

Coelogyne phuhinrongklaensis (Orchidaceae), a new species for Thailand

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ABSTRACT. *Coelogyne phuhinrongklaensis* Ngerns. & P. Tippayasri (Orchidaceae), a new species from northern Thailand is described, illustrated and presented. It is an epiphyte or lithophyte in montane forest at 1100–2100 m altitude.

KEY WORDS: *Coelogyne phuhinrongklaensis*, Orchidaceae, new species, Thailand.

INTRODUCTION

Coelogyne Lindl. belongs to the tribe Arethuseae, subtribe Coelogyninae, subfamily Epidendroideae (Orchidaceae), and comprises 4 subgenera and 19 sections (Pridgeon et al., 2005). It is a large genus of about 200 species, widely distributed in South and South-East Asia reaching across to the south-west Pacific Islands (Clayton, 2002; Pridgeon et al., 2005). Thaithong (1999) recorded 27 species of *Coelogyne* in Thailand based on the work of Seidenfaden (1975, 1995).

During field work in August 2006 and 2007, a new species of *Coelogyne* was discovered at Phu Hin Rong Kla National Park in Phitsanulok province, northern Thailand. This species belongs to *Coelogyne* section Elatae. The peduncle of all species in this section has sterile, imbricate bracts at the junction with the rachis. The rachis produces a single set of simultaneously opening flowers (Pridgeon et al., 2005).

DESCRIPTION

Coelogyne phuhinrongklaensis Ngerns. & P. Tippayasri, **sp. nov.**, Typus: Thailand, Phitsanulok, Phu Hin Rong Kla National Park, at the beginning of Man Daeng nature trail, near Man Daeng Forest Protection Unit, 1650 m altitude, 25 Aug. 2007, P. Tippayasri, C. Ngernsaengsaruy, O. Phueakkhlai & N. Anuraktrakoon 183 (holotype **BKF**, spirit specimen; isotypes **BK**, **BKF**, **QBG**, dried specimens). Figs. 1–2.

Epiphyte or lithophyte, sympodial, glabrous. *Rhizome* creeping, terete, 5–6 mm in diam., woody, covered with papery, persistent overlapping scales, with roots at the nodes. *Pseudobulbs* distant, 3–7 cm apart, (elongated) ovoid, 4.7–5.5 by 1.5–1.7 cm, consisting of a single internode, fleshy, with 4–5 ribs; base enclosed by chartaceous, overlapping enlarged, later eroding scales. *Leaves* 2, subcoriaceous; petiole channeled, c. 2–7 by 0.3 cm; blade elliptic-oblong to lanceolate, 11.5–27 by 3–5 cm, apex acute or acuminate, margin entire, 5-nerved, midrib prominent beneath. *Raceme* hysteroanthous (arising from apex of mature pseudobulb), curved, 18–33 cm long; peduncle slender, terete, 11.5–23.5 cm by 1–2 mm; rachis arched, 2–7 cm long, its base enclosed by 9–13 persistent, imbricate, leathery scale leaves, internodes 3.5–7 cm. *Floral bracts* dropped at anthesis, concave, ovate, c. 3.5 by 2 cm, apex acute, pale green turning pale green-yellowish to yellow before falling, caducous. *Flowers* (2–)3–4, showy, most open simultaneous, resupinate, 4–5 by c. 5 cm. *Median sepal* usually curved to the front, lanceolate, 3.5–4 by 1.3–1.4 cm, apex acute, 3- or 5-nerved. *Lateral sepals* patent, lanceolate, 3.5–4 by 1.3–1.4 cm, apex acute, 3- or 5-nerved. *Petals* recurved, linear, 3.4–3.8 by 0.5–0.6 cm, apex acute, 1-nerved. *Lip* 3-lobed, when flattened pandurate, 2.7–3.2 by 2.5–3 cm; lateral lobes erect, margin entire, distinctly projecting in front, sinus 1–1.3 cm, its top acute to rounded; keels 3, median keel at base of hypochile, short, swollen, conical, 5–7 by 1.5–2 mm; lateral keels from base of lip to

