

Pseuderanthemum multiflorum (Acanthaceae), a new species from Thailand

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ABSTRACT

Pseuderanthemum multiflorum (Acanthaceae), a new species known only from Thailand, is here described and illustrated. It is distinguished from *P. graciliflorum* by inner corolla tube and pistil being glabrous instead of puberulous and by calyx lobes 4.5–6 mm long instead of 3–4 mm long. Comparison of morphological characteristics are provided.

KEYWORDS: conservation status, flora, morphology, taxonomy.

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INTRODUCTION

Pseuderanthemum Radlk. is a genus in Acanthaceae, subfamily Acanthoideae Eaton, tribe Justicieae Dumort., consisting of around 60 species of herbs and shrubs (Scotland & Vollesen, 2000). However, based on an updated world checklist of vascular plants, the genus includes 134 accepted species (POWO, 2026). The genus is distributed in tropical and subtropical regions of America, Africa, and Asia. Within the Acanthaceae, members of this genus are characterized by the presence of cystoliths, flower buds with ascending cochlear aestivation, two fertile stamens (they may possess two staminodes or none at all) and the fruit which typically contains 2–4 seeds supported by retinacula (Bremekamp, 1965; Hansen, 1989; Scotland *et al.*, 1994; Scotland & Vollesen, 2000; McDade & Moody, 1999; McDade *et al.*, 2000; Manzitto-Tripp *et al.*, 2022).

Eleven species of *Pseuderanthemum* have been reported as native to Thailand, i.e., *P. bracteatum* J.B.Imlay, *P. crenulatum* (Wall. ex Lindl.) Radlk., *P. glomeratum* J.B.Imlay, *P. graciliflorum* (Nees) Ridl., *P. imlayae* R.Kr.Singh, *P. latifolium* (Vahl)

B.Hansen, *P. longistylum* J.B.Imlay, *P. parishii* (T.Anderson) Lindau, *P. pubescens* Choopan & Grote, *P. siamense* J.B.Imlay, *P. thailandicum* Choopan & Grote. Also included are four introduced species as cultivated ornamental or medicinal species, i.e., *P. lanceophyllum* Choopan, *P. laxiflorum* (A.Gray) F.T.Hubb., *P. maculatum* (G.Lodd.) I.M.Turner, and *P. metallicum* Hallier (Craib, 1912; Imlay, 1938; Imlay, 1939; Hansen, 1989; Chaikong, 2001; Choopan, 2013; Turner, 2016; Choopan *et al.*, 2018; Singh, 2023). During fieldwork conducted for the Flora of Thailand project, together with a study of relevant literature and specimens, a species from Northern and South-Eastern parts of Thailand was discovered and confirmed to be new to science. Description, illustrations, distribution, and photographs are provided.

MATERIALS AND METHODS

Field collections and flowering period observations of the genus *Pseuderanthemum* were made throughout Thailand for the Flora of Thailand project. Specimens were examined at herbaria in

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Thailand and overseas (AAU, BK, BKF, BM, C, E, K, L, KKU, and QBG). The morphological and taxonomic investigations were made directly from either living specimens from natural habitats or on dried specimens from herbaria. Type specimens are deposited at BKF and BK. The conservation status was assessed using the IUCN guidelines and IUCN Red List Categories and Criteria (IUCN, 2012; IUCN Standards and Petitions Committee, 2024).

TAXONOMIC TREATMENT

Pseuderanthemum multiflorum Choopan & Grote, **sp. nov.** Figs. 1–3.

Pseuderanthemum multiflorum is distinguished from *P. graciliflorum* by the inner corolla tube and pistil being glabrous instead of puberulous, by calyx lobes 4.5–6 mm long instead of 3–4 mm, and by capsule 3–3.5 cm long instead of 2–2.5 cm. Type: Thailand, Chanthaburi, Khao Soi Dao WS, 15 Nov. 2010, *T. Choopan 2010-017* (holotype **BKF!** [SN272914]; isotypes **BKF!** [SN272915], **BK!**).

