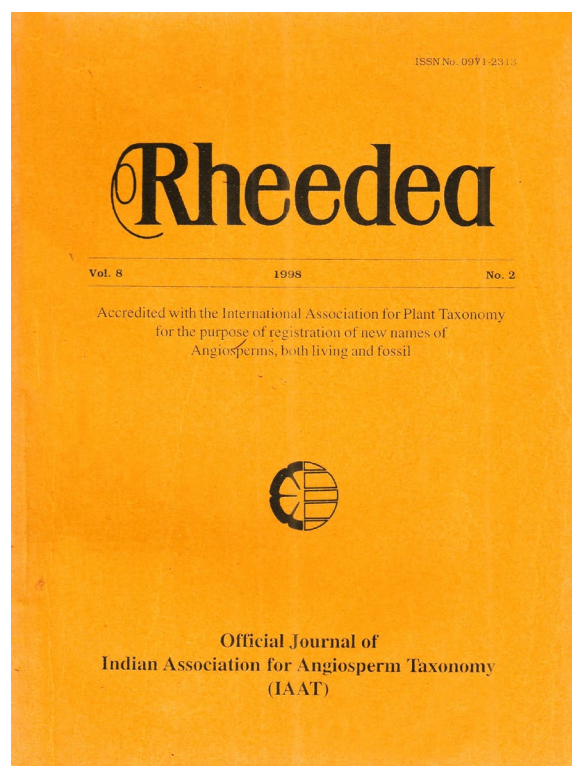




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Sathish Kumar C. & P.C. Suresh Kumar



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The reappearance of *Vanda thwaitesii* J.D. Hook. (Orchidaceae)

C. Sathish Kumar and P.C. Suresh Kumar

Tropical Botanic Garden & Research Institute
Pacha Palode, Thiruvananthapuram - 695 562, Kerala, India

Abstract

Vanda thwaitesii J.D. Hook., a supposedly extinct species of Sri Lankan orchid is rediscovered from Kerala, India after a lapse of 137 years of its first collection. A detailed description, notes and an illustration are provided.

INTRODUCTION

The genus *Vanda* Janes ex R. Br. belongs to the subtribe Aeridinae of the tribe Vandaeae of the subfamily Epidendroideae of Orchidaceae (Dressler, 1993) and comprises of 53 species and is distributed from India to Australia (Christenson, 1994). From a floriculture perspective *Vanda* species and hybrids are very important as they play a pivotal role in cutflower trade (Motes, 1997). In this respect, any addition to the genetic library of *Vanda* is significant. We report here a long-lost *Vanda* species from Southern India. With this, the number of *Vanda* species recorded from India will rise to 13 (Sathish Kumar & Manilal, 1994; Phukan, 1996).

Vanda thwaitesii J.D. Hook. was first collected by Thwaites from Sri Lanka. He had two drawings of this species made by de Alwis and published it as *Erides tessellatum* in 1861, not a good choice as it was wrongly placed generically and the specific epithet was already used by Lindley in 1833 for another plant. Hooker had never seen the specimen (C.P. 3378) which had since then lost, but the drawings and description convinced him of the novelty of the species and its correct placement and accordingly named it *Vanda thwaitesii*, after its collector (Hooker, 1898). *V. thwaitesii* remained elusive for over a century which forced Jayaweera (1981) to declare it as extinct.

The senior author collected this species first from Silent Valley in 1982 and later many times from northern parts of Kerala. However, its apparent resemblance to the widely found *V. tessellata* (Roxb.) W. J. Hook. ex G. Don fooled us to dump it under that species for a long time. Our recent collections from Wynad prompted us a renewed study. Colour picture, analytical sketches and notes of this species were sent to Dr. Eric Christenson who confirmed

C. Sathish Kumar and P.C. Suresh Kumar

that it is the lost species *V. thwaitesii*. As the available description is rather cursory and the information scanty we provide below a detailed description based on our new collections.

Vanda thwaitesii J.D. Hook. in Trimen, Handb. Fl. Ceylon 4:193. 1898; Jayweera in Dassanayake & Fosberg, Rev. Handb. Fl. Ceylon 2: 230. 1981. (Fig.1)

Aerides tessellatum Thw., Enum. Pl. Zeyl. 305. 1861, non Wight ex Lindl., Gen. Sp. Orch. 240. 1833.

