

## *Calanthe herbacea* (Orchidaceae: Epidendroideae), a new record for the Flora of Thailand

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ABSTRACT. *Calanthe herbacea* Lindl. (Orchidaceae) is newly recorded for Thailand, bringing the total number of *Calanthe* species that are known in the country to twenty-two.

KEY WORDS: *Calanthe herbacea*, new distribution record, Thailand.

### INTRODUCTION

*Calanthe* R.Br. is one of the major terrestrial orchid genera in Thailand, and has received considerable attention by botanists as well as orchid enthusiasts because of its attractive flowers and the comparatively easy cultivation. Twenty-one species have been recorded in the country so far (Seidenfaden, 1975, 1995; Vaddhanaphuti, 2005; van de Bult, 2005; Kurzweil, 2010<sup>3</sup>). *Calanthe herbacea* Lindl. is here added to the list of the Thai *Calanthe* species. This species is distributed from the eastern Himalayas to southern China and Vietnam, and the discovery of the Thai plant reported here falls within an apparent distribution gap in the region.

### DESCRIPTION

***Calanthe herbacea*** Lindl., Fol. Orchid. 6: 10. 1855; Hook. f., Fl. Brit. India 5: 852. 1890; Seidenf., Opera Bot. 114: 94. 1992; Chen et al., Native Orch. China: 59. 1999; Pearce & Cribb, Fl. Bhutan 3 (3): 287. 2002; Chen et al., Fl. China 301. 2009.—*Alismorkis herbacea* (Lindl.) Kuntze, Revis. Gen. Pl. 2: 650. 1891. — Type: India, Sikkim, icon. Cathcart s.n. (holotype **K!**, copy **K-LINDL!**).—*Calanthe erythroglossa* Rchb. f. ex Hook. f., Fl. Brit. India 5: 853. 1890. — Types: India, Sikkim, Treutler 537 (syntype **K!**); Sikkim, Rungbee, Clarke 8621, 12320 (syntype **K!**). Fig. 1.

Terrestrial herb, evergreen, to 100 cm tall. Basal sheaths decayed at flowering time, not seen. Stem with insignificant pseudobulbs covered by the leaf pseudopetioles. Leaves 6, perennial, elliptic-oblong, acuminate, 55–69 by 7.3–12.2 cm, upper surface glabrous, lower surface glabrous or laxly pubescent with the hairs confined to the veins or more rarely spreading to the adjacent areas; pseudopetioles 18–34 cm long. Inflorescences erect, 56–100 cm tall, arising in axillary position from the base of the leafy shoot, shortly pubescent; peduncles 32–78 cm long; sterile bracts 2–6, scattered along the flowering stem, lower erect and upper spreading, lanceolate-oblong, acute or subacute, 2.8–5.5 cm long, shortly pubescent or subglabrous; raceme semi-dense or lax, 11- to 20-flowered; rachis 23–27 cm long. Flowers 26–30 mm in diameter; sepals and petals green, lip (including callus) white; all perianth organs with entire margins; floral bracts persistent, ovate-lanceolate, acute or acuminate, lower 23–27 by 6.2–11 mm, much shorter than the pedicel plus the ovary, laxly and very shortly pubescent especially at the base, margins entire. Sepals elliptic-lanceolate, subacute, 3- or 5-veined, shortly pubescent on the outside; median sepal 16–18 by 6–8.2 mm; laterals sometimes indistinctly mucronate, 17–17.5 by 6.4–8.6 mm. Petals narrowly obovate-elliptic, basally slightly clawed, obtuse or subacute, 1-veined, glabrous, 16–16.4 by ca 3.6 mm. Lip 18–23 mm long

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<sup>3</sup> Due to the incomplete material that was available one species could not be identified and was therefore listed as 'indet'.

(excluding spur), deeply 3-lobed, base completely united with the column, spurred, hairy at the base and glabrous above; midlobe 10.5–14 by ca 14 mm, bilobulate, sinus obtuse with a tiny tooth, apical incision ca 4 mm deep, each lobule ovate and pointing forwards, 7–7.5 by 5.3–5.5 mm, broadest in the upper part, apex obtuse; side lobes obliquely oblong, spreading and pointing forwards, obtuse, 7–9 by 4.2–4.7 mm; disc with a callus at the base, consisting of a number of wart-like papillae; spur cylindrical, more or less parallel to the ovary or angled from it at 90 degrees, 28–30 mm long, laxly and shortly pubescent. Column ca 8 mm long, sparsely pubescent, rostellum shortly 2-lobed. Ovary indistinguishable from the pedicel, both together 38–42 mm long, shortly pubescent (description prepared from Thai plant material only).

Thailand.— NORTHERN: Chiang Mai [Doi Phahompok, 20 June 2009, *Suksathan* 4808 (QBG)].

Distribution.— NE India (Darjeeling, Sikkim), Myanmar, S China (SE and S Yunnan, SE Xizang, S Guanxi) and Vietnam.

Ecology.— Plants are found in montane forests from 1330–2600 m (–5000 m in Pradhan, 1979) and flowering generally takes place between June and August. The Thai plants were found growing in humus-rich soil near small streams in deep shade.

Conservation status.— In Thailand the species is known from just two populations in the same area, with a total of ca 50 plants. However, as indicated above the species is generally widespread in the Indo-Burma region, and in other parts of the distribution area it is known from several collections. We therefore suggest the conservation status ‘Least concern’ (IUCN, 2001) while at the same time stating that in Thailand the species is currently known from only a small area. Thailand is



Figure 1. *Calanthe herbacea* Lindl.: A. habit; B. inflorescence; C. flower in front view. Photographed by P. Suksathan.

probably the southernmost end of the distribution range of this species, which may account for its rarity in this country.

Notes.— While the Thai specimen fits the concept of *Calanthe herbacea* very well in general flower structure, in overall colour pattern and sepal, petal and lip shape, a point of difference relates to the lip callus. In the Thai specimens the callus of the lip is pure white, while the lip callus is yellow in Indian and Chinese plants of the species (Hooker, 1890; King & Pantling, 1898; Pearce & Cribb, 2002; Chen et al., 1999, 2009).

The species name *herbacea* name is derived from Latin and refers to the green flowers.

The distribution of the species in northern Taiwan as given in Chen et al. (1999) appears to be based on an error, as this is not listed in more recent treatments and probably refers to *Calanthe herbacea* auct. non Lindl.: Yamam, which is considered a synonym of *C. triplicata* (Willemet) Ames (see digital Flora of Taiwan, [http://www.efloras.org/florataxon.aspx?flora\\_id=100&taxon\\_id=200028569](http://www.efloras.org/florataxon.aspx?flora_id=100&taxon_id=200028569), accessed 25 January 2010).

A herbarium sheet at the Oakes Ames Herbarium (*Garrett 780; AMES!*) bears the handwritten note '*Calanthe ? herbacea* Lindl.'. The general flower size and the shape of the lip blade are well within the range of variation of this species, and the colour is given as 'Labellum neck red, rest white' (but it is not clear whether 'rest' refers to the rest of the lip or to the rest of the flower). However, the red lip base and the long lip spurs (38 mm) suggest that the specimen is rather referable to *C. triplicata* (Willemet) Ames and not *C. herbacea* Lindl.

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