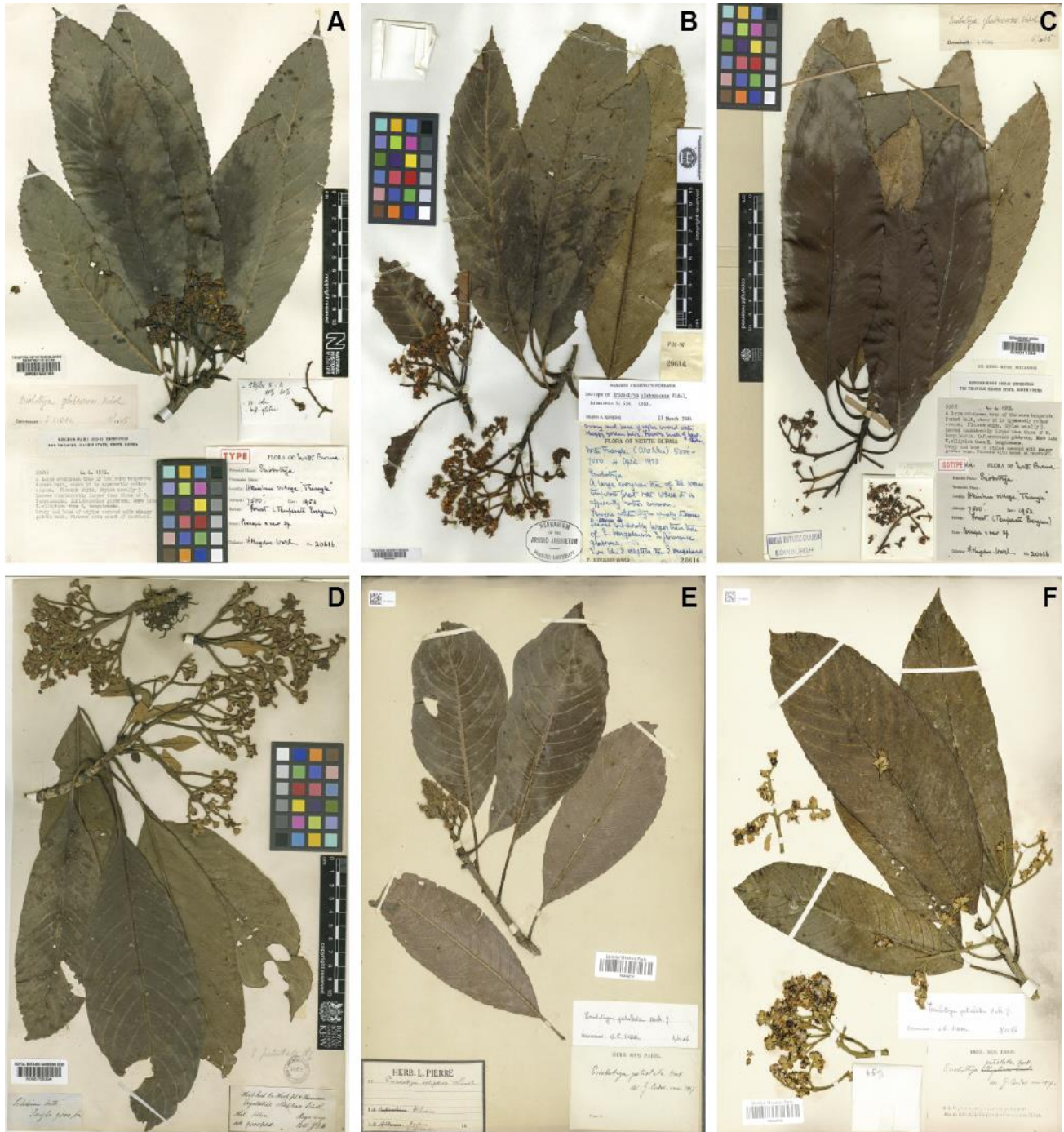


Fig. 9. Similarity between *Eriobotrya glabrescens* and *E. petiolata*
A. Type of *E. glabrescens* (F. Kingdon-Ward 20616, BM!), **B.** Isotype of *E. glabrescens* (F. Kingdon-Ward 20616, A!), **C.** Isotype of *E. glabrescens* (F. Kingdon-Ward 20616, E!), **D.** Lectotype of *E. petiolata* (Hooker f. and Thomson s.n., K!), **E.** Type specimens of *E. petiolata* (same loc., P!) **F.** Specimens of *E. petiolata* (Tibet, P!).

