

**NEW DISTRIBUTION RECORD OF *DENDROBIUM KELAMENSE*  
(ORCHIDACEAE: SECTION CALCARIFERA) IN SARAWAK, MALAYSIA**

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**ABSTRACT**

*Dendrobium kelamense* Metusala, P.O'Byrne & J.J. Wood (Section *Calcarifera*) was previously considered endemic to its type locality at Bukit Kelam, West Kalimantan, Indonesia. This paper reports a significant new distribution record for the species, expanding its known geographical range to Sarawak, Malaysia. A flowering specimen was rescued (collected) and documented from the edge of a plantation area near a rocky stream at an elevation of 100–200 m above sea level. Morphological analysis confirms the identity of the species, characterized by its bright yellow flowers with distinct longitudinal maroon veining and a broad, fimbriate mid-lobe of the labellum. This discovery suggests a wider distribution across Borneo, particularly within riparian corridors.

**Keywords:** *Dendrobium*, *D. kelamense*, Section *Calcarifera*, Orchidaceae, new record,

**INTRODUCTION**

The genus *Dendrobium* Sw. is one of the largest and most taxonomically diverse groups within the Orchidaceae, comprising approximately 1,600 species distributed throughout South, East, and Southeast Asia, extending to Australia and the Pacific Islands (Wood, 2014). Within this genus, Section *Calcarifera* J.J. Sm. is particularly well-represented in the Sundaland region, characterized by flowers with a prominent, often elongated mentum and a complex labellum structure. *Dendrobium kelamense* Metusala, P.O'Byrne & J.J. Wood was first described in 2010 based on specimens collected from Bukit Kelam, a massive sandstone outcrop in Sintang, West Kalimantan. Since its description, the species has been regarded as a narrow endemic, restricted to the unique ecological conditions of its type locality. Morphologically, it is closely allied to *D. panduriferum* and *D. dionaeoides*, but it is distinguished by its vibrant yellow perianth, striking longitudinal maroon veining, and a distinctly broad, fimbriate (fringed) mid-lobe of the labellum.

The distribution of epiphytic orchids in Borneo is often poorly understood due to the challenges of canopy-level sampling. However, the survey in a lowland mixed dipterocarp forest (MDF) (at the edge of plantation area) near the Sap area in Tatau District, Bintulu Division, Sarawak, provided a rare opportunity to document the presence of *D. kelamense* in Malaysia. This represents a significant range extension of approximately 350 km Northeast from its type locality. This paper aims to report the first record of *D. kelamense* in Sarawak, representing a significant range extension from its type locality. This discovery not only adds to the known flora of the region but also provides critical data for the reassessment of the species' conservation status under IUCN criteria.

## MATERIALS AND METHODOLOGY

The specimen was discovered during a botanical survey in the Sap area, Tatau District, in April 2025. A sterile specimen was rescued (collected) from a tree at the edge of a plantation area near a rocky stream and nursed in a mini nursery. The plant was cultivated on a cacao tree branch with approximately 70–80% shade. The plant produced an inflorescence in late September, blooming completely in early October. Identity was confirmed by comparing morphological characters with the original description by Metusala et al. (2010) and keys in references books (e.g., Beaman et al., 2001; Wood, 2003, 2013, 2014; Wood & Cribb, 1994; Schuiterman, 2013; Cootes & Tiong, 2015).

Due to the limited number of individuals in the wild, no physical herbarium specimens were collected to avoid compromising the local population. Instead, living plants were relocated for *ex situ* conservation. Floral units were preserved in 70% ethanol as a spirit collection and deposited in the Herbarium of Universiti Malaysia Sarawak (HUMS) under the voucher number *Alvin J. Desmond, AJD0001*.

## RESULT: THE NEW RECORD

***Dendrobium kelamense*** Metusala, P.O'Byrne & J.J. Wood

*Metusala et al. Malesian Orchid Journal*, 5, 30. (2010). Type: Indonesia, West Kalimantan, Bukit Kelam, *D. Metusala RIO061* (holo – BO, iso – PHBP).

*Synonym: Dendrobium subquadratum* J.J. Sm.; *Sayeria subquadrata* (J.J. Sm.) Rauschert

*Dendrobium kelamense* (Figure 1A - 1D) was found growing epiphytically on *Dipterocarpus* sp. (*Keruing*) in a lowland mixed dipterocarp forest at an elevation of 100–200 meters above