

Nomenclatural status of *Dendrobium georgei* Mathew (Orchidaceae)

M Sulaiman, C Murugan

Botanical Survey of India, Southern Regional Centre, Coimbatore, Tamil Nadu, India

Abstract

A new species, *Dendrobium georgei* (Orchidaceae) was described recently from Kerala, India. It strongly resembles with *D. herbaceum* where the species is chiefly distributed in the districts of Kerala and other parts of India (Andhra Pradesh, Bihar, Chhattisgarh, Goa, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Odisha, Tamil Nadu and West Bengal). The diagnostic characters of *D. georgei* commonly shares with the protologue of *D. herbaceum*. Hence, the newly described *D. georgei* is treated as synonym of *D. herbaceum*.

Keywords: *Dendrobium herbaceum*, orchid, correct name, Kerala, India

Introduction

Dendrobium Sw. is a subtribe of *Dendrobiinae*, composed about 1500 species (Mabberley 2017) [7], mainly distributed in the diverse habitats of South, East and South-east Asia and Australasia, Philippines, Borneo, Australia, New Guinea and New Zealand Govaerts *et al.* (2017) [5]. The political boundary of India is recorded with 114 species Singh *et al.* (2019) [17].

Dendrobium georgei, a newly described taxon (Mathew, 2014) [6] is confirmed as conspecific of *D. herbaceum*. Mathew (2014) [6] had mentioned his species with major diagnostic character of pseudobulb with apically thickened. In general, the epiphytic orchids possess a prominent, enlarged bulbous structure at the base of their leaves, termed a pseudobulb (Dressler 1981) [3] and not at apex. The observed difference is considered here as ecophenotypic variation; where the role of the ecotype in ecosystem function is one of insuring community adaptation to its habitat by maintaining environmental relations conducive to efficient usage of energy input McMillan (1969) [8]. Therefore, *Dendrobium georgei* is synonymized under *D. herbaceum*.

Dendrobium herbaceum Lindl. (1840:69). Type: — INDIA, *Loddiges 153* (Holotype K000894416!). *Dendrobium georgei* Mathew (2014: 89). Type:— INDIA, Kerala, Kollam District, Kottavasal, elevation ± 1250 m, 25

Feb. 2011, *Jose Mathew CMS2721* (Holotype MH!; Isotype KFRI!, CSMH!, and SESH!). **syn. nov.**

Notes

Dendrobium georgei is here considered a synonym of *Dendrobium herbaceum* as shown by the illustration on the type sheet in (K000894416). Mathew (2014) [6] compared *D. georgei* with *D. herbaceum*; where it refers to the same. *D. herbaceum* is fairly common species distributed in the Districts of Kerala. It is characterised by leaves alternate, linear-lanceolate, acute. Flowers usually white, greenish white, creamy white-yellow or pale yellow, 10-15 mm across, produced laterally or terminally on the branchlets. Pedicel with ovary 7-10 mm long. Dorsal sepal 5-6 x 1.5-2 mm, oblong-lanceolate or ovate-lanceolate; lateral sepal 4-6 x 1.5-2 mm, oblong-lanceolate. Petals 5-6 x 1.5-2 mm, linear-oblong. Lip white or greenish white, 4-5 x 2-3 mm; midlobe ovate, obtuse (Table 1); described as a distinct species from (Hooker 1890, Gamble 1928 [4], Abraham & Vatsala 1981 [1], Mohanan 1984 [11], Ramachandran & Nair 1988 [13], Antony 1989, Vajravel 1990, Mohanan & Henry 1994, Sasidharan & Sivarajan 1996 [16], Kumar 1998 [12], Mohanan & Sivadasan 2002 [11] and Ratheesh 2009 [14], Sabapathy 2013) [15]. While the same characters of *D. georgei* is shared with the protologue of *D. herbaceum*, and also detailed illustrations given in the holotype (Figure 1) by Lindley (1840), and by any sort it has no differentiate characters with *D. herbaceum*. Hence *D. georgei* is treated here as a synonym of *D. herbaceum*.

Table 1: Comparison of morphological characters of *Dendrobium georgei* syn. nov. with those of similar species of *D. herbaceum*

Characters	<i>D. georgei</i> Mathew	<i>D. herbaceum</i> Lindl.
Habit	straight to slightly curved 2-4 branches per stem	straight, few to many branches
Stem	narrow at base (3-6 mm), swollen towards tip (10-14 mm), 150-300 mm in length	caespitose, branched, lateral branches dwarf
Leaf	thin, narrowly linear-lanceolate, acute, up to 60 mm long, 120 mm wide	linear-lanceolate, acute, 0.5-1.5 x 0.1-0.2 cm
Pseudobulb	apically thickened pseudo bulb present	stem with few to many nodes
Inflorescence	formed on the nodes of pseudobulb	condensed short racemes, usually at apical nodes
Floral parts	white	white, creamy white-yellow, greenish white, pale yellow
	pedicel up to 10 mm	pedicel 7-10 mm
	dorsal sepal 7 x 2 mm	dorsal sepal 5-6 x 1.5-2 mm
	lateral sepals 5 x 2 mm	lateral sepals 4-6 x 1.5-2 mm
	lateral petals 5 x 1.5 mm	lateral petals 5-6 x 1.5-2 mm
	labellum 5 x 3 mm	labellum 4-5 x 2-3 mm