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more than a halfway the epichile, 2.4–2.6 cm long, their basal part white, with entire, brown margin, terminal part of keels dark brown, with entire margin, with white median groove of lip between keels, with 2 brown longitudinal parallel bands from near tip of hypochile to more than a half of epichile between keels, 1–1.6 cm long, background of lip white, the areas from keels to lip margins with scattered brown small patches running from base of lip to more than a half of epichile; midlobe quadrangular, 1.6–1.8 by 1.2–1.6 cm, widening gradually to apex, apex emarginate, margin undulate and erose, terminal part of midlobe white; side lobes erect, broadly ovate, 0.8–1 by c. 0.8 cm, apex obtuse, margin entire, with brown veins. *Column* curved, spatulate in outline, c. 2.2 cm long, top winged, margin uneven dentate, terminal part white, basal part creamy white; anther short conical, c. 4 by 4 mm, apex bilobed; pollinia 4 in 2 pairs, obovate, c. 2.5 by 1.5 mm. *Ovary* including pedicel 1.5–2.3 cm. *Capsule* not seen.

Colour notes: Sepals and petals white, inside at base yellowish, pale green in bud. Lip white, hypochile inside around the median keel slightly orange. Lateral lobes with irregular shaped spots of various size, fading to small spots on the base of the epichile; front half of hypochile to halfway the epichile with two brown bands between the keels. Median keel brown; lateral keels white with brown margin, the top third all brown.

Thailand.— NORTHERN: Phitsanulok [Phu Hin Rong Kla National Park, Lan Hin Taek, 1100 m altitude, 19 Aug. 2006, *P. Tippayasri* & *C. Kasetluksamee* 33 (Herb. of the Department of Botany, Kasetsart University, spirit specimen); Phu Hin Rong Kla National Park, at the beginning of Man Daeng nature trail, near Man Daeng Forest Protection Unit, 1650 m altitude, 25 Aug. 2007, *P. Tippayasri*, *C. Ngernsaengsaruay*, *O. Phueakhlai* & *N. Anuraktrakoon* 183 (**BK**, **BKF**, **QBG**); Phu Soi Dao National Park, Chatrakran District, 2100 m altitude, 17 Sept. 2008, *P. Suksathan* 4611 (**QBG**)].

Distribution.— Known only from northern Thailand.

Ecology.— Epiphyte on trees and lithophyte on moss-covered sandstone rock platforms in montane forest, 1100–2100 m altitude. Flowering: August–September.

Vernacular.— Ueang thian pak si nam tan (เอื้องเทียนปากสีน้ำตาล).

Etymology.— The generic name, *Coelogyne* from the Greek *koilos*, hollow, cavity, and *gyne*, female, which refers to the concave stigma (Pridgeon et al., 2005). The specific epithet is named after Phu Hin Rong Kla National Park where the authors found and collected the type specimens.

IUCN Conservation Status.— In Thailand the species is known from small populations in Phu Hin Rong Kla National Park and Phu Soi Dao National Park. This species grows on trees and on moss-covered sandstone rock platforms, which are quite close to nature trails. Every year, many tourists visit these protected areas, which might impact on the species habitat. Fruit development in *Coelogyne phuhinrongklaensis* was not observed during several field visits to the sites in 2006 and 2007, which means that growth of population size is limited at most. The species has a very restricted distribution in northern Thailand. We therefore suggest the conservation status ‘Vulnerable’ (VU) (IUCN, 2001).

Notes.— *Coelogyne filipeda* differs from the Thai *Coelogyne phuhinrongklaensis* in its dimensions of plant and flower parts (peduncle 1.8–2 cm against 11.5–23.5 cm, size of sepals 2 cm against 3.5–4 cm, epichile of lip flat against plicate, absence of median keel against a short swollen keel at the base of the hypochile, and base color of flower light green or yellow-green with purple veins on lip (Seidenfaden, 1992; Clayton, 2002) against white with brown markings on the lip).

