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Notes on the genus *Callicarpa* (Lamiaceae) in Thailand

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ABSTRACT. During a revision of *Callicarpa* for the Flora of Thailand, one new record was found for Thailand, *Callicarpa furfuracea* Ridl.. Two taxa are reduced to synonymy: *C. villosissima* Ridl. and *C. poilanei* Dop are placed under *C. arborea* Roxb. and *C. angustifolia King & Gamble* respectively. Five names are typified: *Callicarpa angustifolia, C. furfuracea, C. maingayi* King & Gamble, *C. poilanei* and *C. villosissima*.

INTRODUCTION

The genus *Callicarpa* was described by Linnaeus (1753) with one species, *C. americana* L. It comprises ca 140 species worldwide and is distributed mainly in temperate, subtropical and tropical Asia, America, Australia and some Pacific islands (Harley *et al*., 2004). According to Cantino et al. (1992), the genus *Geunsia* Blume should be included as a synonym of the genus *Callicarpa*. Fletcher (1938) carried out a preliminary revision of the genus in Thailand, enumerating 12 species and 14 taxa. Later, Moldenke (1980), The Forest Herbarium, Royal Forest Department, Thailand (2001) and Govaerts et al. (2007) published their checklists of *Callicarpa* in which 18, 11 and 14 taxa, respectively were listed for Thailand.

In the process of revising the genus for the Flora of Thailand, a new record was found, namely *C. furfuracea*, two synonyms are presented and *C. angustifolia*, *C. furfuracea*, *C. maingayi*, *C. poilanei* and *C. villosissima* are lectotypified.

NEW RECORD

Callicarpa furfuracea Ridl., J. Fed. Malay. States Mus. 10(2): 150. 1920; Ridl., Fl. Mal. Penins. 2: 615. 1923. Type: Malaysia, Pahang, Gunong Senyum, June 1917, *Evans* s.n. (lectotype K!, selected here; isolectotypes K!, SING!). Figs. 1A-C.

Scandent or woody climber, rarely a shrub, 1.5–5 m high; young branches brown, obtusely 4-angled, sometimes nodes with an interpetiolar woody ridge, and with very dense dark brown or brown overlapping stellate or dendroid hairs; old branches grey, slightly angled with many lenticels, glabrescent. *Leaves* simple, opposite-decussate, ovate, obovate,

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obcordate, or broadly elliptic, rarely lanceolate to narrowly oblong, coriaceous, (5–)10–32 by (1.5–)7–24 cm, apex usually obtuse or acute, rarely retuse or acuminate, base rounded or slightly cordate, margin dentate to obscurely dentate; upper surface with sparse brownish stellate hairs when young, later glabrous, shiny, midrib slightly sunken or flattened; lower surface with dense greyish-brown or grey overlapping stellate hairs, midrib prominent; petiole (1.7–) 2–7 cm long, furrowed on upper surface. *Inflorescence* an indeterminate thyrse with opposite dichasial cymes 2–4 cm long; peduncle 0.3–1.8 cm long; pedicels 1–3 mm long; bracts elliptic or lanceolate, 0.8–7 mm long; bracteoles deciduous, elliptic to linear elliptic, 0.5–2 mm long. *Calyx* cup-shaped, 1.2–2.5 mm long with dense grey or brownish-grey overlapping stellate hairs and with sessile glands within; calyx tube 1–2.5 mm long, apex truncate or with 4 minute teeth, ca 0.1 by 0.1–0.2 mm. *Corolla* creamy white to white, 4–merous, 4–6 mm long; tube 2–4 mm long, swollen, glabrous at base, with dense stellate hairs distally, glabrous within; corolla lobes thickened, concave, reflexed, ovate or rounded, 1–1.5 by 0.7–1.5 mm, apex rounded or obtuse, outside with densely stellate hairs, ciliate at margin or apex, sparsely glandular pubescent or glandular within. *Stamens* 4, filaments white, flattened, 2.5–4 mm long; anthers yellow, broadly elliptic, 2–2.8 mm long, opening by longitudinal slits. *Ovary* ovoid to subglobose, 0.5–1 mm long, with dense grey stellate hairs and yellow glands; style 4–7 mm long, thickening towards emarginated apex. *Fruits* drupaceous, ovoid to obovoid, 3–6 when young, ripening black, shiny with enlarged persistent calyx.

