



RESEARCH ARTICLE

Dendrobium kallarensis (Orchidaceae): A new species from southern Western Ghats, IndiaJose Mathew¹, K.V. George², Regy Yohannan³ & K. Madhusudhanan⁴

1. School of Environmental Sciences, M.G University, Kottayam, Kerala, India

2. Department of Botany, CMS College, Kottayam, Kerala, India

3. Department of Botany, Sree Narayana College, Kollam, Kerala, India

4. Department of Botany, St. Alberts College, Ernakulam, Kerala, India

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Key words:Achankovil, *Dendrobium*, New species, Southern Western Ghats**Abstract**

A new species of *Dendrobium*, belonging to family Orchidaceae from Achankovil forest of southern Western Ghats is described as *Dendrobium kallarensis*. A detailed description, distribution, ecology and relevant taxonomic notes are provided. It is also compared with the related *Dendrobium barbatulum* Lindl.(1830:84) & *Dendrobium wightii* Hawkes & Heller. (1962: 24)

Corresponding Author*Jose Mathew**

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Introduction

Dendrobium Swartz (1799: 82) is one of the largest epiphytic, occasionally lithophytic and terrestrial herbs by Cribb & Govaerts (2005), genera of beautiful flowers comprising of about 1,100 species. The genus occurs in diverse habitats throughout much of south, east and south-east Asia, including Philippines, Borneo, Australia, New Guinea and New Zealand. In India the genus is represented by 116 species by Misra (2007). The characteristic feature of *Dendrobium* is presence of mentum, a chin made up from the column foot, lip and lateral sepals and the absence of caudicle in the pollinia. The evergreen forests and the montane grass lands of southern Western Ghats is a potential centre of *Dendrobium* in India. Altogether 20 taxa of *Dendrobium* were reported from the Kerala part of Western Ghats by Sasidharan (2013). Among the 20 taxa, 14 are distinguished as endemic and one species under critically endangered category by IUCN (2012).

Recent floristic exploration in the evergreen forests of Achankovil yielded some additional specimens of *Dendrobium*. Critical study with the literature and authentic specimens in various Herbaria revealed that our specimens do not agree with the described species. These studies resulted in the finding of a new species, which is described here as *Dendrobium kallarensis*.

Materials & Methods

Dendrobium kallarensis Jose, George, Yohannan & Madhusudhanan, *sp.nov.*, Figs.1 & 2

Type:—INDIA. Kerala: Pathinamthitta District, Kallar, 9° 13' 11" N, 77° 9' 14" E, 1200 M, November 26th 2011, Jose Mathew & K.V.George CMS 02748 (Flowering twig) (Holotype: MH; Isotypes: Herbarium of the CMS college- Kottayam, School of Environmental Sciences- Mahatma Gandhi University- Kottayam- Kerala)

Lithophyte on wet rocks. Pseudobulb ovoid, swollen, compressed, brown, 2-4 cm. Leaves 2-3, size to 7 x 0.5 cm, linear, acute, membranous, leafless when flowering. Flowers 1-3, usually 1/ one at a time, bluish pink, in 4-5 cm long slender terminal racemes; pedicels 7 mm long. dorsal sepal 14 x 5 mm, lanceolate, obtuse, 5-veined; lateral

sepals 14 x 9 mm, ovate-lanceolate, acute, 5-veined; petals 15 x 10 mm, obovate, obtuse, 7-veined; lip 15 x 12 mm, 3-lobed, side lobes ovate, obtuse, 6 x 4 mm, midlobe 9 x 8.5 mm, obovate, truncate at apex, disc with an oblong callus and yellow hairs. Capsule fusiform.



FIGURE 1. : *Dendrobium kallarensis* A. Habit. B. Flowering twig C&D. Regeneration on rainy season. E& F. With Mature leaves

Distribution & Ecology: —The new taxa grows in moist rocks in the montane grassland ± 1000 m, associated with *Didymocarpus humboldtiana* Gard. (1846: 477).

