

Memecylon longipedunculatum (Melastomataceae), a new species from coastal areas of south central Vietnam

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Abstract

Memecylon longipedunculatum, a new species of Melastomataceae, is described and illustrated. The species is known to occur in Khanh Hoa and Ninh Thuan provinces in South Central Coast Vietnam, where it is restricted to low dry coastal forests and scrubby vegetation. The description is based on the authors' original gatherings as well as on the historical collections made a century ago. The new species is distinguishable from most of its congeners by small leaves (1.2–5.7 × 0.7–2.4 cm) with obtuse or sometimes emarginate apices, long peduncles (1–2.7 cm long), and crescent-shaped anther connective with distinct centrally placed gland.

Key words: dry coastal vegetation, Hon Tre Island, Nui Chua National Park

Introduction

Memecylon Linnaeus (1753: 349) (Melastomataceae, Olisbeoideae) with more than 391 species is a genus of small trees and shrubs distributed in the Old World tropics (Renner *et al.* 2007 onward, Stone 2022, Ulloa Ulloa *et al.* 2022, POWO 2024). In Vietnam, 20 species of *Memecylon* have been enumerated to date (Guillaumin 1921a, 1921b, Ho 2003, Nguyen & Doan 2020, POWO 2024). In the present paper, we describe a new species of *Memecylon* based

on our recent collections from south central Vietnam (Nui Chua National Park in Ninh Thuan Province and Hon Tre Island in Khanh Hoa Province), as well as several historical collections from the same area that had until now never been assigned to any particular species. The species is restricted to coastal evergreen forests. We supplement the description with analytical photographs of living plants, vernacular name, information on the habitat and phenology, and a preliminary assessment of conservation status of the new species.

Taxonomy

Memecylon longipedunculatum Tagane, V.S.Dang & Nuraliev, *sp. nov.* (Figs. 1–3)

Diagnosis:—*Memecylon longipedunculatum* is similar to *M. chevalieri* Guillaumin (1921a: 7, see also Guillaumin 1921b: 936) distributed in Cambodia, Laos and Vietnam by having axillary and terminal inflorescences with relatively long peduncles 1–2.7 cm long (vs. almost 1.5 cm long in *M. chevalieri*), but distinguished from the latter species by its smaller leaf blades ($1.2\text{--}5.7 \times 0.7\text{--}2.4$ cm vs. $4\text{--}7 \times 2\text{--}4$ cm), longer pedicels (3.3–5.5 mm vs. 2–3 mm long), longer petals (ca. 4 mm vs. 2–3 mm long) with acute (vs. acuminate) apex, and subglobose (vs. ovoid-globose) fruits.

TYPE:—VIETNAM. Ninh Thuan Province: Ninh Hai District, Nui Chua National Park, open coastal shrubs, 11.74982°N, 109.21890°E, elev. 25 m, 20 December 2023, *S. Tagane, V.S. Dang, P. Souladeth, B.V. Truong, T.V. Nguyen, Q.T. Pham, Q.B. Nguyen, D. Kongxaisavath, T. Yamamoto, K. Yamazaki* N216 [fl. & fr.] (holotype VNM: VNM00071517!; isotypes FOF!, KAG: KAG186215!, VNM: VNM00071547!).