Thailand.— PENINSULAR: Chumphon [Pato, Langsuan, 4 March 1927, *Kerr* 12210 (**BK**, **K**, **L**, **P**)]; Ranong [26 April 1974, *Larsen & Larsen* 33432 (**AAU**, **BKF**, **L**, **P**); Klong Kam Puan, 1 May 1973, *Geesink & Santisuk* 5086 (**AAU**, **BKF**, **K**, **L**, **P**)]; Surat Thani [Ban Kawp Hap,16 Aug. 1927, *Kerr* 13363 (**BK**, **BM**, **K**); Khao Tan, Chaiya, 12 July 1966, *Sutheesorn* 1285 (**BK**); Ratchaprapha Dam, 10 June 1992, *Larsen, Larsen, Renner Niyomdham, Ueachirakan & Sirirugsa* 42786 (**AAU**, **BKF**, **P**, **PSU**); Kang Krung National Park, Wipawadee, 10 April 1994, *Lewin* et al. 21 (**PSU**); Khao Sok National Park, Ratchaprapha Dam, 20 Feb. 2001, *Chayamarit, Pooma, Chamchumroon, Phattarahirankanok & Middleton* 2589 (**BKF**)]; Phangnga [Khao Nang Hong, Thap Put, 24 Aug. 1967, *Shimizu, Fukuoka & Nalampoon* T-8009 (**AAU**, **BKF**, **L**); Khao Tham Thong Lang, Thap Put, 24 Aug. 1967, *Shimizu, Fukuoka & Nalampoon* T-7993 (**BKF**, **L**)]; Nakhon Si Thammarat [Ao Wangkram, Thungsong, 25 July 1929, *Rabil* 208 (**BK**, **BM**, **K**); Chingmuang falls, Khao Luang National Park, 1 July 1989, *Sirirugsa* 858 (**PSU**); Tabchang, Kiriwong, 27 July 1951, *Smitinand* 737 (**BKF**); Chawang, 2 Nov. 1957, *Snan* 210 (**BKF**, **K**)]; Krabi [Panom Bencha, 29 Mar. 1930, *Kerr* 18765 (A, **BK**, **K**, **L**, **P**); Ao Luk, 23 July 1972, *Larsen, Larsen, Nielsen & Santisuk* 31243 (**AAU**, **BKF**)]; Phuket [Thalang, 11 March 1929, *Kerr* 17438 (**BK**, **BM**, **E**, **K**, **SING**)]; Trang [Khao Chong, 14 April 1928, *Kerr* 15191 (**BK**, **BM**, **E**, **K**, SING); idem, 8 Aug. 1964, *Suvarnakoses* 2132 (**BKF**, **K**, **L**); idem, 16 March 1966, *Bunnab & Phuphathanaphong* 439 (**BKF**, **L**); idem, 25 April 1949, *Bunkird* 85 (**BKF**, HUH); idem, 13 June 1974, *Geesink, Hattink & Charoenphol* 7191 (**AAU**, **BKF**, **K**, **L**, **P**); idem, 7 April 1969, *Chermsirivathana & Kasem* 1361 (**BK**); idem, 11 Aug. 1975, *Maxwell* 75-764 (**AAU**, **BK**, **L**); idem, 15 Aug. 1981, *Sirirugsa* 412 (**PSU**); idem, 15 July 2003, *Chantaranothai* et al. s.n. (**KKU**); idem, 12 March 1974, *Larsen & Larsen* 33247 (**AAU**)]; Phatthalung [Ban Koh Tao, Sribanphot, 4 Sept. 1993, *Jorneiad* 1 (**PSU**); Khao Pu-Khao Ya National Park, Sribanphot, 2 Sept. 1995,

Sutthikaran 6 (**PSU**); idem, 16 Nov. 1990, *Larsen, Larsen, Barfod, Nanakorn, Ueachirakan & Sirirugsa* 41498 (**PSU**), idem, 26 June 1999, *Ritthisunthorn* 27 (**PSU**); idem, 14 July 2000, *Middleton, Boonthavikoon, Davies, Hemrat & Newman* 427 (**BKF**, **K**, **HUH**)]; Songkhla [Ton Nga Chang falls, Hat Yai, 13 Aug. 1994, *Chatchai & Komgrit* 16 (**PSU**); idem, 4 Oct. 1991, *Larsen, Larsen, Niyomdham, Ueachirakan & Sirirugsa* 42131 (**AAU**, **BKF**); idem, 30 Aug. 1984, *Maxwell* 84-159 (**BKF**, **HUH**, **P**, **PSU**)]; Yala [Kue Long, *Geesink & Hattink* 6409 (**BKF**, **L**); idem, 17 June 1970, *Santisuk* 11023 (**BKF**); Thanto, 25 May 1993, *Herb. Trip* 460 (**BCU**); Bo Hin, Banang Sta, 19 Nov. 1971, *Ploenchit* 1761 (**BKF**)]; Narathiwat [Bacho, 17 Dec. 1968, *Sangkhachand* 1578 (**BK**); idem, 17 Dec. 1968, *Phusomsaeng* 13 (**BKF**, **K**, **L**, **P**); Khao Bacho forest, Bachao, 15 May 1961, *Bunnak* 149 (**BKF**); Waeng, 19 Nov. 1971, *C.S.S.* 229 (**BKF**); idem, 12 April 1972, *Sangkhachand, Phusomsaeng & Nimanong* 1016 (**BKF**, **K**, **L**)].

Distribution. —Southern Thailand and Peninsular Malaysia.

Ecology.— In both shaded and open evergreen and limestone forests; 50–350 m; flowering: December to May; fruiting: June to October.

Vernacular.— To (เตาะ) (Krabi); Plao Khon (เปล้าขน), Hu Khwai Khao (หูควายขาว) (Nakhon Si Thammarat).

