

A new record of *Mucuna* Adans. (Leguminosae) for Thailand

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ABSTRACT

Mucuna acuminata Grah. ex J.G.Baker is newly recorded for Thailand. Description and illustrations are provided.

KEYWORDS: *Mucuna acuminata*, native, Thailand.

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INTRODUCTION

The genus *Mucuna* Adans. was first established by Adanson (1763) and contains in its present circumscription approximately 100 species in the tropics and subtropics and 13 species native to Thailand (Wilmot-Dear, 1992 & 2008).

During a survey of the Papilionoideae in southern Thailand, we collected *Mucuna acuminata* Grah. ex J.G.Baker, which represents a new record for Thailand.

TAXONOMIC TREATMENT

Mucuna acuminata Grah. ex J.G.Baker in Hook.f., Fl. Brit. India 2: 185. 1876; Prain, J. Asiat. Soc. Bengal, Pt. 2 Nat Hist. 66(2): 67. 1897; Ridl., Fl. Malay Penins. 1: 577. 1922; Wilmot-Dear, Kew Bull. 47: 214. 1992. Type: Malaysia, Peneng, 1822, *Wallich Numer. List 5621* (holotype **K-W** K001121480!; isotypes **BM** 000946933!, **K** 000894908!). Fig. 1.

Woody climber. *Stem* terete, young parts moderately to sparsely covered with adpressed pale brown hairs, old parts glabrous. *Leaves* pinnately tri-foliolate, alternate; petiole 8–12.5 cm long with sparsely, adpressed pale brown hairs; terminal leaflet elliptic to ovate, 7–15 cm by 4–8 cm, apex caudate to acuminate, base obtuse, margins entire; lateral

leaflets markedly asymmetrical, ovate, 6–13 cm by 3–7.5 cm, apex acuminate, base oblique, margins entire; leaf blade membranous, adaxial surface glabrous or with sparsely, adpressed long brown hairs, abaxial surface with sparsely, adpressed long brown hairs; lateral veins in 4–6 pairs; petiolule 5–8 mm long; stipules caducuous; stipels filiform, 3–5 mm long, persistent, sparsely hairy. *Inflorescences* a corymbose, pseudo-raceme, axillary, 4–10 cm long, 5–6-flowered; peduncle 2–3 cm long; first order branches equally distributed along main axis, covered with densely, spreading or appressed greyish hairs; flowers zygomorphic, bisexual; pedicels 1–1.5 cm long, densely covered with greyish hairs; bracts elliptic to ovate, 13–15 mm by 5–10 mm, acute to acuminate at apex, covered with appressed greyish hairs outside, caducous; bracteoles oblong-linear, 12–15 mm by 2.5–4 mm, similar to bracts, caduceus. *Calyx* green to dark green, campanulate, 5-merous, 2-lipped, outer surfaces densely covered with shortly appressed reddish-brown hairs and abundant irritant bristles; tube 6–10 mm long; upper lip broadly triangular shape with round or bifid apex, 0.5–0.7 cm by 1.2–1.5 cm; lower lip with three lobes: lateral lobes 2, triangular, 3–9 mm by 4–5 mm, acute at apex; mid lobe, triangular, tapered, 6–10 mm by 8–10 mm, with acuminate apex. *Corolla* papilionaceous; standard petal light green to dark purple at

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apex, obovate, 2.5–3 cm by 3–3.5 cm, apex rounded or shallowly emarginate, only hairy on outer surface near midrib, basal pair of auricles with inflexed claws, 1–2 mm long.; wings light green, sometimes purplish towards the apex, obovate-oblong, 4–5 cm by 1.2–1.6 cm, slightly incurved upward, apex obtuse to acute, basal dorsal auricle small, with 3–6 mm long claw, outer surface and margins hairy basally; keel of two partly connate petals, light green to purple, narrowly oblong, 4.5–5 cm by 0.5–0.8 cm long, incurved upward at apex, apex acute, basal auricle dorsal, 2.5–3 mm long, with 4–6 mm long claw, this glabrous to very sparsely hairy towards the base of the adaxial surface. *Stamens* 10, diadelphous (9+1); filaments 4–5 cm long, apically swollen, glabrous; anthers dimorphic, 5 longer subbasifixed ones alternating with 5 shorter dorsifixed ones. *Ovary* superior, 1-carpellate, 1-locular with 4–5 ovules, narrowly oblong, 5–7 mm long, covered by densely adpressed whitish hairs; style 4–5 cm long, slender, hairy, bent, inflexed; stigma terminal, small, capitate. *Fruit* a legume, green turning black at maturity, asymmetrically oblong, 10–15 cm by 3–5 cm, distinctly laterally flattened, 0.8–2 cm wide, markedly curved, veins forming an indistinct network; surface sparsely covered reddish-brown bristles, less so on

inner surface of marginal wings; marginal wings 6–10 mm wide throughout, with a few short transverse lamellae on upper wing, and often with irregularly undulate edges; stipe 3.5–4 cm long, brown. *Seeds* 4–5, reniform, 1.5–2 cm by 1–1.5 cm, flattened but face convex, 7–10 mm thick, seed coat dark brown or black mottled with black; hilum black, extending through $\frac{2}{3}$ of circumference.

Thailand.— PENINSULAR: Satun [Langu, 18 Feb. 2017 (fl. & fr.), *Leeratiwong & Jornead 17-818* (K, PSU), 25 May 2017 (fr.), *Leeratiwong & Jornead 17-953* (PSU), Narathiwat [Waeng, Hala-Bala Wildlife Sanctuary, 12 Aug. 2002 (fl. & fr.), *Niyomdham & Puudjaa 6892* (BKF)].

Distribution.— Malaysia, Singapore and Indonesia (Java).

Ecology.— On open places and streamsides in evergreen rain forest; 23–100 m alt. Flowering January–August; fruiting March–September.

Note.— *Mucuna acuminata* is closely related with *M. gigantea* (Wild.) DC., but the differences in characters of both species are shown in Table 1. Wilmot-Dear (2008) predicted this species to occur in Thailand

Table 1. Comparison of *Mucuna acuminata* and *M. gigantea*. Characters of *M. gigantea* are modified from Wilmot-Dear (2008).

Character	<i>M. acuminata</i>	<i>M. gigantea</i>
Length of inflorescence (cm)	4–10	8–25
Inflorescence axis	densely hairy	sparsely hairy
Pattern of inflorescence branching	branches distributed throughout the main inflorescence axis	branches crowded near the apex of the main inflorescence axis
Length of lowest lobe of calyx (mm)	6–10	1–3
Length of lateral lobes of calyx (mm)	3–9	1–2
Standard petal	relatively shorter than the keel petal, ca $\frac{1}{2}$ than keel petal length	slightly shorter than the keel petal, more $\frac{1}{2}$ than keel petal length
Length of keel petal (cm)	4.5–5	2.8–4
Fruit shape	markedly down-curved	straight
Fruit hair covering	surface with sparsely reddish-brown bristles, moderately so on inner surface of marginal wings	surface with densely reddish-brown bristles
Fruit venation	veins forming an indistinct network	veins forming a distinct and raised network
Seed size (cm)	1.5–2 by 1–1.5	2–3 by 1.8–2.5



Figure 1. *Mucuna acuminata* Grah. ex J.G.Baker: A. habit; B. inflorescence; C. young fruits; D. mature fruit; E. seeds. Photos by C. Leeratiwong.

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