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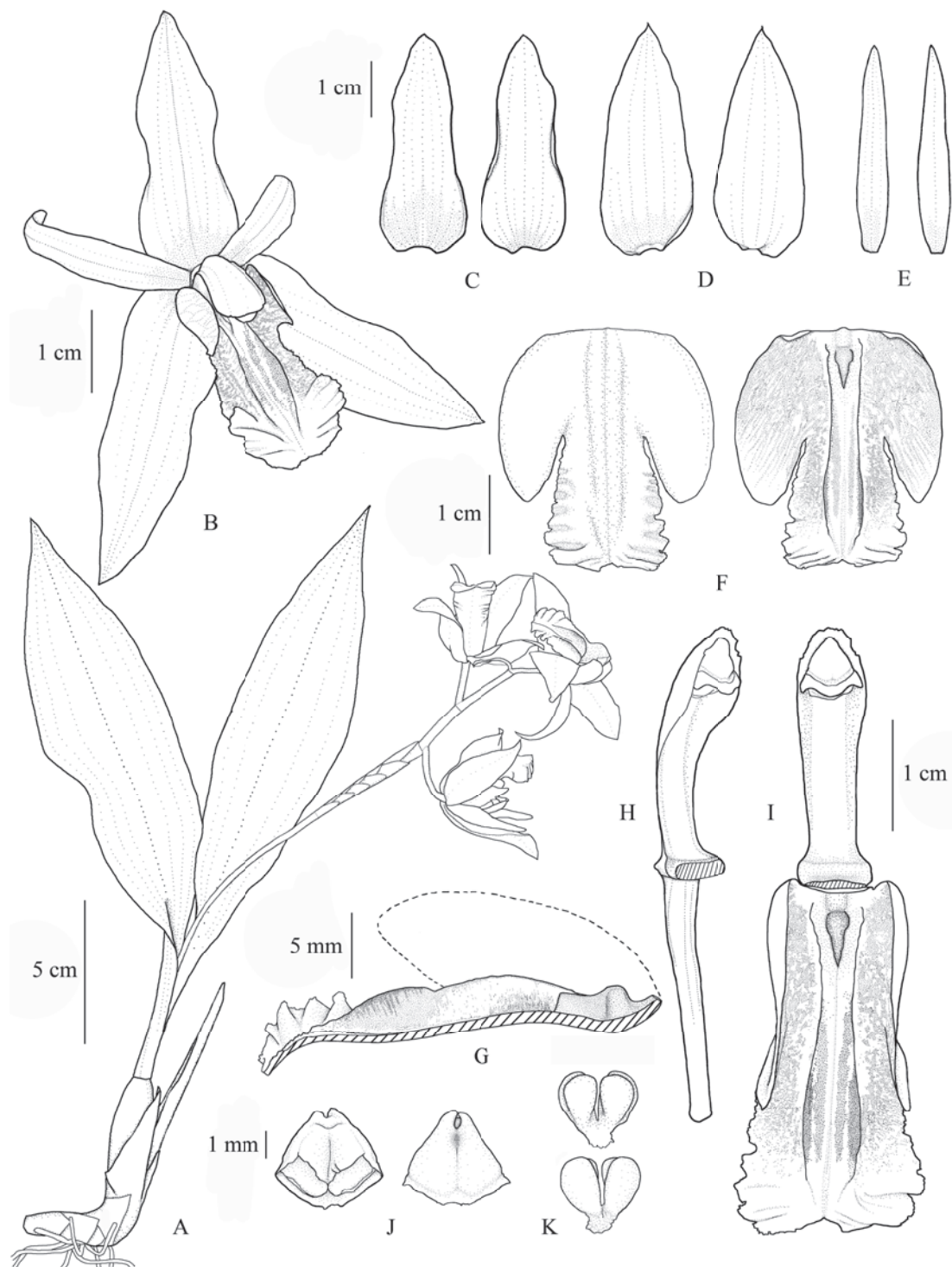


Figure 1. *Coelogyne phuhinrongklaensis* Ngerns. & P. Tippayasri: A. habit; B. flower; C. dorsal sepal (inside and outside); D. lateral sepal (inside and outside); E. petal (inside and outside); F. lip (lower and upper surfaces); G. longitudinal section of lip (side view); H. column, ovary and pedicel; I. lip and column; J. anther (below and above); K. pollinia. Drawn by P. Tippayasri.



Figure 2. *Coelogyne puhinrongklaensis* Ngerns. & P. Tippayasri: A. habit; B–C. inflorescence with flower buds and floral bracts; D–E. flower (front view); F. flower (side view); G. Lateral view of flower, sepals and petals removed; H. lip. Photographed by P. Tippayasri (A–C, G–H) and C. Ngernsaengsaruyay (D–F).

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