

***Pennilabium labanyaeanum* (Orchidaceae), a new record for Thailand**

SATHIEN DAMAPONG¹, HENRIK Æ. PEDERSEN^{2,3}, CHIRDSAK THAPYAI⁴ & SANTI WATTHANA^{5,*}

ABSTRACT

Pennilabium labanyaeanum, previously known only from Meghalaya in Northeast India, is reported from Doi Pha Hom Pok National Park, Chiang Mai Province, Thailand. The morphological description, detailed line drawing, coloured photos, and an identification key were provided for this new species record.

KEYWORDS: Doi Pha Hom Pok, floristics, taxonomy, identification key.

Accepted for publication: 9 July 2026. Published online: 13 August 2026

INTRODUCTION

Pennilabium J.J.Sm. is a genus of epiphytic orchids belonging to tribe Vandeeae, subtribe Aeridinae (Pridgeon *et al.*, 2014). Currently, 18 species are accepted, distributed from north-eastern India and southern China through Vietnam, Cambodia, Thailand and Malaysia to Indonesia (east to Sulawesi) and the Philippines (POWO, 2023). The plants are small and monopodial, with a short stem, several flat, fleshy, elliptic to oblong, unequally bilobed, basally sheathing leaves, and lateral, usually rather short racemes. The flowers are distichously arranged, ephemeral and opening in succession (one or two at a time); the entire or trilobed lip is spurred whereas the footless column produces two pollinia borne on a long, strap-like stipe; the rostellum is normally beak-like.

To date, only two species of the genus, *Pennilabium struthio* Carr and *P. proboscideum* A.S.Rao & J.Joseph, have been reliably recorded from Thailand (Seidenfaden, 1988; Thaithong, 1999). During field observations on the orchid

diversity of Doi Pha Hom Pok National Park, Fang District, Chiang Mai Province, specimens of a *Pennilabium* species with pure white flowers were collected on the way along Mon Wat Jai Nature Trail at an altitude of 1,990 m. Using relevant literature, we identified the plants as *P. labanyaeanum* C.Deori, Odyuo & A.A.Mao, a species that previously had been reported only from Meghalaya in North-East India (Deori *et al.*, 2015). Thus, the unexpected finding of this species in Chiang Mai Province represents a new species record for Thailand. In this research, we documented this new record together with illustrations based on a specimen found in Doi Pha Hom Pok National Park, and provided a comprehensive morphological description of *P. labanyaeanum*, as well as an identification key for *Pennilabium* species found in Thailand.

TAXONOMIC TREATMENT

***Pennilabium labanyaeanum* C.Deori, Odyuo & A.A.Mao, Gard. Bull. Singapore 67: 144, 2015.**
Type: India, Meghalaya, Laitkyrhong, 5 km from

¹ Wangmuang Chonprasit Witthayakhom School, Wang Mueang, Lat Yao, Nakhon Sawan 60150, Thailand.

² Natural History Museum of Denmark, University of Copenhagen, Gothersgade 130, Copenhagen K DK-1123, Denmark.

³ Herbarium, Science, Royal Botanic Gardens, Kew, Richmond TW9 3AE, United Kingdom.

⁴ Faculty of Agriculture, Natural Resource and Environment, Naresuan University, Phitsanulok 65000, Thailand.

⁵ School of Biology, Institute of Science, Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand.

* Corresponding author: santiqsb@gmail.com

Smith, East Khasi Hills, ca 1,753 m, 23 July 2014, *Deori & Odyuo 131601* (holotype **CAL** [as 131601A]; isotypes **ASSAM** [as 131601B–E]). Figs. 1–2.

