

Records of two extant orchid species (Orchidaceae) in Singapore

Matti A. Niissalo¹

¹Singapore Botanic Gardens, National Parks Board, 1 Cluny Road, Singapore 259569, Republic of Singapore; Email: Matti_Asser_Niissalo@nparks.gov.sg

Abstract. I discovered overlooked materials when I reviewed the botanical spirit specimens from the herbarium of the Lee Kong Chian Natural History Museum, National University of Singapore. The materials are from two orchid species, *Dendrobium singaporense* and *Bulbophyllum gusdorfii*, which have been recently treated as nationally extinct in Singapore. Based on the materials I found, these species should be considered extant. However, they will soon again cross the threshold to being presumed nationally extinct, as the material discovered is from nearly 30 years ago. In Singapore, any species not seen in the wild for 30 years is categorised as nationally extinct.

Key words. critically endangered, *Dendrobium singaporense*, *Bulbophyllum gusdorfii*

Recommended citation. Niissalo MA (2023) Records of two extant orchid species (Orchidaceae) in Singapore. Nature in Singapore, 16: e2023023. DOI: 10.26107/NIS-2023-0023

INTRODUCTION

When going through spirit material which was recently moved from the herbarium of the Lee Kong Chian Natural History Museum, National University of Singapore (SINU) to the Singapore Botanic Gardens' herbarium (SING), I encountered two orchid species (*Dendrobium singaporense* A.D.Hawkes & A.H.Heller and *Bulbophyllum gusdorfii* J.J.Sm.) which were treated as nationally extinct in Lindsay et al. (2022). *Bulbophyllum gusdorfii* was reported in Turner et al. (1995a, 1995b) when it was first recorded in Singapore. Chong et al. (2009) included it in their checklist as did Davison et al. (2008) in the most recent Red Data Book. It was likely missed by Lindsay et al. (2022) because the specimen could not be traced at the time. The rediscovery of *Dendrobium singaporense* does not seem to have been reported in literature. As the spirit material at SINU was not consulted for Lindsay et al. (2022), its omission from the checklist is expected.

SPECIMEN DETAILS

I compared both specimens with illustrations and descriptions in Seidenfaden & Wood (1992) to confirm their identities. The spirit materials are illustrated in Fig. 1 (*Dendrobium singaporense*) and Fig. 2 (*Bulbophyllum gusdorfii*). *Dendrobium singaporense* is unmistakable among Singapore and Peninsular Malaysian *Dendrobium* because of the triangular apex of the flattened lip (see Fig. 1, I–J). *Bulbophyllum gusdorfii* has a unique combination of non-caudate dorsal sepal and petals, each with long fine marginal ciliae, a column with short stelids; relatively broad, fused lateral sepals; and petals with rounded tips. The details of all specimens from Singapore of these two species are shown in Table 1.

CONSERVATION STATUS

The two species should currently be considered Critically Endangered, until thirty years has passed from the latest collection from the field, which is the criterion for extinction (Davison et al., 2008). The last date that they may be seen in the wild before being considered nationally extinct is 28 April 2023 for *Bulbophyllum gusdorfii* and 15 April 2024 for *Dendrobium singaporense*.

