

# A New Species of *Coelogyne* (Orchidaceae) from Seram Island, Maluku, Indonesia

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**SUMMARY.** *Coelogyne spinifera* of section *Bicellae* is described and illustrated as a species new to science based on specimens reportedly collected from Seram Island, Maluku Province, Indonesia. It is compared with the three known species in the section.

*Coelogyne* sect. *Bicellae* J.J. Sm. is a group of three known species so far found only in Sulawesi and Maluku, Indonesia. It is characterised by the saccate base of the lip that is adnate to the column, bifoliate pseudobulbs, caducous and distichous floral bracts, and upright inflorescences with several to many, relatively small flowers. Plants cultivated at the Bali Botanical Garden that belonged to a species of this section had reportedly been collected during an expedition to Seram Island in Maluku in 2010 at an elevation of 1300 m. Subsequently, plants of the same species found in the trade have flowered at the third author's home in

Bedugul at an elevation of around 1150 m. Seram is the largest island of the Maluku Province of Indonesia and is traversed by a central, densely forested mountain range with peaks up to around 3000 m. Until now, the only species of sect. *Bicellae* found on Seram was the little-known *C. calcarata* J.J. Sm. The cultivated plants mentioned above differ substantially from *C. calcarata* and from the two other species in the section, *C. bicamerata* J.J. Sm. and *C. triuncialis* P. O'Byrne & J.J. Verm., both from Sulawesi. We concluded that they belonged to an undescribed species.

