



## A new species of *Coelogyne* (Orchidaceae) from western Yunnan, China

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### Abstract

A new species of Orchidaceae, *Coelogyne pianmaensis*, is described and illustrated from western Yunnan, China. Morphologically, it is similar to *Coelogyne corymbosa*, but differs from the latter by having dark brown eyelike blotches surrounded by brownish-yellow on lip, 1-veined obovate-oblong leaves, 7-veined oblong-lanceolate sepals, shorter pedicel and ovary, and 7-veined petals.

**Key words:** Arethuseae, Epidendroideae, Gaoligong Mountains, taxonomy

### Introduction

The genus *Coelogyne* Lindley (1821: tab. 33) includes about 200 species distributed from India and Sri Lanka across southern Asia and the Malay archipelago to the Philippines, New Guinea, and the south west Pacific Islands (Gravendeel *et al.* 2005, Wu *et al.* 2006, Mabberley 2008). Thirty-one species are distributed in China, six of which are endemic (Chen & Clayton 2009).

During the past fifteen years, a series of expeditions to the western Yunnan for the project “Biodiversity Survey of Gaoligong Mountains” have been carried out jointly by the Kunming Institute of Botany, Chinese Academy of Sciences and Department of Botany, California Academy of Sciences. Among the *Coelogyne* specimens collected, we found one species with morphological features that differed from the other species of *Coelogyne* known. After a morphological study, literature search (Chen & Tsi 1998, Chen 1999, Chen *et al.* 1999, Li & Bartholomew 1999, Clayton 2002, Pearce & Cribb 2002, Li & Li 2003, Chen & Clayton 2009, George & George 2011, Subedi 2011), and examination of many other specimens in the KUN and PE herbaria, we concluded it represents a new species of *Coelogyne*, described and illustrated below.

*Coelogyne pianmaensis* R. Li & Z. L. Dao, *sp. nov.* (Fig. 1)

*Species Coelogyne corymbosae affinis, sed labelli maculis oculis atrobrunneis a marginatis vaccinis, folia obovato-oblonga uninervia, sepala oblongo-lanceolata 7-nerviis, pedicello cum ovario breviori circiter 1.5 cm longo, petala 7-nerviis differt.*

**Type:**—CHINA. Yunnan: Nujiang Lisu people autonomous Prefecture, Lushui County, Pianma township, Yaojiaping, E side of Gaoligong Mountains, primary evergreen broad-leaved forest, on *Tsuga* trees, 2,800 m, 25°58'14.1"N, 98°41'57.1"E, 22 April 2003, *Liu 846* (holotype KUN!).

Plant epiphytic, 8–14.5 cm tall. Rhizome stout, 3–4 mm in diameter, densely covered by brown, scaly sheaths. Pseudobulbs clustered, developing serially, less than 1 cm apart from each other, oblong-ovoid or rhombic-oblong, brightly yellow and strongly wrinkled when dried, 20–35 × 6–10 mm, 2 leaves at apex, sheathed at base; sheaths ovate, papery, dark brown, 1.2–2.2 cm long. Leaf blade obovate-oblong, subcoriaceous, 5–10 × 1–2 cm, 1-veined, apex acute; petiole grooved, 5–8 mm long. Inflorescence proteranthous to synanthous, erect, 6–11 cm long, covered by overlapping sheaths in lower part; raceme 2- to 3-flowered (opening together); floral bracts oblong-lanceolate, 9–11 × 1–2 mm, apex acute, caducous. Flowers fragrant, fleshy, white with 4 dark brown eyelike

## Identification key to the species of *Coelogyne* sect. *Ocellatae*

1. Inflorescence hysteroanthous ..... 2
- Inflorescence proteranthous or synanthous ..... 3
2. Lowermost bract of rachis fertile ..... *C. hysteroantha*
- Lowermost bract of rachis sterile ..... *C. punctulata*
3. Pseudobulb obovoid, born distantly, 1.3–5.0 cm apart ..... *C. occultata*
- Pseudobulb ellipsoid, born clustered, less than 1.3 cm apart ..... 4
4. Lamellae on lip plate-like shaped ..... *C. platylamellata*
- Lamellae on lip clavate or rod-like shaped ..... 5
5. Lamellae extending ca. 3 mm away from lip base ..... *C. gongshanensis*
- Lamellae extending from lip base ..... 6
6. Lateral lobes length 3–3.2 cm when flattened ..... *C. wardii*
- Lateral lobes length 1–2.5 cm when flattened ..... 7
7. Margin of lateral lobes crispate ..... *C. taronensis*
- Margin of lateral lobes crenulate ..... 8
8. Lateral lamellae with entire margins ..... 9
- Lateral lamellae with crenulate margins ..... 10
9. Flowers 4–8, mid-lobe acute at apex ..... *C. nitida*
- Flowers 2–3, mid-lobe cuspidate at apex ..... *C. tyuui*
10. Yellow eyelike blotches surrounded by reddish orange on lip ..... *C. corymbosa*
- Dark brown eyelike blotches surrounded by brownish-yellow on lip ..... *C. pianmaensis*

**Additional specimens examined (paratypes):**—CHINA. Yunnan: Nujiang Lisu people autonomous Prefecture, Lushui County, Pianma township, Yaojiaping, E side of Gaoligong Mountains, primary evergreen broad-leaved forest, on *Tsuga* trees, 2952 m, 25°58'46.2"N, 98°41'52.1"E, 28 April 2003, *Liu 953* (KUN!); Pianma township, Pianma pass, E side of Gaoligong Mountains, coniferous-broad leaved mixed forest, on *Tsuga* trees, 3130 m, 25°58'21.4"N, 98°41'01.4"E, 14 April 2005, *Li & Dao 127* (KUN!); Luzhang township, Gangfang, E side of Gaoligong Mountains, primary evergreen broad-leaved forest, on *Tsuga* trees, 2600 m, 25°57'49.9"N, 98°41'22.3"E, 20 April 2006, *Li & Dao 378* (KUN!); Luzhang township, Tingming lake, E side of Gaoligong Mountains, coniferous-broad leaved mixed forest, on *Tsuga* trees, 3010 m, 25°59'01.8"N, 98°41'26.1"E, 28 April 2007, *Li & Dao 509* (KUN!).

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