

## ***Calanthe punctata* (Orchidaceae), a new species from southern Myanmar**

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**ABSTRACT.** A new species of *Calanthe* (Orchidaceae) from southern Myanmar is described and illustrated. The new species belongs to subgenus *Preptanthe* (Rchb.f.) Schltr. and is very distinctive with its upright and strongly red-dotted petals. Differences from *C. labrosa* (Rchb.f.) Hook.f. which appears to be its closest relative are discussed.

**Keywords.** *Calanthe*, Orchidaceae, southern Myanmar

### **Introduction**

The orchid flora of Myanmar is among the poorest known in continental Asia which is largely caused by periods of past instability and political isolation of the country (Ormerod & Sathish Kumar 2003). According to recent estimates about 800 different orchid species are known to occur in Myanmar (Ormerod unpubl.; Kurzweil unpubl.), but this number is likely to grow in the near future. Several new distribution records or descriptions of entirely new species have been published in the last few years (e.g., Ormerod 2002, 2006, 2012; Ormerod & Sathish Kumar 2003, 2008; Ormerod & Wood 2010; Nyunt 2006; Kurzweil et al. 2010; Kurzweil & Lwin 2012a, b; Tanaka et al. 2011; Watthana & Fujikawa in press), and further floristic exploration of the country will most likely result in additional discoveries.

Material of an unknown *Calanthe* species was recently collected during an orchid survey trip in and around Taninthayi Nature Reserve in southern Myanmar, and was sent to the author of the present paper for identification. The genus *Calanthe* is rather well represented in Myanmar; about twenty-three species are currently known to occur in the country (Ormerod unpubl.), with all of them belonging to widespread taxa and none being endemic. The specimen from Taninthayi turned out not to match any known species of the genus, and is therefore described as new.

### ***Calanthe punctata* Kurzweil, sp. nov.**

Similar to *Calanthe labrosa* (Rchb.f.) Hook.f. but differing by green sepals, green and strongly red-dotted petals and a 3-lobed lip.

TYPE: Myanmar, Taninthayi Region, about 45 km north of Dawei, Yae Kan Taung, degraded forest, 700 m, 22 Nov 2012, *Saw Lwin, Pan Khet Khet & Zaw Oo Wai TNRO 153* (holo SING; iso Myanmar Floriculturist Association). Fig. 1–2.

Erect lithophytic or terrestrial herb, deciduous, 24–43 cm tall. **Basal sheaths** not seen. **Pseudobulbs** prominent, ovoid or conical, mostly constricted in the middle, 5.4–7.5(–13.5) × 2.5–3.75 cm, adjacent, several-noded, covered by thin and dry pale brown leaf sheaths, glabrous. **Leaves** not present at the flowering time (but see note below). **Inflorescence** arising from the pseudobulb base, erect, nodding in the apical part, softly pubescent; sterile bracts: 3–5 borne along the stem plus a few clustered at its base, lanceolate-oblong, acute or acuminate, pubescent, dry during the flowering time, lower sterile bracts erect or suberect and largely sheathing, 2–3 cm long, upper sterile bracts spreading and to 1.5 cm long; raceme lax, 3- to 7-flowered, pubescent; floral bracts persistent, ovate-lanceolate or broadly ovate-lanceolate, long-acuminate, the lower 15 × 8 mm, much shorter than the pedicel plus the ovary, pubescent. **Flowers** with green sepals and petals, lip white with pink-flushed side lobes, spur green; petals and lip side lobes strongly red-dotted; column pink, anther whitish. **Sepals** ovate-lanceolate, aristate-acuminate, strongly hairy on the outside, very sparsely hairy on the inside, 3-veined, reflexed and revolute; median sepal 9–10 × 4.9–5.4 mm; lateral sepals 9.5–10 × 5.2–6 mm. **Petals** elongate ovate-elliptic, apex variable from acute to subacute, donkey ear-like pointing upwards, 3- to 5-veined, glabrous, lateral edges and apex bent backwards and petals therefore appearing narrow and apically blunt, 12.5–14 × 4.4–5.1 mm. **Lip** 10–11.5 × 12.8–14 mm, 3-lobed with the side lobes inserted at ± right angle when spread out, lip blade attached to the distal end of the column-foot but not united with the sides of the column as in most species of *Calanthe* subgenus *Calanthe*, with a basal claw to 2 × 4 mm, lower part of lip blade a strongly convex hump with three obscure ridges; midlobe ovate, obtuse, 6.5–8 × 8–9 mm; side lobes oblong, obtuse, 5–5.5 × 3–3.8 mm, erect and enveloping the column; spur cylindrical, slender, 15–16 mm long, pubescent, straight, parallel to the ovary. **Column** 3–3.5 mm long, glabrous, with a 2–3 mm long column-foot. **Ovary** (including pedicel) 28–32 mm long, densely and softly pubescent. **Fruit** not seen.