Trees up to 5 m tall, evergreen, entirely glabrous; bark reddish brown, finely longitudinally fissured; young branchlets dull yellow-brown, terete and slightly flattened, soon becoming terete with age; old branchlets grayish brown to reddish brown, slightly inflated at nodes; internodes 1.2–3.7 (–5.4) cm long. **Leaves** opposite; blades fleshy (slightly succulent), elliptic to elliptic-obovate or ovate, $(1.2\text{--})2.7\text{--}5.7 \times (0.7\text{--})1.1\text{--}2.4$ cm, bright red when young especially adaxially, adaxial surface of mature leaves dark green *in vivo*, dark yellow-green to dull brownish yellow *in sicco*, abaxial surface light green *in vivo*, dull yellow-brown to very pale creamy brown or greenish yellow *in sicco*, apex obtuse or sometimes emarginate, base cuneate, margin entire and slightly revolute *in sicco*; midvein flat or slightly impressed adaxially and somewhat raised abaxially; secondary veins 4–6 pairs, indistinct or obscure on both surfaces; petioles $(1.4\text{--})2\text{--}3.7$ mm long, pale green *in vivo*, dull yellow green to greenish yellow *in sicco*. **Inflorescences** terminal or in axils of distal leaves, possibly panicles or thyrsoids, 2.5–4.8 cm long, 3–13-flowered; peduncle 1–2.7 cm long, elongating to up to 5.1 cm long in fruits, distally quadrangular in cross section; rachis 0.5–1 cm long; bracts ovate-triangular, ca. 1 mm long, caducous before maturation of flower bud. Pedicels 3.3–5.5 mm long and ca. 0.2 mm in diam., elongating to 1 cm long and slightly thickening in fruits. **Flowers** ca. 0.9 cm across. **Hypantho-calyx** broadly campanulate, 2.5–3 mm long (together with ovary), ca. 3 mm in diam., light purple or yellowish green *in vivo*, dull brownish yellow *in sicco*; calyx ca. 0.2–0.3 mm long, with 4 very short and broad lobes, with each lobe broadly emarginate at apex so that calyx margin appearing shallowly 8-dentate. **Petals** 4, broadly ovate-triangular, claw-like proximally, with a very narrow base leaving a distinct scar, ca. 4×4 mm, adaxially purplish blue and abaxially bluish purple *in vivo*, apex acute. **Stamens** 8, equal; filaments 2.5–2.8 mm long, distally tapering to a very narrow connection with anther, blue *in vivo*, very pale blue *in sicco*; anthers ca. 1.2 mm long; connective crescent-shaped, with concave lower side, blue; anther gland placed at the middle of adaxial side of connective, distinct, elliptic, ca. 0.7 mm long, dull brownish yellow or dark purple, shiny; thecae facing upwards, pale yellow, longitudinally dehiscent. **Ovary** inferior, with radially grooved upper surface (at bottom of hypanthium); style 3–5 mm long, linear, gradually becoming thinner towards apex, blue *in vivo*, very pale blue *in sicco*. **Fruit** a berry, subglobose, $7.5\text{--}9 \times 7\text{--}8$ mm, blackish purple when mature, with smooth surface, with a crown formed by persistent hypantho-calyx ca. 1.8 mm high and 3.9–4.2 mm in diam. **Seeds** 1 per fruit, subglobose, ca. 7 mm in diam., reddish brown.

Additional specimens examined (paratypes):—VIETNAM. **Khanh Hoa Province:** Île Tre près Nhatrang [Nha Trang city area, Hon Tre Island], dans la partie sud de l'île [in the southern part of the island], sol rocheux [in rocky soil], 31 March 1922, *E. Poilane* 2889 [fl. buds] (P: P04802385, image!); Nha Trang city area, Hon Tre Island, near Dam Bai marine climate station, dry low seaside forest, 12°11'52"N, 109°17'08"E, elev. 140 m, 26 May 2021, *M.S. Nuraliev* NUR 3340 [fl.] (MW: MW0595851, MW0595852, MW0595853); Île hon mun près Nhatrang [Nha Trang city area, Hon Mun Island], 24 April 1922, *E. Poilane* 3139 [fl. and young fr.] (L: L.3904555, P: P04802297, P04802299, images!). **Ninh Thuan Province:** Ninh Hai District, Nui Chua National Park, open scrubs on dry rocky



FIGURE 1. Holotype of *Memecylon longipedunculatum* (Tagane et al. N216, VNM00071517).