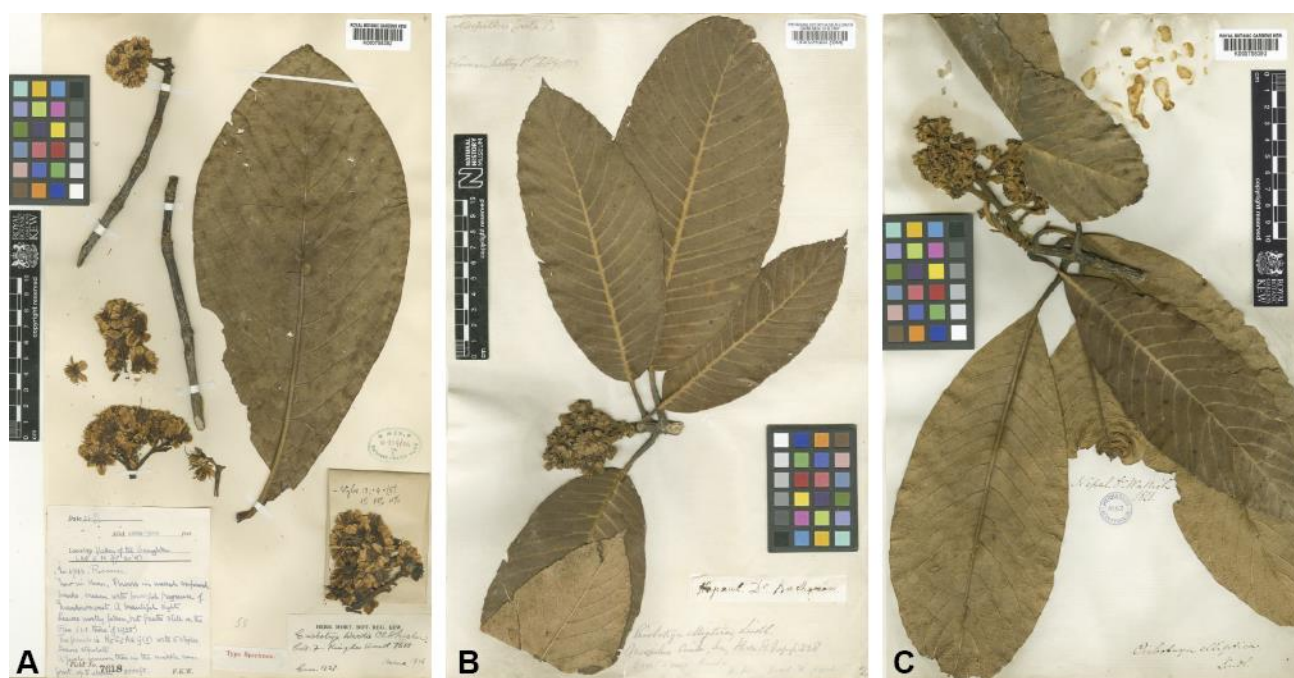


Fig. 10. **A.** Type image of *Eriobotrya wardii* (F. Kingdon-Ward 7618, K!), **B.** Type Image of *E. elliptica* (Buchanan-Hamilton s.n., BM!) **C.** Nepal, Wallich collection of *E. elliptica* (Wallich 667, K!).

27. *Eriobotrya seguinii* (H.Lév.) Cardot ex Guillaumin, *Bull. Soc. Bot. France* 71: 287. 1924.

Symplocos seguinii H.Lév. in *Fedde, Rep. Spec. Nov. Regni Veg.* 10: 431. 1912.

Eriobotrya pseudoraphiolepis Cardot, *Notul. Syst (Paris)* 3: 371. 1918. *nom. superfl.*

Lectotype: China. Kouy-Tchéou (Guizhou): “Environs de Ou-La-Gay et de Hoang-Ko-Chou”, March 1899, *J. Séguin & R.P. Bodinier 2617* (E00011359!, designated by Liu *et al.*, 2020b; isolectotypes: E00011332!, P02143232!, P02143234!).

Syntype: Same locality, 9 April 1898, *J. Séguin & R.P. Bodinier 2262* (E00011332!, P02143234!).