**Distribution.** Currently only known from the type collection made in southern Myanmar. *Calanthe punctata* is currently the only *Calanthe* species endemic to Myanmar.

**Ecology.** The type specimen was found growing on rocks in degraded forest at about 700 m altitude.

**Phenology.** Flowering from late October till November. Fruiting season not known.

**Etymology.** The new species is named after the prominently punctate petals.

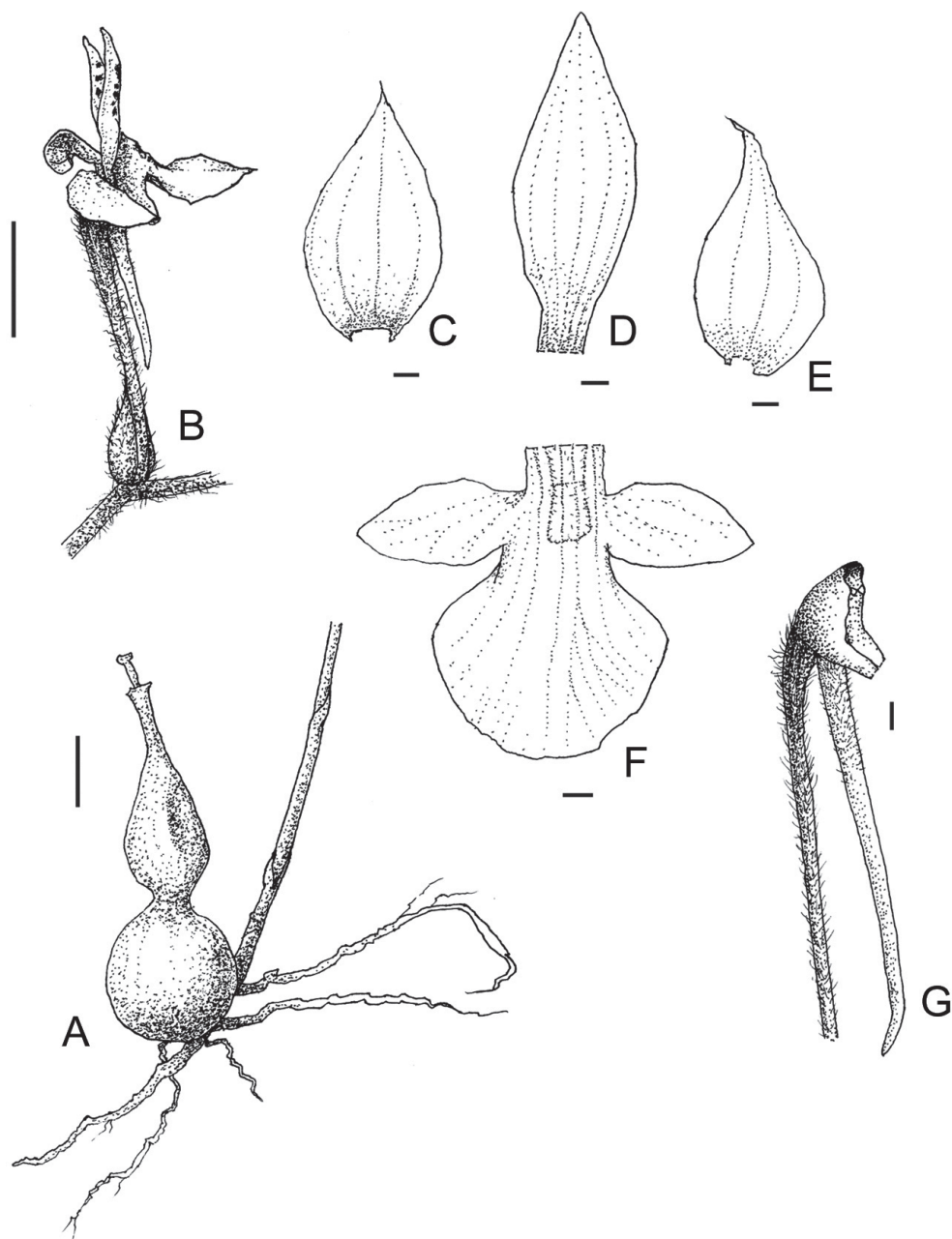
**Notes.** *Calanthe punctata* is very distinctive with its green, reflexed and revolute sepals, the green and strongly red-dotted donkey ear-like petals, and the white and pink-flushed three-lobed lip with red spotting. It seems closest to *C. labrosa* which also occurs in Myanmar (Seidenfaden 1995; Chen et al. 2009; Clayton & Cribb 2013). This species has similar reflexed sepals and some spotting on its lip and more rarely also on the petals, but differs by having entirely pink or white flowers and an unlobed lip.