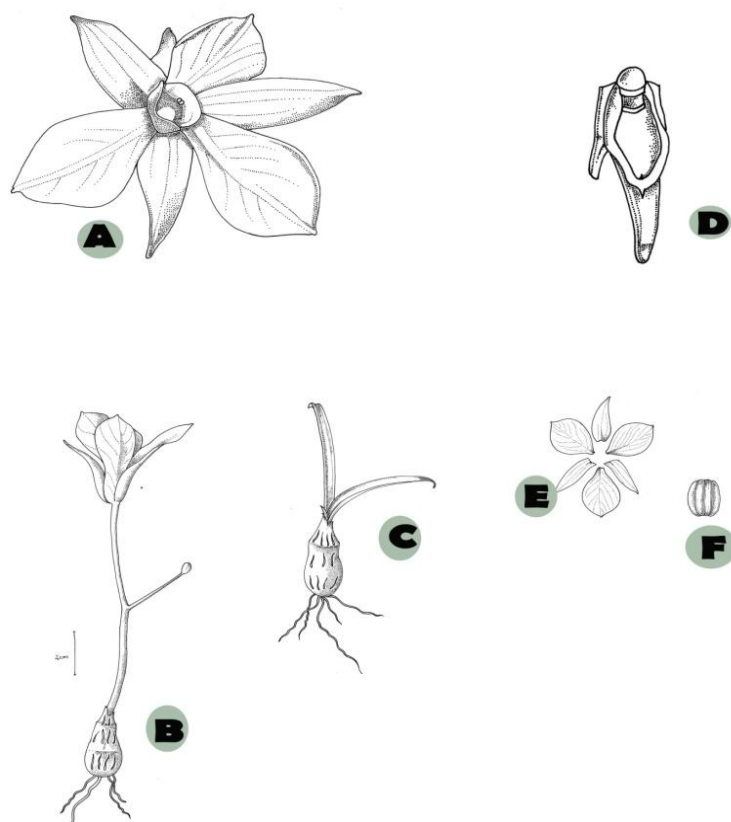


FIGURE 2. *Dendrobium kallarensis* A. Flower. B. Flowering branch. C. Plant with immature leaves. D. Gynostegium. E. Dissected flower. F. Polinia. Drawings by Mr. Umesh M. from living specimens.

Table 1. Prominent morphological differences between *Dendrobium kallarensis* with its allied species

Character	<i>D. kallarensis</i>	<i>D. barbatulum</i>	<i>D. wightii</i>
Habit	Lithophyte	Epiphyte	Lithophyte
Stem	True stem absent	Distinct Stem 5-10 cm long	15-20 cm
Pseudobulb	Ovoid, 2-4 cm long	Very minute bulb	Bulb absent
Leaves	2-3, Size up to 7x 0.5 cm, absent when flowering	Few, 10x 0.7cm, absent when flowering	Few, 6.7 x 0.5 cm, present when flowering
Flower	1-3 at a time 1	5-9 flowered racemes	3-5 in racemes
Floral parts	Sepals 5 veined, 14 x 5(dorsal) & 9 (lateral) mm. Petals 7 veined, 15 x 10 mm lip 15 x 12 mm	Sepals 5 veined 12.5 x 4.5 (dorsal) & 8 (lateral) mm. Petals 7 veined, 13.5 x 9 mm lip 13 x 11 mm	Sepals 3 veined, 10 x 2.5 (dorsal) & 3 (lateral) mm. Petals 3 veined, 8 x 2 mm lip 11 x 3-6 mm

Eponymy: — The specific epithet named for the location in which first collected, and perhaps confined.

Phenology: — Flowering & fruiting occur during October- February.

Conservation status: — The new taxa is seen in undisturbed wet rock strewn pockets of montane grass lands in Kallar valley and Pulikkayam of Achankovil belongs to Agasthyamala Biosphere Reserve. A total of 300 individuals were scattered on this environs.

Additional specimen examined: — INDIA. Kerala: Kollam District, Kanayar, 9° 11' 06" N, 77° 13' 04" E, ±1200 M, November 29th 2011, *Jose Mathew & K.V.George CMS 02787* (Flowering).

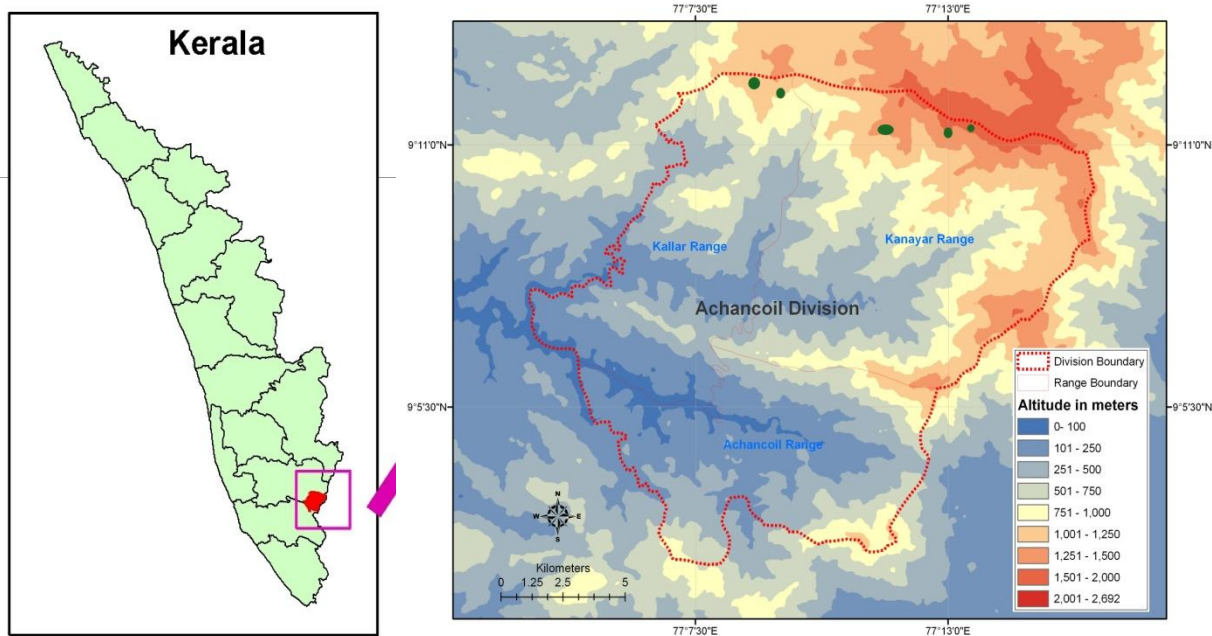


FIGURE 3. Distribution of *Dendrobium kallarensis* in Achankovil forest

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