Epiphytes. Stems 5-22 cm long, profusely rooting at base and sometimes branched, terete, thickly covered with old leaf bases and closely arranged leaves. Leaves 6-18 x 0.9-2 cm, jointed at base, deeply channelled in the middle, V-shaped in cross-section, thick, fleshy and coriaceous, always curved, praemorse to unequally bilobed at apex, one of the lobes being always sharply pointed. Inflorescence a simple raceme, 2.5-8 cm long with 2.5-3 mm thick peduncle, axillary. Sterile bracts 1-2, tubular, 2-3 x 4 mm (when spread out), covering the inflorescence axis, thickly gland-dotted, 3-veined, obtuse at apex. Floral nbracts 2.1 x 5 mm, triangular-ovate, gland-dotted, 1-veined, acute at apex. Flowers 1-3, pleasantly fragrant, reminding strongly of *Mimusops elengi* L. (Sapotaceae) flowers, 3-3.5 cm across, ochre or dirty yellow with light to strong tessellations on sepals and petals. Sepals and petals deeply orange-brown towards their bases and backside greenish yellow. Dorsal sepal 1.8-2 x 0.9-1 cm, obovate-oblong, 9-veined (main veins connected by intravenal bridges), gland-dotted, slightly wavy on margins, narrowed at base, obtuse to slightly retuse at apex. Lateral sepals 1.8-2 x 1.1-1.2 cm, elliptic-obovate to orbicular, 8-12-veined, gland-dotted, obtuse at apex. Petals 1.8-2 x 0.8-1 cm, obovate-oblong, 7-9-veined, gland-dotted, clawed at base, acute or apiculate at apex. Lip creamy white, 1.3 cm long with 1 cm long blunt to pointedly saccate spur, immovably attached to the base of a short column-foot; sidelobes 0.75 x 0.3 cm, oblong, falcate, pointed forwards, acute; midlobe 1 x 9.0 cm, thick and fleshy with 8 deep orange-coloured lines at the middle between the blunt raised keels, medianly deep channelled with 2 fleshy linear calli, obtuse, apically with 4 fleshy knobs in two tiers. Sour 0.8-1 x 0.6 cm, wide-mouthed, laterally compressed, sometimes slightly curved towards the ovary, obtuse at apex and without any inside callosities; backwall with W-shaped orange-yellow patch. Column 5-6 x 4 mm, stout, creamy white with a reniform stigmatic cavity, narrowed at base, a little broadened at apex. Anther terminal on a shallow cavity. Operculum 3.5 x 3.2 mm, 2-celled at base with one flap covering each cell, connected to column by a short neck at base. Pollinarium with 2 obovoid pollinia, each pollinium 1.2-1.4 mm in diameter, slightly flat laterally, cleft, attached by a thin transparent and elastic caudicle to a stipe which is again transparent, thin and roughly triangular and folded at base on to the broad triangular viscidium. Fruits 6.5-12 x 1.4-3 cm, 6-ridged capsules. Seeds 162.5-240 x 62.5-92.5 μm (young), oblong, ridged and *Vanda* type.

Flowering & Fruiting: April-September.

Altitudinal Range: 500-1060 m.

Reappearance of *Vanda thwaitesii* (Orchidaceae)