Specimens examined: China. Guangxi: X. Huang L. Li & Y. Lin 451028130425026LY, 25 April 2013 (GXMG!), Z.Y. Li 60344, 19 June 1959 (IBSC!), T.F. Liang 2, 1960 (IBK!), Lingle Census Team 32872, 21 May 1960 (IBK!), Lingle Census Team 33210, 22 May 1960 (IBK!); Guizhou, Z.S. Zhang & Y.T. Zhang 2371, 12 May 1960 (PE!), Z.S. Zhang & Y.T. Zhang 2419, 13 May 1960 (PE!), Z.S. Zhang & Y.T. Zhang 3983, 27 May 1960 (PE!), Z.S. Zhang & Y.T. Zhang 3198, 10 June 1960 (PE!), Z.S. Zhang & Y.T. Zhang 4328, 12 June 1960 (PE!), Z.S. Zhang & Y.T. Zhang 5133, 13 June 1960 (PE!), Z.S. Zhang & Y.T. Zhang 5761, 23 June 1960 (PE!), Z.S. Zhang & Y.T. Zhang 6643, 7 July 1960 (PE!), Z.S. Zhang & Y.T. Zhang 6700, 8 July 1960 (PE!), Z.S. Zhang & Y.T. Zhang 6700, 8 July 1960 (PE!), Z.S. Zhang & Y.T. Zhang 6211, 15 July 1960 (PE!); Yunnan, Anonymous 7716, 16 April 1959 (KUN!), Anonymous s.n., 4 May (KUN!), C.W. Wang 88520, 15 April 1940 (KUN!), C. W. Wang 0118, 4 May 1964 (KUN!).

Distribution: China: Guangxi, Guizhou and Yunnan.

Habitat and Ecology: Found in thicket on slopes at alt. 500–1600 m. Flowering between March–April and fruiting between June–July.

Phylogeny: *E. seguinii* formed a clade with *E. henryi* (Li *et al.*, 2009; Yang *et al.*, 2017; Idrees *et al.*, 2020a).

28. *Eriobotrya serrata* J.E. Vidal, *Adansonia* 5: 558. 1965.

Lectotype: Laos. Xièng Khouang: “Ban Na Poun, 1200 m, en fleurs”, 19 Nov. 1920, *E. Poilane 2345* (P02143235!, designated by Liu *et al.*, 2020b; isotypes: A00026486!, L0019415!, P02143236!, P02143237!).

Specimens examined: China. Yunnan: R.C. Ching 50097, 1952 (PE!), G.M. Feng 14488, 3 Feb. 1952 (PE!), G.M. Feng 14288, 22 Dec. 1951 (PE!), W.X. Liu 604, 11 Aug. 1953 (PE!), Sino-Russ. Exped. Yunnan Team 5220, 25 Feb. 1957 (KUN!, PE!), Sino-Russ. Exped. Yunnan Team 3137, 21 May 1956 (PE!), Y.M. Tax 003915, 1 Nov. 1933 (PE!), Y. Tsiang 13506, 1933 (PE!), C.W. Wang 75373, June 1936 (PE!), C.W. Wang 74188, May 1936 (PE!), C.W. Wang & Y. Li 88511, 14 April 1940 (PE!), 68-Wenshan formation 307, 11 Nov. 1965 (PE!).

Distribution: Laos: Xièng Khouang, Ko Mi Toan, China (Yunan, Kouangsi).

Habitat and Ecology: Found in forest on slope at alt. 1100–1900 m. Flowers mostly in November

Phylogeny: *E. serrata* is sister to clade containing *E. elliptica* and *E. elliptica* var. *petelotii* (Yang *et al.*, 2017). *E. serrata* is sister to clade containing *E. fragrans* and *E. grandifolia* (Idrees *et al.*, 2020a).

Notes: Most of the characters of *Eriobotrya serrata* Vidal (1965) are quite similar to *E. elliptica* Lindl. (1821: 102) var. *petelotii* Vidal (1965: 552), but differs from the latter by having leaf margins sharply incurved-serrate, space 4–8 mm (vs. leaf margins sharply serrate, space 10 mm in *E. elliptica* var. *petelotii*), 1.5–2.5 cm petioles (vs. 2–4 cm petioles in *E. elliptica* var. *petelotii*), lateral veins 10–14 pairs (vs. lateral veins 15–20 pairs in *E. elliptica* var. *petelotii*), pedicels and peduncle densely yellow tomentose (vs. rusty tomentose in *E. elliptica* var. *petelotii*) and 3 or 4 styles (vs. 5 styles in *E. elliptica* var. *petelotii*).

29. *Eriobotrya tengyuehensis* W.W. Smith, *Notes Roy. Bot. Gard. Edinburgh* 10: 30. 1917.

