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A new species of the genus *Vandellia* (Linderniaceae) from Thailand

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Abstract

Vandellia yamazakii, a new species of Linderniaceae from western Thailand, is described and illustrated.

Key words: Endemic, *Lindernia*, Taxonomy, Thailand

Introduction

Lindernia Allioni (1766: 178) was first described by Allioni (1766). Later, Pennell (1935) merged *Bonnaya* Link & Otto (1820: 25), *Ilysanthes* Rafinesque (1820: 13) and *Vandellia* P.Browne ex Linnaeus (1767: 12) in *Lindernia*. However, in recent phylogenetic analyses based on molecular sequences (Fischer *et al.* 2013), *Lindernia s.l.* was divided into 6 genera viz. *Bonnaya, Craterostigma* Hochstetter (1841: 668), *Lindernia s. str.*, *Linderniella* Fischer *et al.* (2013: 227), *Torenia* Linnaeus (1753: 619) (*T. crustacea* group) and *Vandellia.* The genus *Lindernia s.l.* is the largest genus of Scrophulariaceae *s.l.* in Thailand comprising 32 species and two varieties (Yamazaki 1990, Chuakul 1999). During a recent revision of *Lindernia s.l.* for the Flora of Thailand, a new species was discovered. The first author concluded this fits better under *Vandellia* according to its morphological characters. This is described and illustrated below.

Material and methods

This study was based on fieldwork undertaken throughout Thailand and on material from the following herbaria: AAU, ABD, BCU, BK, BKF, BM, BO, C, CMU, E, K, KKU, L, P, PSU, QBG, TCD (photos) and Biology Herbarium, Chiang Mai University. Measurements and character determinations were carried out using both stereoscopic (Nikon SMZ-445; Nikon Instruments Inc., USA) and scanning electron microscopy (LEO 1450 VP SEM; Cambridge, UK). The terminology used follows Stearn (1992) and Beentje (2010).

Taxonomic Treatment

Vandellia yamazakii P.Sutthisaksopon, Chantar. & D.A.Simpson, *sp.nov.*, Figs.1–3

Vandellia yamazakii is similar to *V. junciformis* (Bonati 1911: 334) Fischer *et al.* (2013: 233) and *V. saginiformis* Bonati (1912: 240) but differs by its sparsely to densely sericeous indument throughout the plant, linear leaves, lax raceme, tubular calyx with acute to acuminate calyx lobes, acute to acuminate lobes of lower lip and ellipsoidal capsule (Fig. 1 & Table 1).

Type:—THAILAND. Kanchanaburi, Thong Pha Phum, Tha Khanun, 12 October 2013, *P. Sutthisaksopon & T. Kalapax 382* (holotype KKU!; isotypes BK!, BKF!, K!).

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IUCN Conservation status:—This species is known from five restricted localities in western Thailand. Only one of the localities is within a protected area; the others are exposed to a continual human disturbance. A conservation status of Near Threatened (NT, IUCN 2012) is merited.

Additional specimens examined (paratypes):—THAILAND. Tak: Umphang, Doi Hua Mot, 8 November 2012, *P. Suttisaksopon 338* (KKU!); Kanchanaburi: Mueang, Nong Hoy, Khao Phu Maklai, ca. 250 m, 10 July 1978, *C. Phengklai, M. Tamura, C. Niyomdham & B. Sangkhachand 4248* (BKF!, K!); Sai Yok, Wang Khamen, 23 September 2000, *C. Phengklai 14044* (BKF!); Sri Sawat, Erawan National Park, Khao Mong Lai, 31 August 1995, *J.A.N. Parnell, C. Pendry, M. Jebb & T. Boonthavikoon 95-551* (BKF!, K!); Thong Pha Phum, Tha Khanun, 15 September 2013, *P. Sutthisaksopon & G. Staples 378* (KKU!).

TABLE 1. Morphological comparison of *V. yamazakii* and similar species.

	V. junciformis	*V. saginiformis*[1]	*V. yamazakii*
Leaves	filiform, subcarnose, glabrous	filiform, subcarnose, glabrous	linear, filiform-like in dried specimens, chartaceous, sericeous
Flowers	axillary & solitary	axillary & solitary	terminal lax raceme or often axillary & solitary
Pedicels	0.4–1 cm long, glabrous	0.5–2 cm long, glabrous	1–3 cm long, sericeous
Bracts	filiform, linear or leaf-like	filiform	filiform, linear-lanceolate or leaf-like
Calyx	campanulate, apex truncate with 5-subulate teeth, sparsely pubescent, interspersed with glandular dots	campanulate, apex acute, glabrous	tubular, apex acute to acuminate, typically densely sericeous
Corolla	8–9 mm long, lower lip 3-lobed, lobes rounded	3–7 mm long, lower lip 3-lobed, lobes orbicular or ovate-obtuse	(5–)7–12(–13) mm long, lower lip 3-lobed, lobes acute to acuminate
Capsule	ovoid to ellipsoid, shorter than calyx or enclosed within persistent calyx, ca. 3–4 mm long, ca. 1 mm diam.	obovoid to globose, as long as the calyx, 3 mm long, 1.5 mm diam.	ellipsoid, more or less as long as the calyx, ellipsoid, 3–5 mm long, (1.4–)2–3 mm diam.

[1] Based on descriptions of Bonati (1911, 1912, 1927) and Yamazaki (1953, 1985).

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