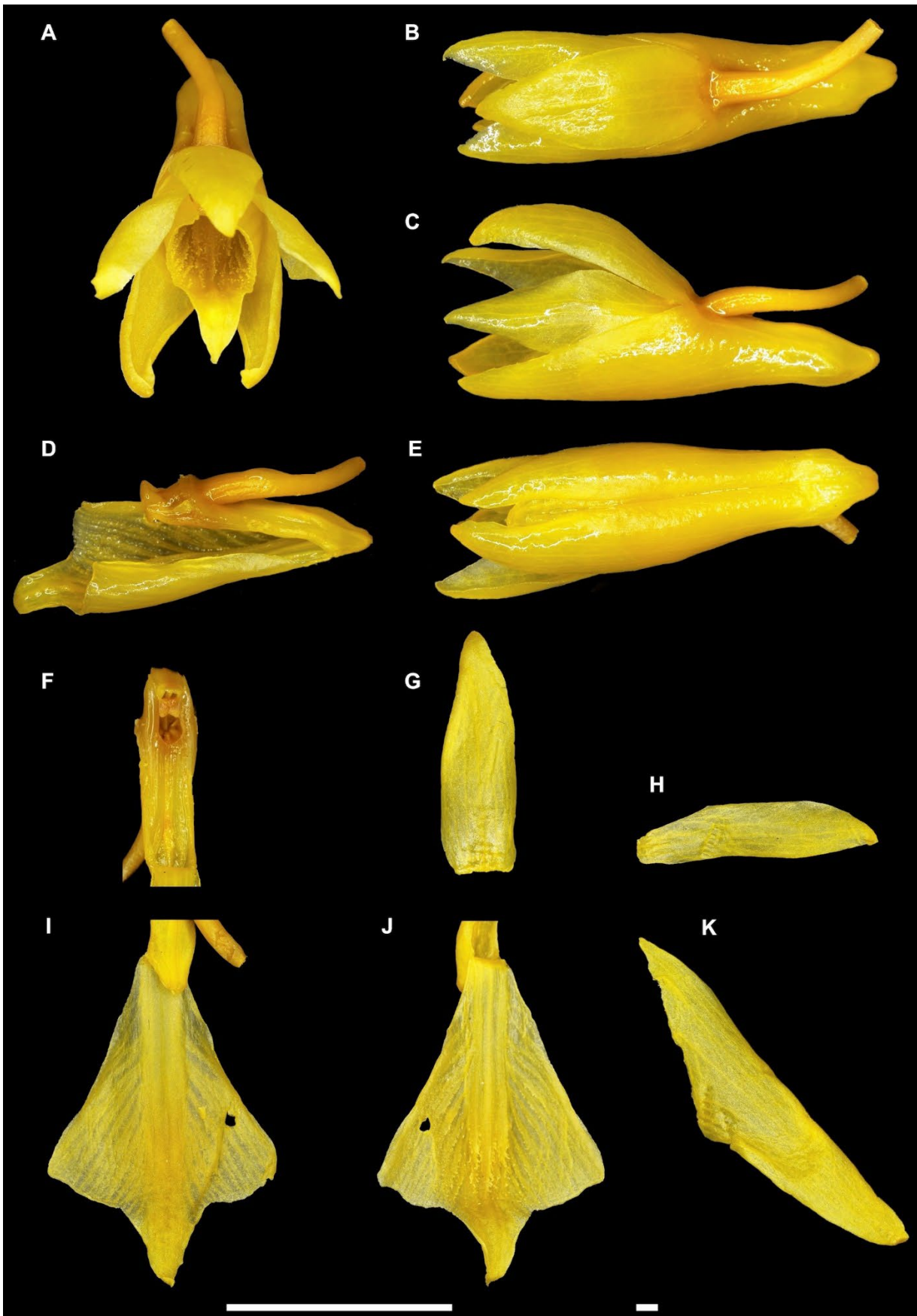


Fig 1. *Dendrobium singaporense*. A, flower from front; B, flower from top; C, flower from side; D, column, column foot and lip, with sepals and petals removed; E, flower from bottom; F, column and column foot; G, median sepal, abaxial side; H, petal, abaxial side; I, lip, abaxial side; J, lip, adaxial side; K, lateral sepal, adaxial side (note the long cut part which connects to the column foot). Both scale bars apply to all parts of the figure. All photos from H.T.W. Tan s.n. by Matti Niissalo.