Lectotype: China. Yunnan: “Shweli-Salween divide”, Lat. 25°5'N, alt. 7000 ft., tree of 40–60 ft., flowers creamy-yellow, open forests, May 1913, *G. Forrest* 9857 (E00011333!, designated by Vidal 1965).

Syntypes: China. Yunnan: “Machang-Kai Valley, north of Tengyueh”, Lat. 25°20'N, alt. 6000–7000 ft., shrub of 25–40 ft., flowers creamy-yellow, fragrant, in thickets, April 1913, *G. Forrest* 9847 (BM000602188!).

Specimens examined: China. Yunnan: *Anonymous* 2441 (Yunnan Team), 14 May 1956 (PE!), *Anonymous* 9040 (Qingzang Team), 7 Aug. 1982 (PE!), *G. Forrest* 29360, Mar. 1931 (PE!), *G. Forrest* 9847, April 1913 (PE!, SYS!), *G. Forrest* 17845, 1 June 1923 (P!), *G. Forrest* 24926, 1924 (PE!), *G. Forrest* 17280 (SYS!), *G. Forrest* 17854 (SYS!), *C.W. Wang* 72632, Mar. 1936 (PE!), *H. Li et al.*, 25234, 31 May 2005 (CAS!), *H. Li et al.*, 18504, 2 Sept. 2003 (CAS!), *J.F. Rock* 10137, June 1923 (N!), *H.T. Tsai* 57036 (PE!), *S.G. Wu* 6851, 23 May 1964 (HITBC!), *T.T. Yu* 19922 (PE!).

Distribution: China: Yunnan Province and N. Burma.

Habitat and Ecology: Found in broad-leaved forests or sparse forests, on limestone slopes, on a hill near the north of Tengyueh at alt. 2400 m, Machang-kai Valley (north of Tengyueh) at alt. 1800–2100 m and Shweli-Salween divide, Yunnan at alt. 2100 m. Flowering between April–May and fruiting between September–October.

Phylogeny: *E. tengyuehensis* formed a clade with *E. salwinensis* (Idrees et al., 2020a).

Notes: We observed that *Eriobotrya tengyuehensis* had close resemblance to *E. obovata* W.W. Sm. (1917: 29), and *E. salwinensis* Hand.-Mazz. (1933: 475–476) but could be distinguished from the former by the following characters: oblong or elliptic to subobovate leaves, blades 10–18 × 5–7 cm (vs. obovate to oblanceolate leaves, blades 7–16 × 3–6 cm in *E. obovata*), with abruptly acuminate apex (vs. shortly acuminate apex in *E. obovata*), leaf margins remotely serrate at upper part and entire near base (vs. leaf margins sharply incurved-serrate in *E. obovata*), 10 × 15 cm long inflorescence (vs. 6–10 cm long inflorescence in *E. obovata*), 2 cm in

diam., creamy-yellow flowers (vs. 1.5 cm, reddish orange flowers in *E. obovata*), 7–8 × 5–6 mm petals (vs. 4–5 × 2–3 mm petals in *E. obovata*), and 2–2.5 mm long sepals (vs. 3–4 mm long sepals in *E. obovata*). Comparing from the latter by 18–20 m tall tree (vs. 4 m tall small tree in *E. salwinensis*), pairs of lateral veins 10–15 pairs (vs. pairs of lateral veins 15–20 pairs in *E. salwinensis*), and 7–8 mm long fruit (vs. 1.5 cm long fruit in *E. salwinensis*).

30. *Eriobotrya wardii* C.E.C. Fisher, *Bull. Misc. Inform. Kew* 6: 205. 1926.

Holotype: Myanmar. “Namkia Moutains: Valley of the Sheinghku, 6000–7000 ft., flower in Oct.”, 26 Oct. 1926, *F. Kingdon-Ward* 7618 (K000758392!, isotype: A00026488!).

Paratype: Sheinghku Wang, 7000 ft., fruiting in May, *F. Kingdon-Ward* 21428 (E00879544!).

Specimens examined: Myanmar. Birmani: *Kingdon-Ward* 6743 (K!), *Kingdon-Ward* 9098 (BM!), *Kingdon-Ward* 20698 (BM), *Kingdon-Ward* 21428 (BM!, E!).

Distribution: Myanmar: Namkiu Moutains (Sheinghku valley), Region extreme-nord (Kachin, North Triangle).

Habitat and Ecology: Found mostly in middle rain forest at alt. 1800–2400 m.