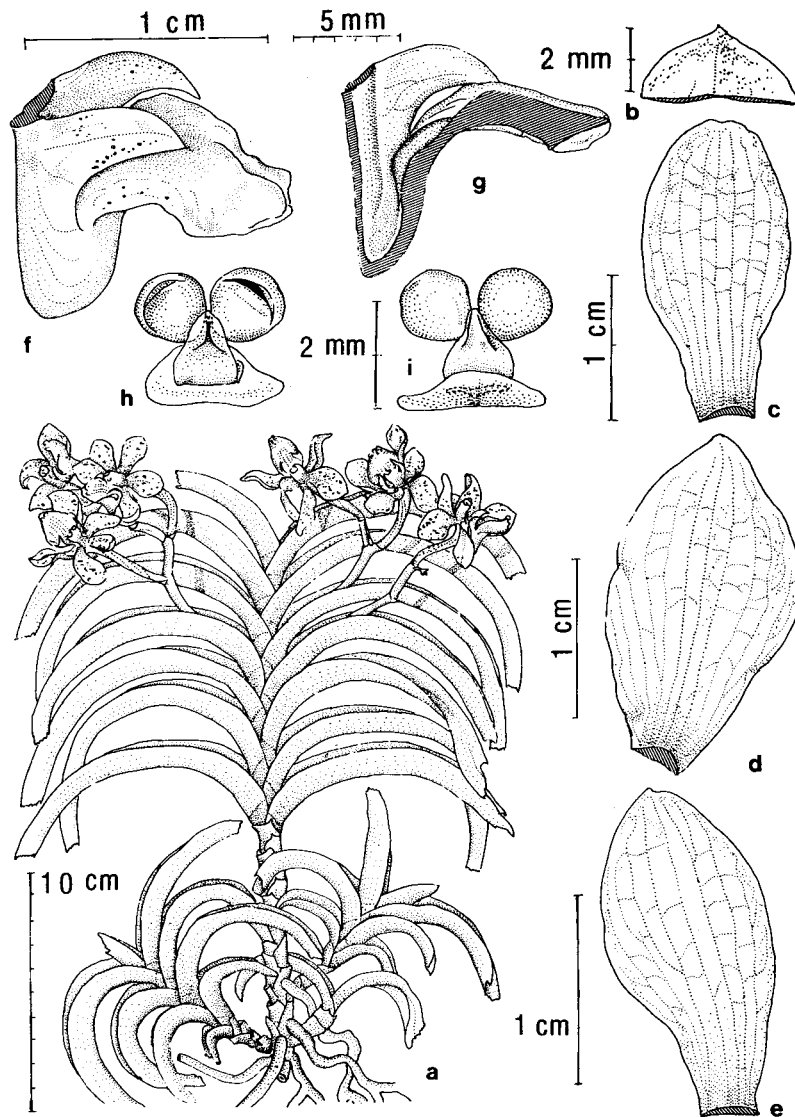


Fig. 1. *Vanda thwaitesii* J.D. Hook.: a. Habit; b. Floral bract; c. Dorsal sepal; d. Lateral sepal; e. Petal; f. Lip, side view; g. Lip, longitudinal section showing the fleshy thickening at the mouth of the sac; h. Pollinarium, ventral view; i. Pollinarium, dorsal view (Drawings by Sathish Kumar - all drawn after PCSK 27357).

C. Sathish Kumar and P.C. Suresh Kumar

Ecology: *V. thwaitesii* grows as an epiphyte in the moist deciduous to evergreen forests. Frequently it is seen on the road side trees. The most preferred host tree is *Mangifera indica* L. (Anacardiaceae). Occasionally it is also seen on *Elaeocarpus tuberculatus* Roxb. (Elaeocarpaceae).

Distribution: Southern India (Kerala and possibly Karnataka - see notes 4 below) and Sri Lanka (Hunasgiria District).

Specimens studied: Kerala, Palghat District: Arukanpara, Silent Valley, 30 April 1982, C. Sathish Kumar - SV 10553, 10554 (CALI); On way to Aruvanpara, 22 May 1977, P. C. Suresh Kumar 31447 (TBGT); On way to Poochappara in Silent Valley, 22 May 1997, P.C. Suresh Kumar 31451 (TBGT). Wynad District: Chungalappara-Lakkidi, 24 May 1977, C. Sathish Kumar & P.C. Suresh Kumar 31453, P.C. Suresh Kumar 27349 (TBGT); Ondayangadi, on way to Tirunelli, 25 May 1997, C. Sathish Kumar & P.C. Suresh Kumar 31457 (TBGT); Tirunelli, 25 May 1997, C. Sathish Kumar & P.C. Suresh Kumar 31462 (TBGT); Varayal, on way to Periya, 19 May 1998, P.C. Suresh Kumar 27357 (TBGT); Manantoddy, 26 April 1995, C. Sathish Kumar 24309 (TBGT); Manantoddy-Wynad Malabar S. Coll. s.n. (Accession No. 50587) (MH).

Notes: 1. Historically, it was the British ornithologist Jerdon who was the first to collect this species from India and made a painting of the species. He did not keep any specimen and his paintings were left forgotten. Mr. Jeffrey J. Wood has kindly located for us two of Jerdon's sketches of the species collected from 'Peria, Wynad' among Kew's indetermined *Vanda* illustrations that exactly match with *V. thwaitesii*. Fortunately, we also located the species in Jerdon's locality. The oldest collection we have seen was made by an unknown collector in November 1885 from 'Manantoddy, Wynad Malabar'. This specimen is available at the Herbarium of the Southern Circle of Botanical Survey of India (MH) at Coimbatore.

2. Christenson (1994) who made an infrageneric classification of the genus *Vanda* included *V. thwaitesii* under Subgenus *Vanda* Sect. *Vanda* together with the type species, *V. tessellata* (Roxb.) W. J. Hook. ex G. Don. Though the small plant-size and the few-flowered inflorescence of *V. thwaitesii* are reminiscent of *V. pumila* J.D. Hook., Christenson pointed out that it is most close to *V. tessellata*. "The manner in which the fleshy apex of the lip is bilobed with four knobs at the tip (two above and two below forming a rhombus) is exactly the same as *V. tessellata*" (pers. comm.).

3. Uniformly ochre-yellow coloured flowers without tessellations were also seen in some populations, but the beautifully tessellated ones are the rule.

4. Rao (1998) reported a '*Vanda tessellata*' from Kodagu in Karnataka. This place is not far from Jerdon's original locality and hence its discovery is not surprising.

Reappearance of *Vanda thwaitesii* (Orchidaceae)

Though we have not seen Rao's collection, judging from the drawing and the color photo we feel pretty sure that it is *V. thwaitesii*.

5. We successfully crossed *V. thwaitesii* with *V. tessellata* and the pods are now in active stages of growth. We also initiated multiplication of this species through seed culture.

Acknowledgements

We are grateful to Dr. Eric A. Christenson for confirming the identity of the species, Mr. Jeffrey Wood of Kew for kindly searching and locating two matching sketches of Jerdon, Mr. P. Bhargavan of Southern Circle of Botanical Survey of India (MH) for bringing to our attention the unidentified collection. We also thank Dr. P. Pushpangadan, our Director for his keen interest in our studies and constant encouragement. The work is supported by the Western Ghats Cell of the Planning & Economic Affairs Department, Government of Kerala.

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