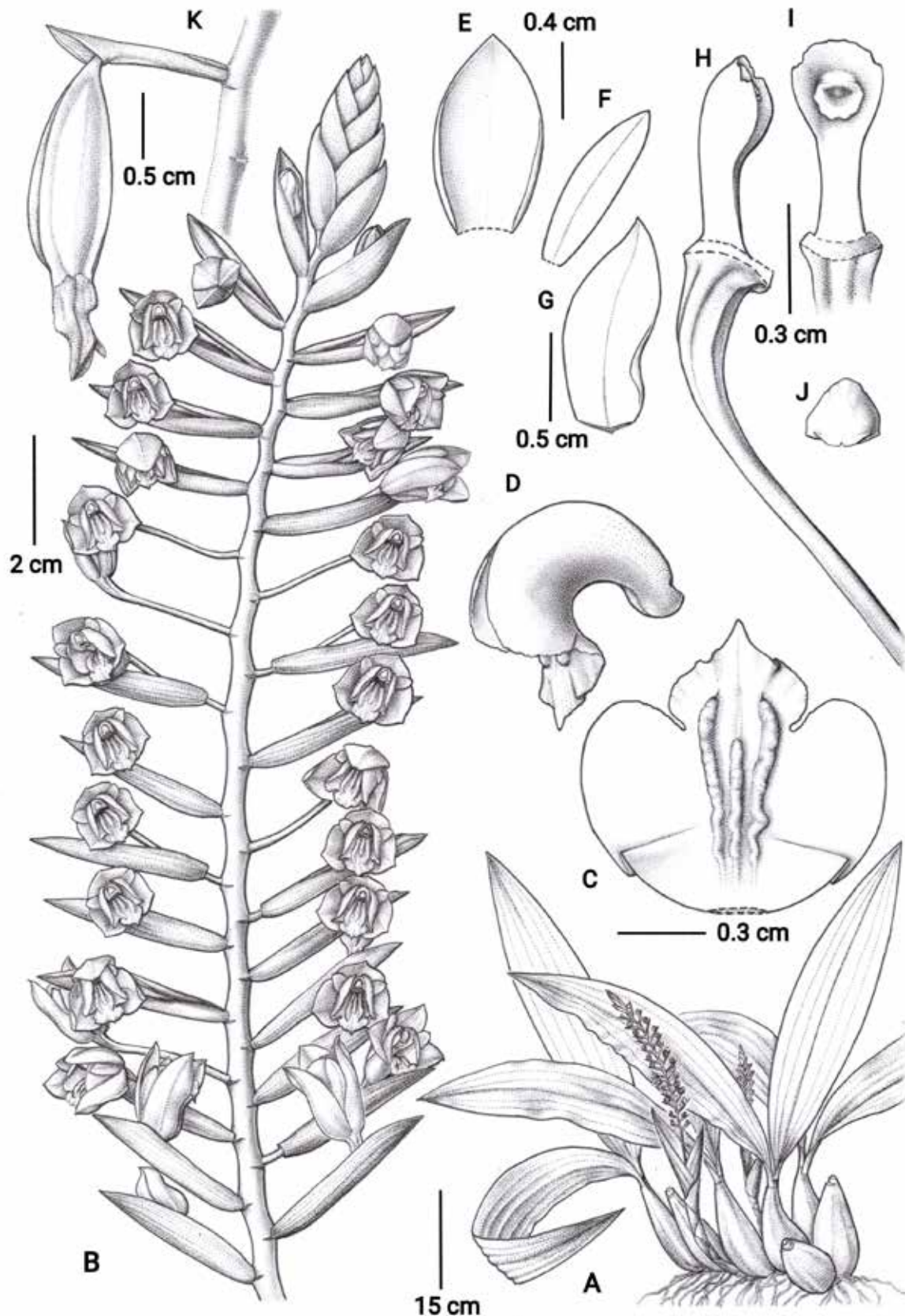
## Material and methods

The description of the new species is based on living plants. Herbarium material stored at the Hortus Botanicus Baliensis Herbarium was also examined. The terminology for the morphological description follows the protologue of *Coelogyne calcarata* J.J. Sm. (1928), George & George (2011), and Beentje (2020).

## Taxonomy

***Coelogyne spinifera*** Yudistira, Schuit. & J. Champ., **sp. nov.** (sect. *Bicellae*). Type: Indonesia, ?Maluku, ?Seram Island, flowered in cultivation in the collection of J. Champion, July 2014, *VakJKC002* (holotype Herbarium Hortus Botanicus Baliensis!, dried specimen with associated spirit material; isotype BO!).

Diagnosis: *Coelogyne spinifera* resembles *C. calcarata* but can be distinguished by the shorter, semi-circular curved labellum, c. 1 cm long when spread, with 3 thick-fleshy callus ridges of which the laterals are longest and extend until halfway the mid-lobe (vs. lip only gently curved, 1.9 cm long, with 4 thin callus ridges that do not extend to the mid-lobe, with the lateral ridges shorter than the central pair), a broadly



**Fig. 1.** *Coelogyne spinifera*. A, Plant habit; B, inflorescence; C & D, lip; E, dorsal sepal; F, petal; G, lateral sepal; H, column lateral view; I, column ventral view; J, anther; K, fruit. After J. Champion cult. s.n. Drawn by Yuanito Eliazar.





Fig. 2. *Coelogyne spinifera*. Plant habit. After J. Champion cult. s.n. Photo: Jeffrey Champion.