Notes: According to the protologue, *Eriobotrya wardii* Fisher (1926: 205) has close resemblance to *E. elliptica* Lindl. (182: 102) by sessile leaves, glabrous inflorescence, and semicircular calyx lobes (Fig. 10). Idrees et al., (2021b) morphometric analysis showed that *E. wardii* formed a distinct cluster, and morphologically the species was entirely different from the rest of *Eriobotrya* species. This species is only known from the type specimen. In our opinion, either this species should to be treated as a variety of *E. elliptica* var. *wardii* or further molecular studies are needed to clarify its status.

Doubtful Species

31. *Eriobotrya platyphylla* E.D. Merr., *Brittonia* 4: 80. 1941.

Lectotype: Myanmar. Upper Burma: “Hills east of Fort Hertz”, 8 December 1931, *F. Kingdon-Ward* 10205 (A00026485!, designated by Liu et al., 2020b; isolectotypes: A00026484!, BM000602191!).

Specimens examined: Myanmar. Burma: *M. Gregor* 1105 (E!).

Distribution: N. BURMA, Hills East of Fort Hertz.

Habitat and Ecology: Found in tall forest tree growing in the jungle on the rock banks of the Ti-Hka River at alt. 2000–3000 ft. Flowers mostly in December.

Notes: As per the protologue, this species has remarkably broad obovate, strongly nerved dillenia like leaves and can be distinguished well with all hitherto described forms of *Eriobotrya* species (Fig. 11). *E. prinooides* Rehder & Wilson (1912: 194) var. *laotica* Vidal (1965: 573) has broad obovate leaves, but of much smaller dimension (7 × 5 mm), with 8–10 pairs of lateral veins, pedicels, flowers and inflorescence smaller than *E. platyphylla*. This species is only known from the type specimen, but we found one sheet collected by “*M. Gregor 1105*” from Mynamar (Burma), kept at E00879542, and labelled as *E. platyphylla*. This sheet is totally different from the type specimen, the leaf size is much smaller, oblong to obovate leaves, lateral veins 7–8 pairs. Idrees *et al.* (2021b) reported that *E. platyphylla* formed a distinct cluster, and suggested as doubtful species.

32. *Eriobotrya merguiensis* J.E. Vidal, *Adansonia* ser.2, 5: 563. 1965.

Holotype: Myanmar. Birmanie: “Mergui, Mout Myinmolekat, 1200 m, en fruits”, 17 Jan. 1930, *R.N. Parker 3098* (K000758399!).

Distribution: Myanmar (S. Burma), District Mergui, Mount Myinmolekat.

Habitat and Ecology: This species is only known from the type specimen and found in mount Myinmolekat at alt. 1200 m. Fruits mostly in January.

Notes: In the protologue, *Eriobotrya merguiensis* Vidal (1965) compared it with *E. henryi* Nakai (1924: 70), and *E. longifolia* (Decne.) Hook.f. (1878: 370) in the petioles length and 2–3 style, and could be distinguished from both the species by leaf dimension, leaf apex, leaf margins, pairs of lateral veins and inflorescence size. Updated Table by Vidal (1965), showed its distinguishing characters from these species (Table 8). According to our observation, most of the habit foliage and characters of *E. merguiensis* such as oblong leaves, blades 10 × 3 cm, with completely entire margins, short petiole, lateral veins 12 pairs, 3 cm long inflorescence, 15 stamens, 2 or 3 styles, and ovoid fruit found in the genus *Stranvaesia* and/or *Raphiolepis* (Fig. 12). This species is known from the type specimen only. We could not trace any duplicate sheets or collections at any available herbarium, and it is difficult to distinguish from other species of the genus. Idrees *et al.* (2021b) reported that *E. platyphylla* formed a distinct cluster, and suggested as doubtful species. Furthermore, molecular studies are needed to clarify its position in the genus.

Excluded taxa: Due to considerable confusion in the names of the species related to *Eriobotrya*, it was necessary to typify specific epithets erroneously used in *Eriobotrya* as well as correct names for these taxa.

1. *Eriobotrya acuminatissima* (Merr.) Nakai, *J. Arn. Arb.* 5: 71. 1924. *Photinia luzonensis* Merr. var. *acuminatissima* Merr. in sched. *nom. nud.* **Lectotype:** Philippines. Luzon: “Panay Province, mt. Salibongbong Capiz”, June 1919, A. Martelino & G. Edano 35622 (A00026487!, designated by Liu *et al.*, 2020b; isolectotypes: P02143221!, P02143260!, BM000602127!, L0019714!). = *Rhaphiolepis Philippinensis* (Vidal) Kalkman, *Blumea* 21(2): 434. 1973; *Fl. Malesiana* ser. 1 11(2): 318. 1993.