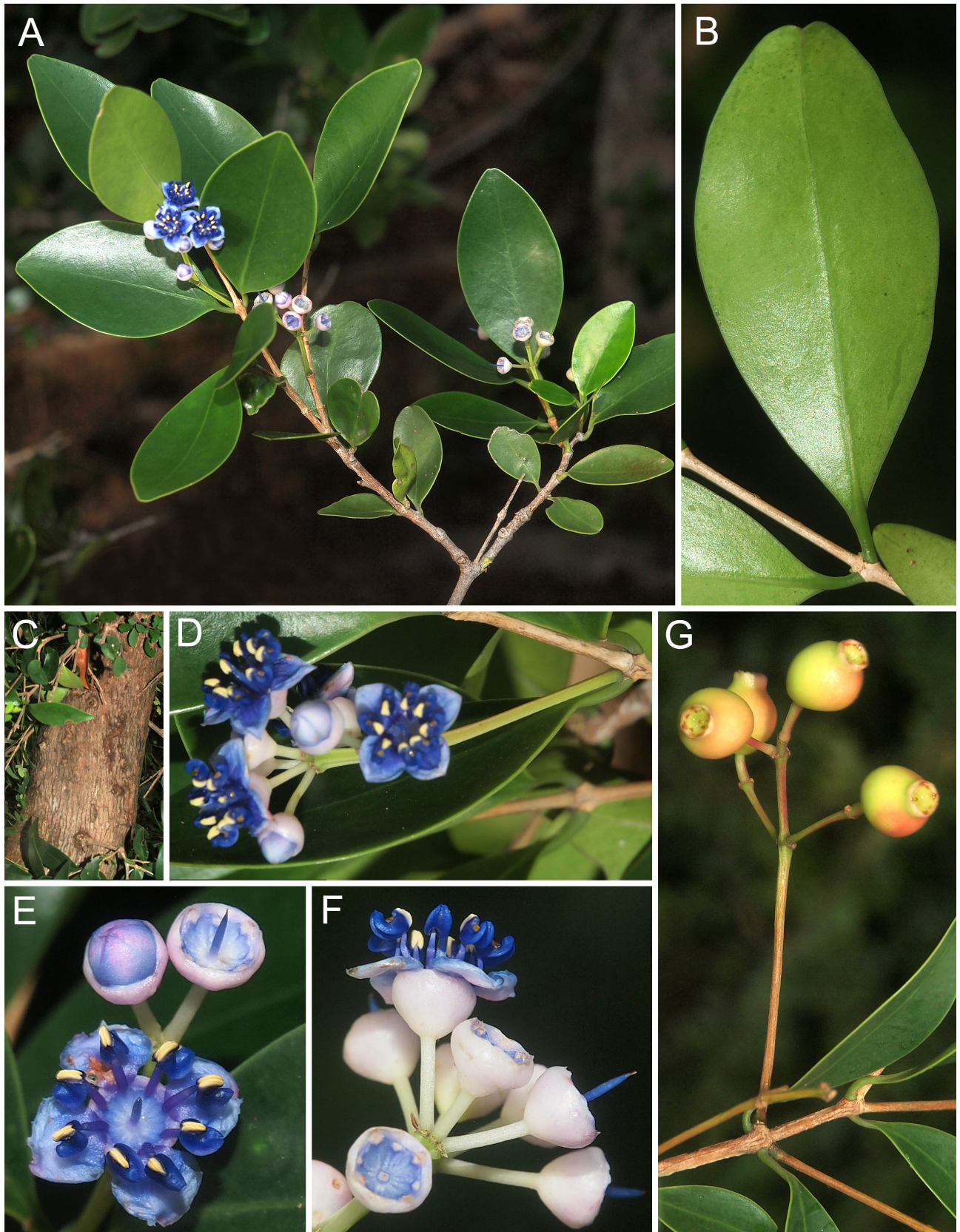


FIGURE 2. *Memecylon longipedunculatum*. **A.** Flowering branch. **B.** Abaxial leaf surface. **C.** Bark. **D.** Inflorescence. **E.** Top view of flower bud (up-left), anthetic flower (bottom), and post-anthetic flower (up-right). **F.** Inflorescence branch with anthetic and post-anthetic flowers. **G.** Fruiting stage of inflorescence. Tagane *et al.* N465 (A, D–F) and Tagane *et al.* N216 (B, C, G). Photos by S. Tagane.