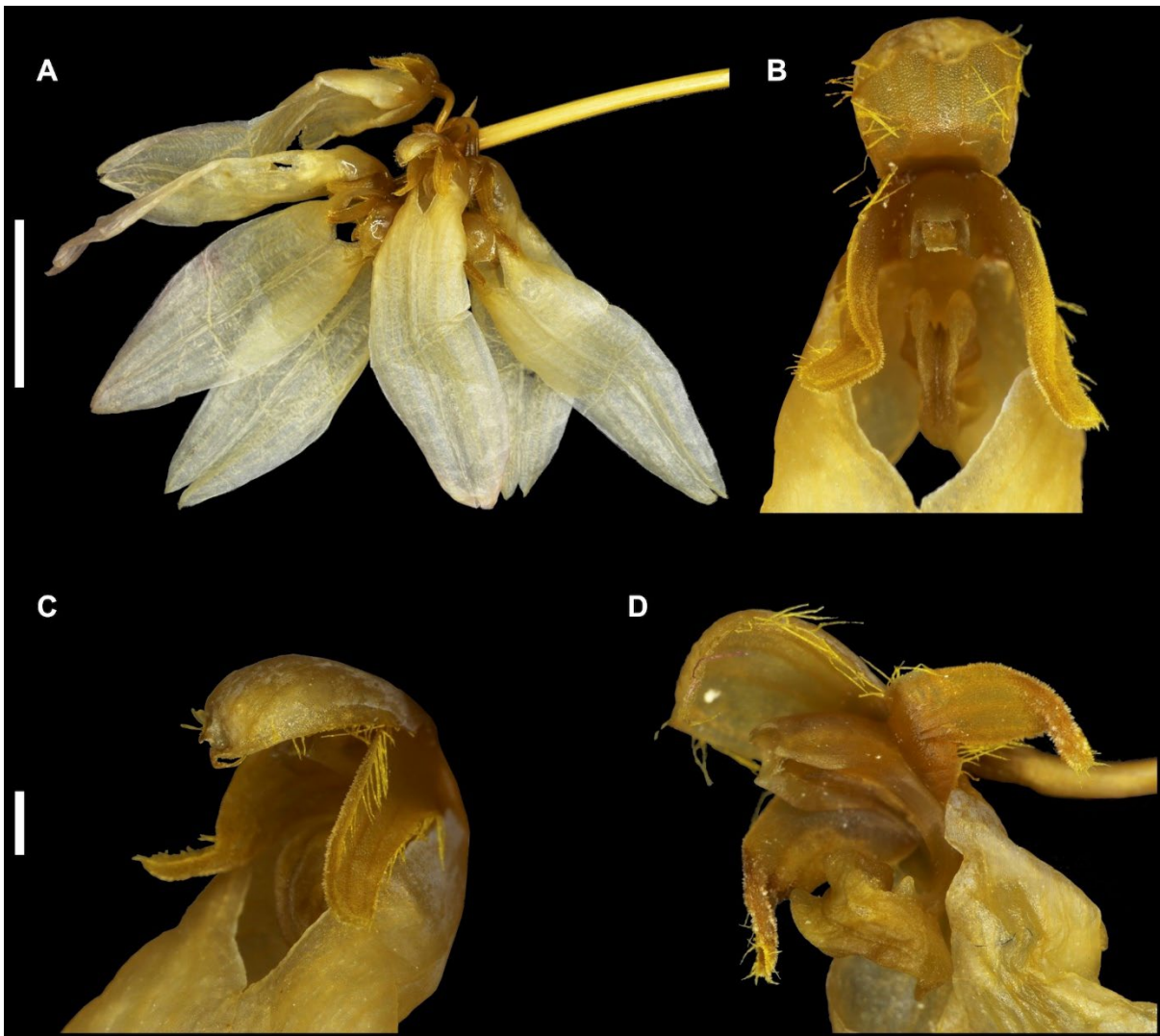


Fig. 2. *Bulbophyllum gusdorfii*. A, inflorescence; B, flower from front; C, flower from side; D, opened flower showing the column and lip. All photos from K.S. Chua et al. NRS 1683 by Matti Niissalo.

Table 1. Records of *Dendrobium singaporense* and *Bulbophyllum gusdorfii* in Singapore (all except Thurston s.n. deposited in SING at present).

Species	Collector(s) name(s) and number	Date of collection	Locality	Notes
<i>Dendrobium singaporense</i>	H.T.W. Tan s.n.	26 Jan 2001	Bukit Timah Nature Reserve (= BTNR)	Flowers in spirit. "Nursery grown plant from a tree fall collection made by Daniel Metcalfe on 15 Apr 1994. Flowers mostly white except for the yellow and orange pattern on the lip.". Barcode SING0323376.
	D.J. Metcalfe s.n.	13 May 1994	BTNR	Flower in spirit. [presumably same wild origin as H.T.W. Tan s.n.]. Barcode SING0323375.
	Thurston s.n.	s.d.	Singapore (not otherwise specified)	Not seen. Spirit specimen at Royal Botanic Gardens, Kew, accession 7199.000. Barcode SING0010724.
	H.N. Ridley s.n.	16 Jan 1892	Seletar	Barcode SING0010723.
	H.N. Ridley 1702	22 Feb 1890	Tuas	Barcode SING0010723.
<i>Bulbophyllum gusdorfii</i>	K.S. Chua et al. NRS 1683	28 Apr 1993	Central Catchment Nature Reserve, Cluster 4, forest to the north of MacRitchie Reservoir near Thompson Ridge.	Flowers in spirit. "Fl. in 7 Sep 1993, 1 Apr 1994, 27 Jun 1994". Barcode SING0323377.

ACKNOWLEDGEMENTS

I thank the editor Louise Neo and an anonymous reviewer for their comments and improvements on the manuscript.

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