2. *Eriobotrya ambigua* Merr., *Publ. Bur. Sci. Gov. Lab.* 35: 19. 1906. *Stranvaesia ambigua* (Merr.) Nakai, *J. Arn. Arb.* 5: 72. 1924. **Lectotype:** Philippines. “Mount Mariveles: Province of Bataan, Luzon”, March 1905, *F.B. Meyer 2796* (P000758366!, designated by Idrees *et al.*, 2021a; isolectotypes: NY00436214!, U00097488!). **Syntypes:** same locality: *Whitford 1155* (K000758368!); *Whitford 1168* (K000758367!); *Whitford 1307* (K000758365!). = *Photinia nussia* (D. Don) Kalkman, *Blumea* 21(2): 429. 1973.

3. *Eriobotrya chinensis* G. Don, *Gen. Hist.* 2: 603. 1832. *Mespilus chinensis* Blume, *bijdr.* pt. 13–17: 1102. 1825. *num. nud.*, *Crataegus chinensis* Steud., *Nomencl. Bot.* [Steudel] ed. 2, i: 232. 1841. in Java. **Holotype:** Indonesia, *Anonymous s.n.* (L0019453!) = *Malus spectabilis* (Aiton) Borkhausen, *Theor. Prakt. Handb. Forstbot.* 2: 1279. 1803.

4. *Eriobotrya cordata* Lindl., *Trans. Linn. Soc. London* 13(1): 102. 1821. *Mespilus lanuginosa* Ruiz & Pavon, *Fl. Peruv.* 4: 236, t. 425. **Holotype:** Peru, *Pavon s.n.* (Ic. 424, fig a.; CDXXV, page 241 in *Flora peruviana et Chilensis*) = *Hesperomeles ferruginea* (Pers.) Bentham, *Pl. Hartw.* 129. 1844.

5. *Eriobotrya cuneata* D. Dietrich, *Syn. Pl.* 3: 163. 1843.

Holotype: Peru, *Mathews 577* (K000486052!) = *Hesperomeles cuneata* Lindl., *Ed. Bot. Reg.* 23: sub t. 1956. 1837.

6. *Eriobotrya glabrata* (Kunth) Steud. *Nomencl. Bot.* [Steudel] ed. 2, 1: 585. 1841. *Osteomeles glabrata* Kunth, *Nov. Gen. Sp.* [H. B. K.] vi: 210. t. 553. 1815. **Lectotype:** Ecuador, *M.A. Bonpland 2107* (P00679370!, designated here; isotype: P00162150!) = *Hesperomeles obtusifolia* var. *obtusifolia* Romoleroux, K. 1996. 79. *Rosaceae*. 56: 144. In G. W. Harling & L. Andersson (eds.) *Fl. Ecuador*. University of Goteborg, Goteborg.

7. *Eriobotrya griffithii* (Decne.) Franch. *Pl. Delavay*. 1: 224. 1890. **Lectotype:** Bhutan. “loc. nat. Himalaya orientalis”, without date, *Griffith 20878* (P02143170!, designated by Idrees *et al.*, 2021a; isolectotypes: K000758185!, L0019505!, M0213887!) = *Photinia glomerata* Rehder & Wilson in Sarg., *Pl. Wils.* 1(2): 190. 1912.

8. *Eriobotrya heterophylla* Lindl., *Trans. Linn. Soc. London* 13(1): 102. 1821. *Mespilus heterophylla* Ruiz & Pavon, *Fl. Peruv. et chilensis* 4: t. 425; *Anales Inst. Bot. Cavanilles* 15: 202. 1957. *Hesperomeles heterophylla* (Ruiz & Pavon) Hook.f., *Icon Pl.* 9: t. 846. 1851. **Holotype:** Peru, *Ruiz & Pavon s.n.* (Ic. 425, fig. b (Ic. 424, fig a.; CDXXV, page 241 in *Flora peruviana et Chilensis*) = *Hesperomeles obtusifolia* var. *obtusifolia* Romoleroux (1996 p. 144).

9. *Eriobotrya integrifolia* (Lindl.) Kurz, *J. Asiat. Soc. Bengal*, pt. 2, *Nat. Hist.* 45(4): 304. 1877; *Fl. Brit. Burma*, 1: 442. 1877. **Lectotype:** Nepal, 7 November 1821, *Wallich 669* (K001111555!, designated by Mitra *et al.*, 2018; isolectotypes: K001111556!, K000758314!, E00011312!) = *Photinia integrifolia* Lindl., *Tran. Linn. Soc. London* 13(1): 103, t. 10 (1821).