Shrub, up to 3 m tall, erect, branched, puberulous. *Leaves* opposite-decussate; petiole 1–7 cm long, puberulous; blade elliptic, 4–20 × 4–8 cm, acute to acuminate at apex, cuneate or acute at base, glabrous above, puberulous on veins below, with secondary veins in 5–8 pairs, subopposite or alternate. *Inflorescences* terminal, densely spiciform; cymes 9–15-flowered; 10–20 cm long; peduncle 1–3 cm long, pubescent; bracts leaf-like, lanceolate, 2–3 × 0.5 cm, acute at apex, puberulous; bracteoles 2, linear, 6–10 × 1 mm, acute at apex, puberulous. Pedicels 1–2 mm long, puberulous. *Flower* 2.8–3 × 2–2.5 cm, zygomorphic. *Calyx* green, 5-lobed, equal; lobes linear, 4.5–6 mm long, puberulous. *Corolla* salverform, white to light purple, glandular puberulous outside, tube glabrous inside; tube basally cylindric 4–4.2 cm long; 5-lobed (2 upper, 3 lower), lobes elliptic, 0.7–1 × 0.3–0.5 cm, puberulous at base of middle abaxial lobe. Stamens 2, slightly exserted, c. 5 mm long; filaments glabrous, c. 3 mm long; anthers oblong, c. 2 mm long; staminodes 2, c. 1 mm long. *Ovary* cylindrical, 3 mm long, glabrous; style white, 3.5–4 cm long, glabrous; stigma 2-lobed. *Capsule* clavate, brownish black, 3–3.5 × 0.6–0.8 cm, glabrous, 4-seeded.

Seeds brown, semicircular or orbicular, 5–6 mm in diameter, reticulate ridges on seed coat.

Thailand.— NORTHERN: Lampang [Chae Son NP, 15 Jan. 2011, *Choopan 2011-169* (**BKF!**)]; SOUTH-EASTERN: Chanthaburi [Khao Soi Dao WS, 15 Nov. 2010, *Choopan 2010-17* (**BKF!**); *ibid.*, 11 Dec. 2020, *Choopan 2020-22* (**BKF!**); Khao Chamao Khao Wong NP, 17 Nov. 2010, *Choopan 2010-37* (**BKF!**)].

Distribution.— Endemic to Thailand.

Ecology.— In shaded evergreen forest, 300–800 m alt.

Phenology.— Flowering & fruiting: November–March.

Vernacular.— Khem Chat (เข็มฉัตร) (Proposed here).

Etymology.— The specific epithet refers to many-flowered or having many flowers.

Preliminary conservation status.— Vulnerable (VU). This species occurs in protected areas where it is well protected and has been collected from three subpopulations or locations (more than 250 individuals in each). Several mature individuals with seedlings have been found in the areas. Area of occupancy (AOO) less than 20 km² in each location. However, the extent of occurrence (EOO) or the exact distribution is still unknown. So, the species would fall into the IUCN category of Vulnerable, VU D; D2. A further assessment should be carried out when more data are available.

Note.— *Pseuderanthemum multiflorum* is distinguished from other species in the genus by the dense inflorescence, outer corolla tube being glandular puberulous, and the base of middle abaxial lobe being puberulous. This species is similar to *P. graciliflorum* in having puberulous leaves and calyx, but can be distinguished from *P. graciliflorum* by densely spiciform inflorescence, cymes up to 15-flowered, inner corolla tube and pistil being glabrous, longer calyx lobes, and longer capsule as outlined in the diagnosis and Table 1. Moreover, the native distribution of *P. graciliflorum* is Indonesia (Java), Laos, Peninsular Malaysia, Myanmar, Philippines, Thailand, and Vietnam, which is much more widespread than the new species.