Notes.— Most specimens of *Callicarpa furfuracea* in Thailand were previously identified as *C. maingayi* King & Gamble. *C. furfuracea* differs from *C. maingayi* in being a scandent shrub or woody climber rather than a tree, possessing a longer corolla (e" 4 mm long rather than < 4 mm long) and a pubescent rather than glabrous ovary. Ridley (1920) described *Callicarpa furfuracea* based on *Evans* s.n. with several duplicates. A duplicate deposited at K was chosen as the lectotype because it is the best preserved collection.

LECTOTYPIFICATIONS

Callicarpa maingayi King & Gamble, Bull. Misc. Inform. Kew 1908: 106. 1908. Type: Malaysia, Malacca, 21 Nov. 1865, *Maingay* in Kew Distribution 1192 (lectotype K!, selected here, isolectotype BM!). Figs. 1D, 1E & 1F.

Note.— *Callicarpa maingayi* is widespread in peninsular Malaysia and southern Thailand. Three collections, *Derry* 1005, *Maingay* in Kew Distribution 1192 and *Ridley* 2787, were mentioned in the original description. *Maingay* in Kew Distribution 1192 deposited at K is chosen as the lectotype because it is well preserved.

Callicarpa angustifolia King & Gamble, Bull. Misc. Inform. Kew 1908: 106. 1908. Type: Malaysia, Perak, Jan. 1885, *King's Collector* 7036 (lectotype K!, selected here).— *Callicarpa poilanei* Dop, Bull. Soc. Hist. Nat. Toulouse 64: 502. 1932, **synon. nov**. Type: Cambodia, Kampot, Pum a rong, 13 June 1930, *Poilane* 17611 (lectotype P!, selected here; isolectotype US!,). Figs. 2A, 2B & 2C.

Notes.— The type specimens of both *Callicarpa angustifolia* and *C. poilanei* are similar in having a prominent interpetiolar ridge, grey to brownish-grey indumentum on the lower leaf surface and a glabrous or sparsely pubescent ovary. Therefore, the latter

species is reduced to a synonym of the former. *C. angustifolia* is distributed in northeastern, southeastern and southern Thailand to Cambodia and Vietnam. Five different collections of *C. angustifolia* (*Curtis* 3197, *King' Collector*s 7036 & 8236, *Ridley* 8330 and *Scortechini* 1596) and six collections of *C. poilanei* (*Chevalier* 31781, *Harmand* s.n., *Pierre* 5226 & s.n. and *Poilane* 8265 & 17611) were cited in the original description. Therefore, *King's collector* 7036 (at K) and *Poilane* 17611 (at P) are selected as the lectotypes of *C. angustifolia* and *C. poilanei*, respectively.

King and Gamble (1908) described *C. angustifolia* from Malaysia and reported it as having a hairy ovary and narrow leaves (up to 4 cm wide), but the Thai material can have either a glabrous or hairy ovary and wider leaves (up to 9 cm wide).

Callicarpa arborea Roxb., [Hort. Bengal. 10. 1814, *nom. nud.*], Fl. Ind. 1: 405. 1820. Type: Icon. Roxb. t. 2033 (lectotype K!, selected by Rajendran and Daniel (2002)).— *C. villosissima* Ridl., J. Fed. Malay. States Mus. 10 (2): 110. 1920, **synon. nov.** Type: Thailand, Surat Thani, Tasan, 1919, *Kloss* 6851 (lectotype K!, selected here; isolectotype SING!). Figs. 2D, 2E & 2F.

Notes.— *Callicarpa arborea* is variable in leaf characters such as overall shape (elliptic, ovate, broadly elliptic or elliptic-ovate to oblong-ovate), the shape of the base (cuneate or attenuate) and hair type (dendroid or tomentose-stellate). The type material and other specimens previously determined as *C. villosissima* display characters which fall within this range and as there is no discontinuity, this name is reduced to synonymy under *C. arborea* Roxb. Roxburgh (1820) in the protologue stated that *C. arborea* is a native of Chittagong but did not cite any specimen. Therefore, the illustration Icon. Roxb. t. 2033 (deposited at K) was selected as the lectotype by Rajendran and Daniel (2002). For *C. villossima*, there was no designation of a holotype in the protologue. *Kloss* 6851 which was mentioned in the original description and deposited at K, is chosen as the lectotype.

This species is very widespread in Nepal, Bhutan, India, Sri Lanka, Bangladesh, Burma, China, Indochina, Malaysia, Singapore, Indonesia, Philippines, New Guinea and Thailand, except in the eastern region.

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Figure 1. *Callicarpa furfuracea* Ridl.: A. flowering branch, B. flowers, C. fruits; *Callicarpa maingayi* King & Gamble: D. flowering branch, E. flowers, F. fruits. Photographed by C. Leeratiwong.

Figure 2. *Callicarpa angustifolia* King & Gamble: A. flowering branch, B. Inflorescences, C. fruits; *Callicarpa arborea* Roxb.: D. flowering branch, E. flowers, F. fruits. Photographed by C. Leeratiwong.

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