Fig. 11. **A.** Lectotype of *Eriobotrya platyphylla* (F. Kingdon-Ward 10205, A!), **B.** Burma additional specimen of *E. platyphylla* (M. Gregor 1105, E!).

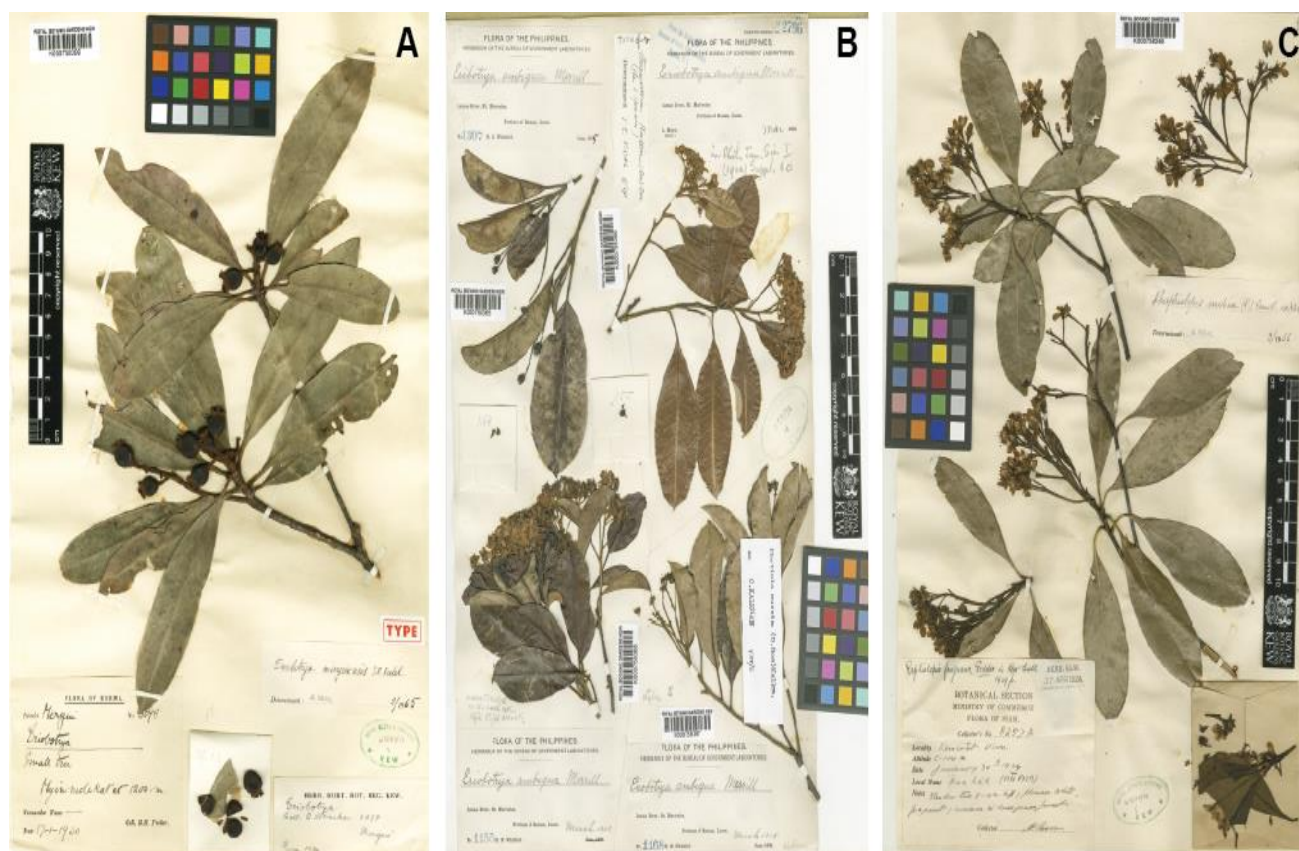


Fig. 12. **A.** Type image of *Eriobotrya merguensis* (R.N. Parker 3098), **B.** Syntype of *Rhapsiolepis indica* (A.H. Kerr 8257, K!), **C.** Type image of *Stranvaesia nussia* (F.B. Meyer 2796, P!).