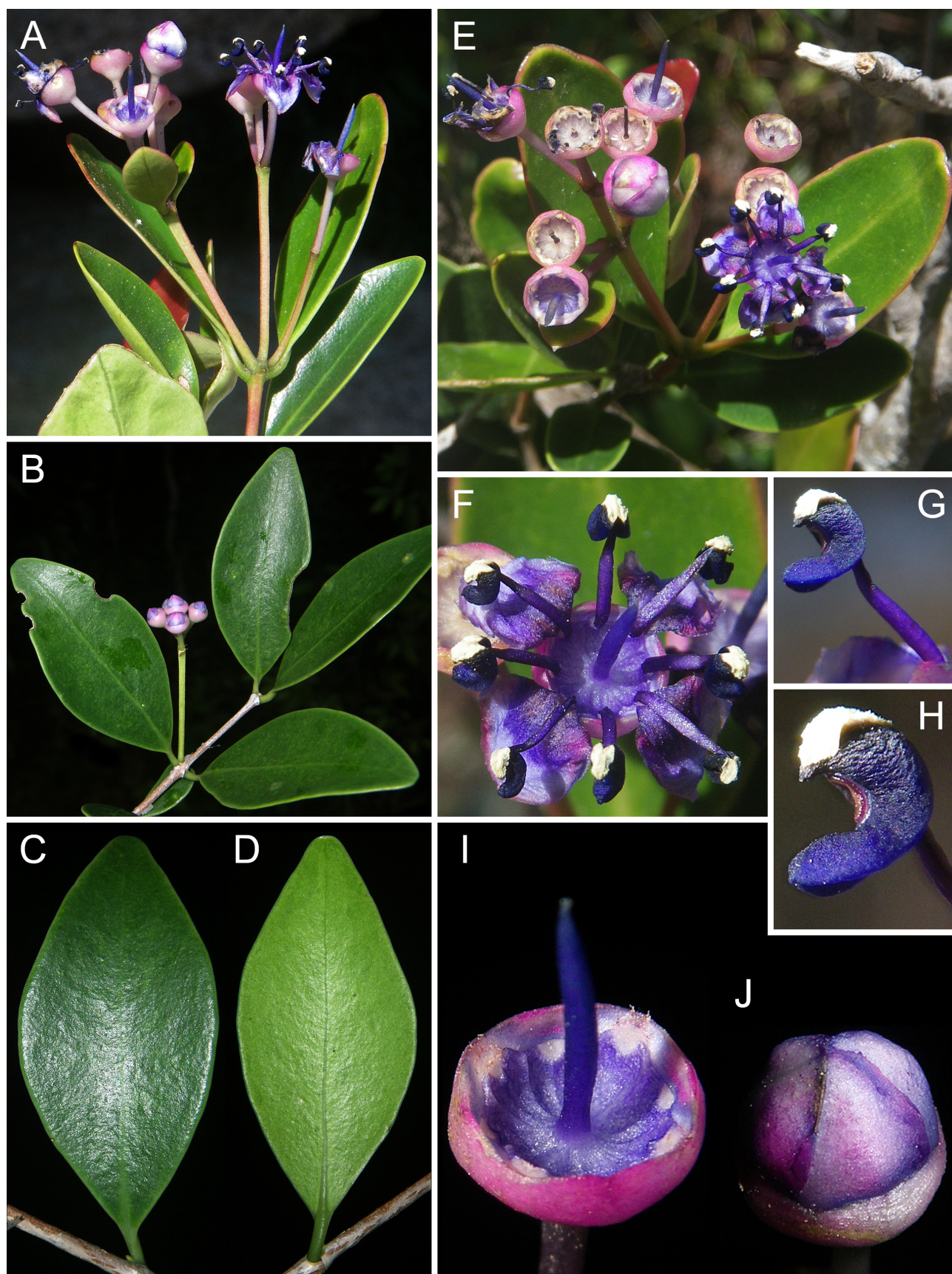


FIGURE 3. *Memecylon longipedunculatum*. **A, B.** Flowering branches. **C, D.** Leaf, adaxial and abaxial side. **E.** Inflorescence. **F.** Flower, top view. **G.** Stamen, side view. **H.** Anther, side view. **I.** Post-anthetic flower (after abscission of petals and stamens). **J.** Mature flower bud. *Nuraliev & Fomichev NUR 4192* (A, E–J) and *Nuraliev NUR 3340* (B–D). Photos by M.S. Nuraliev.