Monopodial epiphytic orchid bearing 3–6(–8) leaves; stem 0.5–2 cm long, 3–6 mm in diameter; roots unbranched, up to 25 cm long, 2–4 mm in diameter. *Leaves* obliquely oblong to elliptic-oblong, 3–7 × 1.3–2.7 cm, unequally bilobed with acute lobes, glabrous, ventral surface green, dorsal surface pale green. *Inflorescences* 1–2, axillary racemose, subascending, 1.5–4 cm long; rachis 0.5–1.5 cm long, with distichously arranged flowers; floral bracts persistent, triangulate, acute, 3–3.5 × 3.5–4 mm. *Flowers* 2–5, opening (to about half-way) in succession, resupinate, ephemeral, 7–12 mm across, pure white except for yellow markings on the epichile and a green ovary. *Sepals* obtuse, 5-veined, on the dorsal side provided with a keel that terminally projects as a small apiculum; dorsal sepal oblong to elliptic-oblong, 8–10 × 3.5–4.5 mm; lateral sepals oblong, slightly oblique, 9–10 × 4–4.5 mm. *Petals* oblong to elliptic-oblong, 8–9 × 3–3.5 mm, 3-veined with branched lateral veins. *Lip* spurred at base; lamina fleshy, ovate or suborbicular, subtruncate with prominent acute corners, 4.5–5.5 × 2–2.5 mm, weakly crenate-undulate, proximally with a narrow, minutely pubescent channel, distally with an area of a yellow powdery substance; spur subcylindric, rounded, 7–10 mm long, 1.2–2 mm in diameter. *Column* footless, 2.5–3 mm long, 1.5–2 mm in diameter, glabrous; anther transversely oblong when seen from above, with a subacute triangular apex, 0.8–1 × 1.5–1.8 mm; pollinia 2, subglobose, 0.6–0.8 mm in diameter, porate; stipe oblanceolate-linear to subspathulate, 0.8–1 × 0.1–0.2 mm; viscidium elliptic-oblong, 0.25–0.3 × 0.1 mm; stigma concave, 1.8–2 × 1.8–2 mm. *Ovary* (including pedicel) 7–15 mm long, glabrous. *Fruit* erect,

slender, 3-ridged, 4–6 cm long, 0.4–0.6 cm in diameter; pedicel 1–2 mm long.

Thailand.—NORTHERN: Chiang Mai [Doi Pha Hom Pok, Fang District, alt. 1,990 m, 27 July 2006, 20°02'52"N, 99°08'49"E, *Damapong 62 (QBG)*]

Phenology.—Flowering in July–August.

Distribution.—India.

Ecology.—*Pennilabium labanyaeanum* often grows on the upper parts of branches and mossy tree trunks in hill evergreen forest, alt. 1,800–2,000 m, where it forms small colonies.

Vernacular name.—Ueang khem ngoen (เอื้องเข็มเงิน) (Proposed here).

Note.—*Pennilabium labanyaeanum* differs from the other *Pennilabium* species in Thailand by its only half-opened flowers with pure white petals and sepals and by its entire fleshy lip with an area of a yellow powdery substance. Compared to the description and illustrations in the protologue (Deori *et al.*, 2015), the plants from Thailand are slightly different in the subtruncate lip apex having prominent acute corners. The variation is crucial for gradually developing a more complete understanding of the morphological diversity ranges within the species.

ACKNOWLEDGEMENTS

We would like to thank the curators of BKF and QBG for making specimens available for this study. We also thank Chaya Deori for valuable advice, and past and present staff of Doi Pha Hom Pok National Park for assistance in the field; especially Chongklai Voraphongston, Sittichai Sereesongsaeng and Sit Wimala. Akalak Kunsorn is gratefully thanked for allowing us to reproduce his photos of *P. labanyaeanum*. This work was supported by the TRF/BIOTEC Special Program for Biodiversity Research and Training Grant (BRT T_150010).

KEY TO THE SPECIES OF *PENNILABIUM* IN THAILAND

- | | |
|---|--|
| 1. Sepals pure white. Lip entire, with a yellow powdery patch in its distal part | <i>P. labanyaeanum</i> , new record |
| 1. Sepals brownish-yellow or light yellow to pale salmon-coloured, often with purple markings. Lip trilobed, without a yellow powdery patch | |
| 2. Lip side lobes less than 1.7 times as long as wide; front margins laciniate-erose with branched laciniae. Rostellum in side view hidden by the raised margin of the spur mouth | <i>P. struthio</i> |
| 2. Lip side lobes more than 1.7 times as long as wide; front margins fimbriate-erose. Rostellum in side view not hidden by the raised margin of the spur mouth | <i>P. proboscideum</i> |