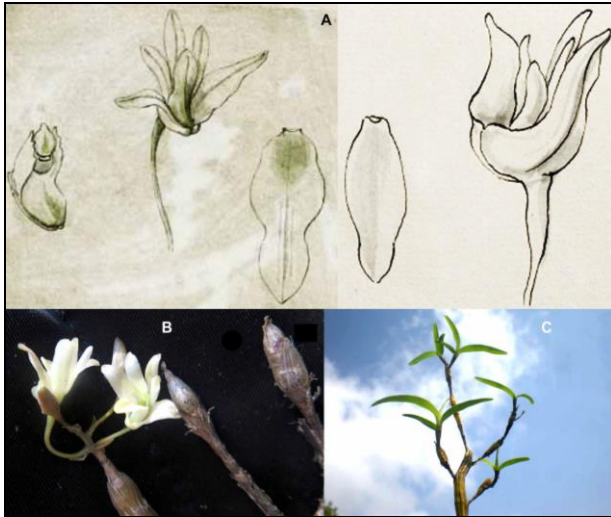


Fig 1: *Dendrobium herbaceum*. A. Illustration of the flower and floral parts of *D. herbaceum* from Lindley (1840: holotype: K000894416). B & C. Illustration of the flower and habit of *D. georgei* form Jose Mathew (2014) ^[6].

Acknowledgements

The authors are grateful to Ministry of Environment, Forest & Climate Change for funding the Flora of India Project; The Director, Botanical Survey of India, Kolkata and Head of Office, BSI- Southern Regional Centre, Coimbatore for the providing the facilities and support to carry out the work.

References

1. Abraham A, Vatsala P. Introduction to Orchids with illustration and descriptions of 150 south Indian orchids. Tropical Botanical Garden and Research Institute, Thiruvananthapuram, India, 1981, 1-368.
2. Antony VT. Systematic studies on the flora of Kottayam district, Kerala. Botanical Survey of India, Coimbatore, 1989, 1-384.
3. Dressler RL. The Orchids: natural history and classification. Harvard University Press, Cambridge, Massachusetts, London, England, 1981.
4. Gamble JS. The Flora of Madras Presidency. Adlard & Son, Limited, London, 1928:3:1416.
5. Govaerts R, Bernet P, Kratochvil K, Gerlach G, Carr G, Alrich P *et al.* World Checklist of Orchidaceae. The Board of Trustees of the Royal Botanic Gardens, Kew, 2017 <http://apps.kew.org/wcsp/monocots>.
6. Jose Mathew. *Dendrobium georgei* (Orchidaceae): A new species from southern Western Ghats, India. *Telopea*, 2014:16:89-92.
7. Mabberley DJ. *Mabberley's Plant-Book* (4th Edition). Cambridge University Press, Cambridge, 2017, 1-283.
8. McMillan C. Ecosystem Function. *Bio Science*, 1969:19(2):131-134.
9. Mohanan M, Sivadasan, M. Flora of Agasthiyamala. Bishen Singh Mahendra Pal Singh, Dehra Dun, India, 2002, 1-666.
10. Mohanan M, Henry AN. Flora of Thiruvananthapuram district. Botanical Survey of India, Kolkata, 1994, 1-452.
11. Mohanan M. Flora of Quilon. Ph.D Thesis. University of Madras, Madras, 1984, 1-393.
12. Muktesh Kumar MS. Studies on the Epiphytic flora on the tropical forest ecosystem of Western Ghats with

- special reference to Nilgiri Biosphere Reserve. Kerala Forest Research Institute, Peechi, Thrissur, 1998, 1- 87.
13. Ramachandran VS, Nair VJ. Flora of Cannanore. Botanical Survey of India, Kolkata, 1988, 1-451.
14. Ratheesh Narayanan MK. Floristic study of Wayanad district with special emphasis on conservation of rare and threatened flowering plants. University of Calicut, Kerala, 2009, 1-801.
15. Sabapathy CM. Taxonomic Studies on the Genus *Dendrobium* Sw. (Orchidaceae) in India (Ph.D. Thesis), University of Kalyani, Kolkata, 2013, 1-174.
16. Sasidharan N, Sivarajan VV. Flowering plants of Thrissur forests. Scientific publisher, Jodhpur, 1996, 1-438.
17. Singh SK, Agrawal DK, Jalal JS, Dash SS, Mao AA, Singh P. Orchids of India: A Pictorial Guide. Botanical Survey of India, Calcutta, 2019, 1-546
18. Vajravelu E. Flora of Palaghat district. Botanical Survey of India. Mathrubhoomi press, Calicut, 1990, 1-473.