10. *Eriobotrya lasiogyne* Franch., *Pl. Delavay*.1: 225. 1890. **Lectotype:** China. Yunnan: “in silvis montanis fauces San-tchang-kiousupra Hokin, alt. 2300 m”, fl. 22 May 1884, *Delavay* 732 (P02143141!, designated here; isolectotype: P02143142!) = *Photinia lasiogyne* (Franch.) C.K. Schneid., var. *lasiogyne* (2003 p. 121–137).

11. *Eriobotrya luzoniensis* (Merr.) Nakai, *J. Arn. Arb.*5: 69. 1924. *Photinia luzoniensis* Merr., *Publ. Bur. Sci. Gov. Lab.* 17: 18. 1904; 1906 pt. C. **Holotype:** Philippines. Luzon: “Mt. Mariveles, Province Bataan”, *T.E. Borden* 269 (YU068722!) = *Rhaphiolepis Philippinensis* (S. Vidal) Kalkman (1973 p. 434, 1993 p. 318).

12. *Eriobotrya notoniana* Kurz, *Prelim. Rep. Forest Pegu App. A.* p. Iviii; et *Prelim. Rep. For. Veg. Pegu, App. B.* 48. 1875. **Holotype:** India. Pennsula: *Wallich* 671 (K000758317!) = *Photinia integrifolia* (Lindley 1821 p. 103, 2019 p. 179–189).

13. *Eriobotrya oblonga* D. Dietrich, *Syn. Pl.* 3: 163. 1839. **Holotype:** Peru, *Mathews* 888 (K000486043!) = *Hesperomeles ferruginea* (Pers.) Bentham (1839 p. 129, 1996 p. 144).

14. *Eriobotrya oblongifolia* Merrill & Rolfe, *Philipp. J. Sci.* 3: 102. 1908. **Lectotype:** Philippines. Mindanao: *Mearns & Hutchinson* 4680 (NY00436215!, designated by Liu *et al.*, 2020b; isolectotype: US000097490!) = *Photinia nussia* (D. Don) Kalkman (1973 p. 429).

15. *Eriobotrya obtusifolia* (Pers.) DC. *Prodr.* [A. P. de Candolle] 2: 632. 1825. *Crataegus obtusifolia* Pers. *Syn. Pl.* 2(1): 37. 1806. **Lectotype:** Peru, *Dombey s.n.* (P00162152!, designated here; isolectotype: P00674000!) = *Hesperomeles obtusifolia* (DC.) Lindl. (1829 sub t. 1956, 1996 p. 144).

16. *Eriobotrya ochracea* Hand.–Mazz., *Symb.Sin.* Pt. 1-3, 7: 496. 1933. *Sorbus rubiginosa* Yu, *Acta Phytotax. Sin* 8: 223. 1963. **Lectotype:** China. Yunnan: “im birm. Mons. Schattige stellen an waldbedeckten Felsen in Graben auf der Scheide zwischen dem Yungtschang-Tale und Pupiao, 2100 m”, 1922, *Forrest* 21076 (E00144231!, designated by Vidal 1965) = *Sorbus ochracea* (Hand.–Mazz.) J.E Vidal, *Adansonia* ser. 2, 5: 557. 1965.

17. *Eriobotrya prionophylla* Franch., *Pl. Delavay.* 1 t. 46: 225. 1890. **Lectotype:** China. Yunnan: “Kiao-chi-tong supra Kiang-ya”, 30 May 1888, *Delavay* 3545 (P03342590!, designated by Idrees *et al.*, 2021a; isolectotype: K000758255!, LE01015176!). **Syntype:** *Delavay* 1077 (P02143153!) = *Photinia prionophylla* (Franch.) C. K. Schneid. var. *prionophylla* (2003 p. 121–137).

18. *Eriobotrya Philippinensis* S. Vidal, *Revis. Pl. Vasc. Filip.* p. 123. 1886. **Lectotype:** Philippines. Luzon: *Vidal* 1350 (K000758205!, designated here). **Syntype:** same locality: *Vidal* 1353 (K000758204!) = *Rhaphiolepis Philippinensis* (Vidal) Kalkman (1973 p. 434, 1993 p. 318).

19. *Eriobotrya undulata* (Decne.) Franch., *Pl. Delavay* p. 226. 1890. *Stranvaesia unulata* Decne. (1874: 179) *Stranvaesia glaucescens* var. *yunnanensis* Franch., *Pl. Delavay* p. 226. 1890. *num. nud.* **Lectotype:** China. Yunnan: *Delavay* 1992 (P02143161!, designated here; isolectotype: P02143140!) = *Stranvaesia davidiana* var. *undulate* (Decne.) Rehder & E. H. Wilson in Sargent 192.1912.

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