slopes on sandstone, 11.67766°N, 109.17364°E, elev. 20 m, 24 December 2023, *S. Tagane, V.S. Dang, P. Souladeth, B.V. Truong, T.V. Nguyen, Q.T. Pham, Q.B. Nguyen, D. Kongxaisavath, T. Yamamoto, K. Yamazaki* N465 [fl.] (FOF, KAG: KAG186465, VNM: VNM00071350, VNM00071410); Ninh Hai District, Vinh Hai municipality, Nui Chua National Park, Da Vach cape, 3 km ENE of Vinh Hy town, dry low seaside forest, 11°44'02"N, 109°13'29"E, elev. 270 m, 8 March 2023, *M.S. Nuraliev & C.I. Fomichev* NUR 4192 [fl.] (MW: MW0595854); Ca Na, forêt de remplacement [secondary forest], sol rocheux [rocky soil], elev. 300 m, 26 December 1923, *E. Poilane* s.n. [fr.] (P: P04802376, image!).

Distribution:—Endemic to the south-central coast region of Vietnam (provinces Khanh Hoa and Ninh Thuan) (Fig. 4).

Habitat:—Dry evergreen forests at seaside, open coastal scrubs, at elevations of 20–300 m.

Etymology:—The species epithet refers to its long peduncles (up to 2.7 cm long in flower and to 5.1 cm long in fruit), one of the remarkable features distinguishing it from most of its congeners in the Indochinese Peninsula.

Phenology:—Flowering and fruiting specimens were collected in December and from March to May.

Vernacular name:—Sâm cuống dài (Vietnamese).

Preliminary conservation status:—Vulnerable (VU). Seven collections of *Memecylon longipedunculatum* are known so far. These collections originate from five localities in Ninh Thuan and Khanh Hoa provinces, South Central Coast Vietnam. The area of occupancy (AOO) and extent of occurrence (EOO) are estimated as 28 km² and 803 km², respectively, using GeoCAT (Bachman *et al.* 2011). A large area of its habitat, including the Nui Chua National Park, Hon Mun Island and Hon Tre Island, has been protected at either the national or district level, and therefore the status of the known populations is expected to be stable. However, at least some areas outside the protected areas have been disturbed due to land use including cattle grazing, human settlement, and tourism development. Given this situation, *M. longipedunculatum* is assessed here as Vulnerable (VU) according to the IUCN criterion D2 (IUCN 2012, 2024).