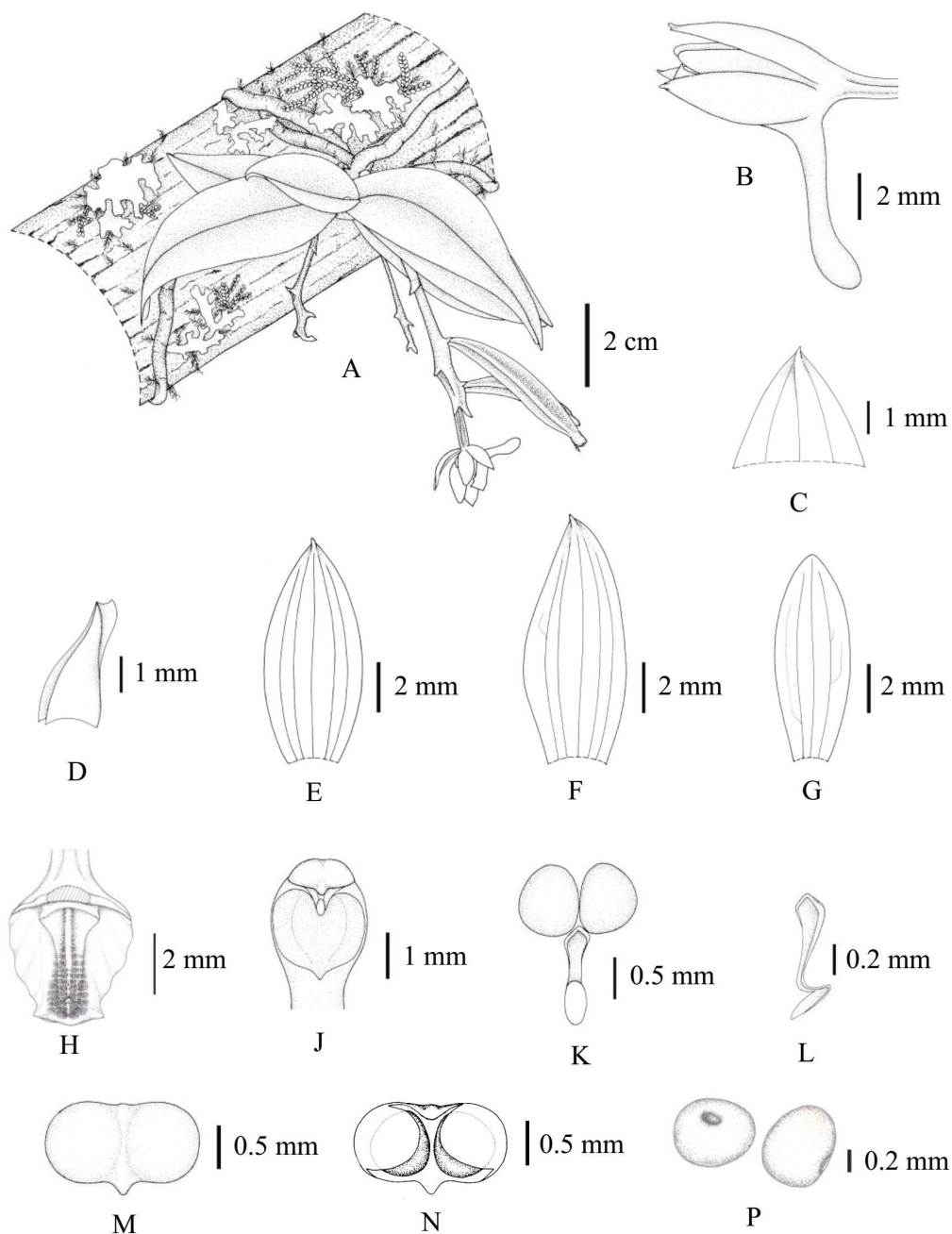


Figure 1. *Pennilabium labanyaeenum* C.Deori, Odyuo & A.A.Mao. A. habit (including inflorescence with flower and young fruits). B. flower. C. floral bract in dorsal view. D. floral bract in lateral view. E. dorsal sepal. F. lateral sepal. G. petal. H. lip lamina and basal part of spur. J. column. K. pollinarium. L. stipe and viscidium. M. anther in dorsal view. N. anther in ventral view. P. pollinia. (From Damapong 62, drawn by S. Damapong).



Figure 2. *Pennilabium labanyaeanum* C.Deori, Odyuo & A.A.Mao. A. habitat on Doi Pha Hom Pok. B. habit. C. inflorescence with a flower and a young fruit. Photos by S. Damapong (A) and A. Kunsorn (B–C).

REFERENCES

- Deori, C., Odyuo, N. & Mao, A.A. (2015). *Pennilabium labanyaeantum* (Orchidaceae), a new species from Meghalaya, Northeast India. Gardens' Bulletin Singapore 67 (1): 143–149.
- POWO (2023). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:30297-1>. (Accessed on 5 March 2024).
- Pridgeon, A.M., Cribb, P.J., Chase, M.W. & Rasmussen, F.N. (2014). Genera Orchidacearum 6. Epidendriodeae (part 3). Oxford University Press, Oxford.
- Seidenfaden, G. (1988). Orchid genera in Thailand XIV. Fifty-nine vandoid genera. Opera Botanica 95: 1–398.
- Thaithong, O. (1999). Orchids of Thailand. Office of Environmental Policy and Planning, Bangkok.