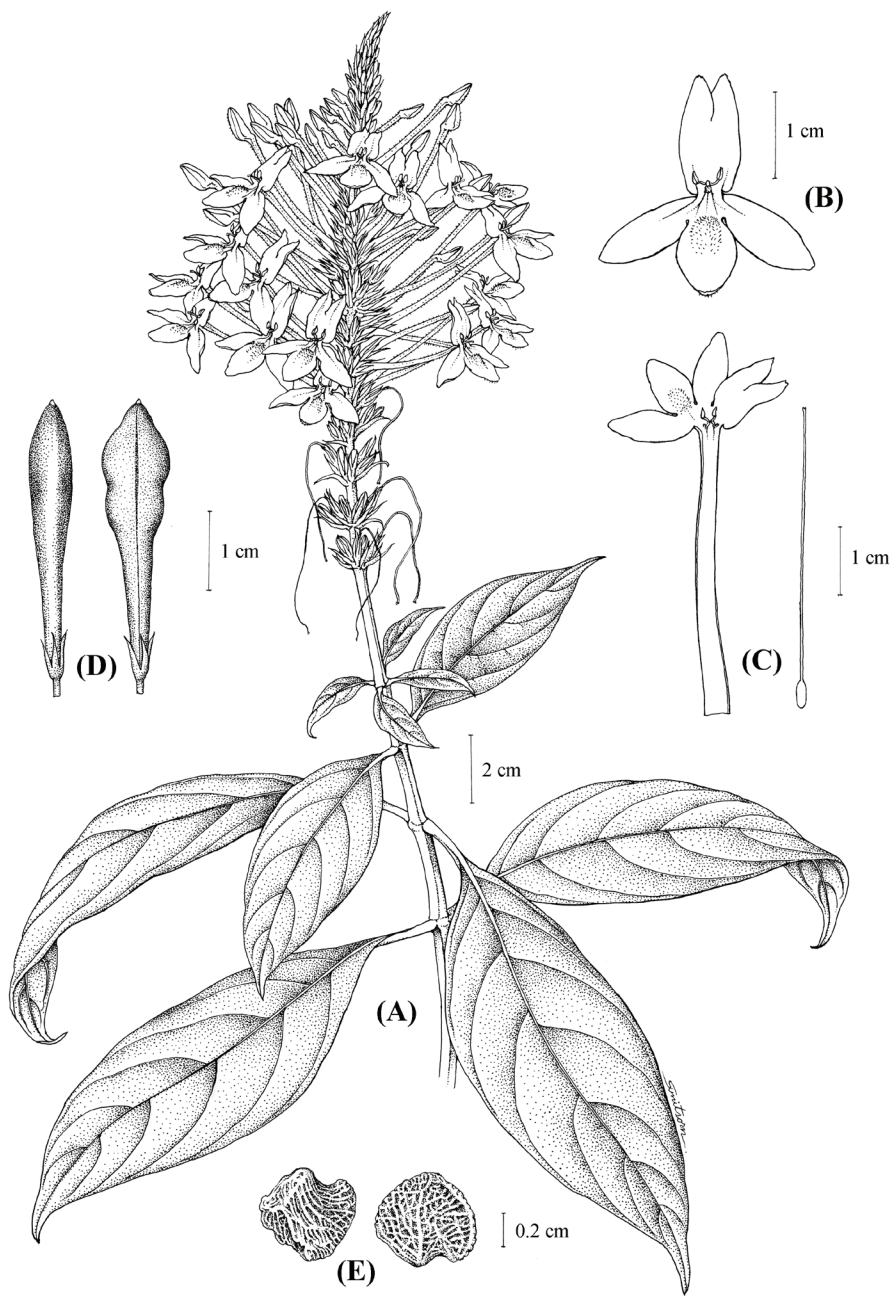


Figure 1. *Pseuderanthemum multiflorum* Choopan & Grote: A. habit; B. flower; C. pistil and stamens; D. fruits; E. seeds. (Drawn by Sunitsorn Pimpasalee).



Figure 2. *Pseuderanthemum multiflorum* Choopan & Grote: A.-C. flowers; D. puberulous calyx and glabrous pistil; E. dried fruit and seeds; F. seeds; G. lower surface of leaf; H. & J. inflorescences; I. infructescence. (Photographed by Thiamhathai Choopan).



Figure 3. Distribution of *Pseuderanthemum multiflorum* Choopan & Grote.

Table 1. Comparison of morphological characters between *Pseuderanthemum multiflorum* Choopan & Grote and *P. graciliflorum* (Nees) Ridl.

Characters	<i>P. multiflorum</i>	<i>P. graciliflorum</i>
Inflorescences	densely spiciform, 10–20 cm long	compound cymes, up to 10 cm long
Calyx lobes	4.5–6 mm long	3–4 mm long
Corolla lobes	3–5 mm wide, puberulous at base of middle lower lobe	4–6 mm wide, reddish-purple dots at the middle lower lobe without hairs
Corolla tube	glabrous inside	puberulous inside
Pistil	glabrous	puberulous
Fruit size	3–3.5 cm long	2–2.5 cm long

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