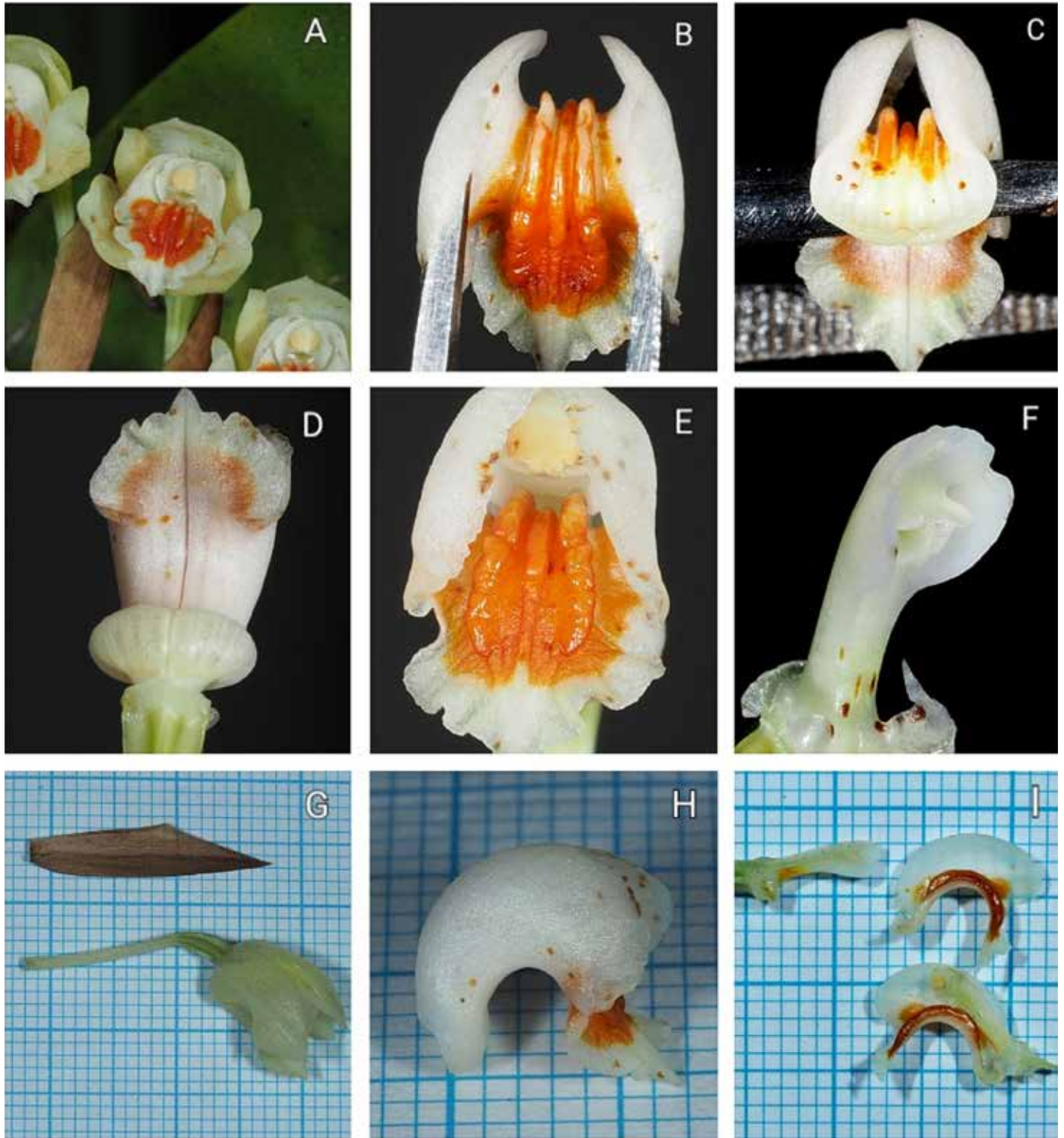
**Fig. 3.** *Coelogyne spinifera*, inflorescence (left); fruit (right). After *J. Champion cult. s.n.* Photos: Jeffrey Champion.

ovate mid-lobe that is wider than long (vs. mid-lobe oblong, much longer than wide); dorsal sepal ovate, 8–10 × 5–6 mm, acute (vs. dorsal sepal ovate-oblong, 20–21 × 7–8 mm, obtuse); sepals and petals greenish white, the lip white with a large orange blotch (vs. flower white, lip said to be black); inflorescence with >25 flowers (vs. inflorescence with 5–10 flowers). *Coelogyne bicamerata* and *C. triuncialis* differ in having 5, respectively 3 thin callus ridges that do not extend onto the mid-lobe, a mid-lobe longer than wide, a greenish lip with the basal half grass green, and inflorescences with fewer than 16 flowers.

Epiphytic **herb**. **Roots** creamy white, crowded, terete, 5–15 × 0.1–0.2 cm, glabrous. **Pseudobulbs** bright yellowish-green, 2-leaved, crowded, ovoid to conical, irregularly longitudinally ribbed, 5 angled, 10–13 × 18–20 cm, smooth. **Leaves** green, petiolate, glabrous; petiole 0.5 cm long; blade elliptic to lanceolate, 35–