**Fig. 1.** *Calanthe punctata* Kurzweil. **A.** Habit. **B.** Flowers. (Photos: Saw Lwin)

The leaves of the new species could not be examined as they were not present at the flowering time. However, about two months before the collection of the type specimen of the new species, several plants of a *Calanthe* with well-developed leaves were found at the same locality. It is likely that these were also specimens of the new species. Their leaves can be described as follows: leaves 4, plicate, lanceolate-oblong, acute or shortly acuminate, 24–29 × 6.9–9.6 cm; petioles 2–3 cm long and forming a short pseudostem.

A preliminary study of the development of the flower of *Calanthe punctata* indicates that the column-foot is a compound structure. Its median tissue, stretching from the proximal part of the column-foot to its apex, is derived from the lip base; as a consequence the lip spur is inserted in the proximal part of the column-foot. In contrast, the two lateral portions of the column-foot are derived from bulges that are developed on the column in early development, and therefore constitute column tissue. It appears that these lateral bulges are identical to the ‘ventral structures’ previously observed in *Calanthe* × *veitchii* Hort. in early ontogeny (Kurzweil 1987: 433–434), where they were interpreted as probably representing vestiges of the adaxial stamens (which in orchids are generally not developed as prominent organs). It is here assumed



**Fig. 2.** *Calanthe punctata* Kurzweil. **A.** Pseudobulb. **B.** Flower in side view. **C.** Median sepal. **D.** Petal. **E.** Lateral sepal. **F.** Lip. **G.** Column and lip spur. Scale bars: A–B = 10 mm; C–G = 1 mm. (Drawn by Evonne Tay)

that this mode of development is also found in other related species of this *Calanthe* group.

The new species belongs to *Calanthe* subgenus *Preptanthe* (Rchb.f.) Schltr. which is a small group of only about 8–9 species centred in mainland Asia (Myanmar, Thailand, Indochina, south-western China and Peninsular Malaysia) although ranging into Malesia. The plants are characterised by prominently swollen pseudobulbs, deciduous leaves, and long- and soft-hairy inflorescences. The large green, greyish green or brownish green pseudobulbs are more or less ovoid and frequently constricted in the middle. It is thought that the prominent pseudobulbs are an adaptation to the periodically dry growing conditions found in many parts of mainland Asia. Although primarily terrestrial, some species in the group grow as lithophytes on limestone cliffs or occasionally as epiphytes in forest, which is also facilitated by the large pseudobulbs. As already suggested by Seidenfaden (1975) two distinct subgroups can be recognised in subgenus *Preptanthe*. The subgroup including *C. vestita* Wall. ex Lindl. and *C. rubens* Ridl. is characterised by an extensive fusion of the lip base and the sides of the column like in most species of *Calanthe* subgenus *Calanthe*. Both species have a three-lobed lip with deeply bilobulate midlobe. The second subgroup includes *C. succedanea* Gagnep., *C. cardioglossa* Schltr., *C. hirsuta* Seidenf., *C. rosea* (Lindl.) Benth., *C. labrosa* as well as the new species, and is characterised by having a lip which is not united with the sides of the column. The lip of this subgroup is unlobed or three-lobed and always has an entire or more or less emarginate midlobe.

As the new species is currently known from a single collection and the orchid flora of Taninthayi is generally poorly known, an assessment of its conservation status can obviously not be made. According to the notes supplied by the collector, the new species was only seen in this one locality where it was rather abundant.

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