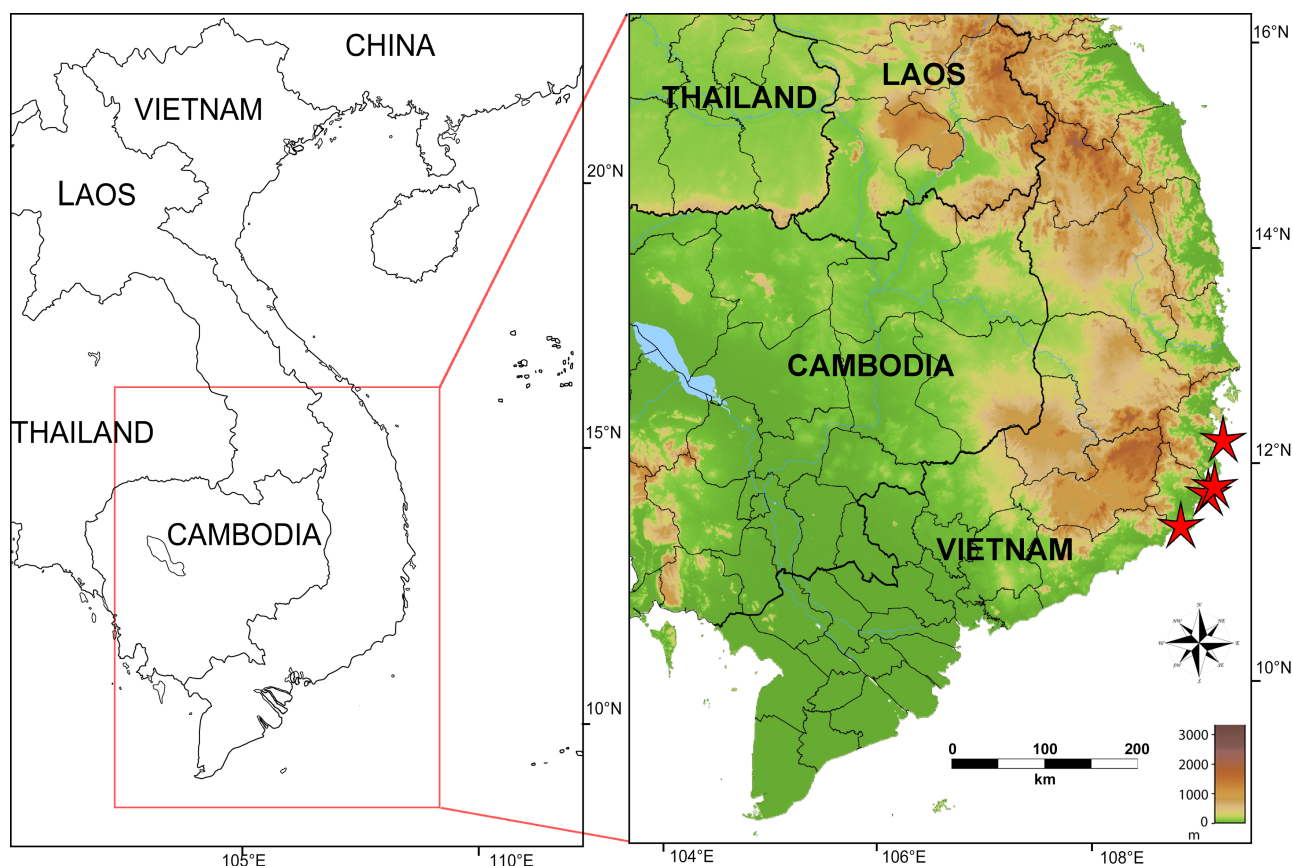


FIGURE 4. Distribution map of *Memecylon longipedunculatum*. The map is not aimed to show Vietnam in its entire borders.

Notes:—*Memecylon longipedunculatum* is readily distinguishable from its Indochinese congeners by its long inflorescences borne terminally or in axils of distal leaves (Figs. 2A & D, 3A & B), peduncle 1–2.7 cm long, 4-lobed calyx with the broadly emarginate apex of each lobe so that the calyx appears to be shallowly 8-dentate (Fig. 2F), and crescent-shaped anther connective with centrally placed gland (Fig. 2E & F, 3G & H). The new species is closest morphologically to *M. chevalieri*, as outlined in the diagnosis. In addition, *M. longipedunculatum* is similar to *M. lanceolatum* Blanco (1837: 301) of Vietnam, Taiwan, the Philippines, Malaysia, and Indonesia (Kalimantan and Sulawesi) and *M. cantleyi* Ridley (1918: 72) of Thailand, Malaysia, and Indonesia (Sumatra and Kalimantan) in having peduncles longer than 0.5 cm. However, it is distinguished from *M. lanceolatum* by obtuse or sometimes emarginate (vs. acuminate, sometimes with obtuse tip) leaf apex, and crescent-shaped (vs. J-shaped) anthers (Huang & Huang 1993, Chen & Renner 2007, Hughes 2013). The new species differs from *M. cantleyi* in having smaller leaf blades ($1.2\text{--}5.7 \times 0.7\text{--}2.4$ cm vs. $7\text{--}19.5 \times 3\text{--}7.5$ cm), obtuse or sometimes emarginate leaf apex (vs. apex distinctly acuminate with acumen 1–2 cm long), distinct (vs. indistinct) anther gland, and caducous (vs. semi-persistent) style (Maxwell 1980, 1989, Hughes 2013).

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