42 × 7–9 cm, acute to acuminate, with 5 main veins. **Inflorescence** erect, arising from an immature growth (synanthous), 30–40 cm long; peduncle at the base covered by the young leaves, 20–21.5 cm long, 3.0 mm diam., rachis slightly flexuose, bearing 25–38 distichous flowers. **Floral bract** brown, deciduous, scarious, lanceolate, 2–2.1 cm long, acute to shortly attenuate. **Pedicel-with-ovary** 1.4–1.5 cm long, geniculate-bent between pedicel and ovary; pedicel c. 1 cm long, slender-terete, whitish green; ovary c. 0.45 cm long, ribbed, green. **Flowers** opening simultaneously, not opening widely, glabrous, whitish green, lip almost white with bright orange patch covering the keels and the centre of the lip. **Dorsal sepal** porrect, ovate, 0.9–1.0 × 5.0–6.0 cm, keeled abaxially, acute. **Lateral sepals** porrect, ovate, 1.0–1.1 × 0.4–0.5 cm, keeled abaxially, with undulate basiscopic margins (i.e., the margins oriented towards the base of the inflorescence), acute. **Petals** porrect, oblong to lanceolate, 0.9–1.0 × 0.3–0.4





**Fig. 4.** *Coelogyne spinifera*. **A**, flower; **B**, lip, frontal view; **C**, lip, basal view; **D**, lip, ventral view; **E**, column and lip; **F**, column; **G**, flower and floral bract; **H**, lip, lateral view; **I**, lip and column, longitudinal sections. After *J. Champion cult. s.n.* Photos: Jeffrey Champion.

cm, acute. **Lip** 3-lobed, 1.0 cm × 1.0 cm when spread; base forming a broadly rounded, c. 1.5 mm deep and 3.8 mm wide sac which is adnate to the column-foot; blade subreniform to orbicular in outline when spread, fleshy, semi-circular curved in lateral view (not spread); callus of three thick, glabrous, parallel ridges starting c. 2 mm above the base of the lip, of which the smooth middle one terminates at the base of the mid-lobe, the lateral ones, which have a more molar-like, irregular surface, extend until halfway the mid-lobe; sidelobes erect, 0.8–0.9 × 0.35–0.4 cm, clasping and surpassing the column, rounded, margins smooth; mid-lobe very broadly ovate, subsessile, 0.3–0.35 × 0.4–0.5 cm, acute-acuminate, with undulate to slightly crispate margins. **Column** straight, spatulate in ventral view, 7.0 mm long, irregularly and minutely undulate at apex, lateral wings broad and truncate, c. 3.0 mm long; stigma cup-shaped with irregularly undulate margins; rostellum broad, truncate. **Anther** helmet-shaped, 1.9 mm diam. **Pollinia** not seen. **Fruit** 2 × 0.7 cm, narrowly obovoid, sharply 3-winged. **Figs. 1–3.**

**Etymology.** From the Latin *spina*, a fish bone, and *-fer*, carrying, referring to the distichous, relatively long and slender pedicels, forming a herringbone pattern.

**Distribution.** Indonesia, presumably Seram, endemic. Exact locality not recorded.

**Habitat and ecology.** Epiphyte in primary montane forest at c. 1300 m elevation.

**Phenology.** Flowering in cultivation in Bali recorded in June and July.

**Conservation status.** Not evaluated.

According to the protologue (Smith, 1928), *Coelogyne calcarata* has white flowers with a black lip and an inflorescence with c. 6 flowers; the lip mid-lobe

is oblong and much longer than wide, and the four thin callus ridges terminate below the mid-lobe. Other specimens seen by us, *Ueda et al. C-3906* (L) and *Dickson MD171* (K), have 5–10 flowers in the inflorescence. These specimens agree well with the protologue, but unfortunately, the flower colour was not recorded, so that we cannot confirm that the lip is indeed black. George & George (2011) show as *C. calcarata* colour photographs depicting a species with a white-and-orange lip having keels that extend onto an ovate mid-lobe, and inflorescences carrying more than 20 flowers. We are convinced that these photographs do not represent *C. calcarata* but a different species close to *C. spinifera*. As flower size and some floral details cannot be judged accurately from the photographs, we are unable to state with confidence if they represent forms of *C. spinifera* or another, undescribed species.

#### Acknowledgements

The authors would like to thank Élisabeth George, who, in discussions with the third author, suggested that this might be a new species of *Coelogyne* from section *Bicellae*, and we thank Yuanito Eliazar for his beautiful illustration.

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