



# Additions to the orchid flora of Andaman and Nicobar Islands, India

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## Abstract

*Bulbophyllum odoratissimum* (Sm.) Lindl. and *Dendrobium spatella* Rchb.f. (Orchidaceae), so far known from Eastern Himalaya and northeast India are reported here as additions to the flora of Andaman and Nicobar Islands for the first time. Brief descriptions with illustration and photographs are provided for correct identification.

**Keywords:** *Bulbophyllum odoratissimum*, *Dendrobium spatella*, New Record, Orchidaceae

## Introduction

*Bulbophyllum* Thouars and *Dendrobium* Sw., the two largest genera of the family Orchidaceae are represented by c. 1900 (Chen & Vermeulen, 2009) and c. 1580 species (Schuiteman, 2011), respectively. *Bulbophyllum* is distributed mainly in tropical regions of both Old and New Worlds, whereas *Dendrobium* is distributed from India across to Japan, south to Malaysia and Indonesia and east to Australia, New Guinea and the Pacific Islands. So far, 14 species of *Bulbophyllum* and 19 species of *Dendrobium* have been recorded in Andaman and Nicobar Islands (Pandey & Diwakar, 2008; Alappatt, 2013; Karthigeyan *et al.*, 2014).

During the floristic explorations in South Andaman Island, a few specimens belonging to the genera *Bulbophyllum* and *Dendrobium* were collected, which after critical study identified as *Bulbophyllum odoratissimum* (Sm.) Lindl. and *Dendrobium spatella* Rchb.f., respectively. A thorough scrutiny of literature (Misra, 2007; Pandey & Diwakar, 2008; Karthigeyan *et al.*, 2014) revealed that these species are hitherto not reported from Andaman and Nicobar Islands. Hence, in the present paper these species are reported as additions to the orchid flora of Andaman and Nicobar Islands. Brief descriptions along with illustrations and photographs are provided to facilitate easy recognition of these species.

***Bulbophyllum odoratissimum*** (Sm.) Lindl., Gen. Sp. Orchid. Pl.: 55. 1830; Hook.f., Fl. Brit. India 5: 758. 1890; H.J. Chowdhery, Orchid Fl. Arunachal

Pradesh: 123. 1998; S.C. Chen & J.J. Verm. in Z.Y. Wu *et al.*, Fl. China 25: 414. 2009. *Stelis odoratissima* Sm. in Rees, Cycl. 34: Stelis no. 12. 1819, 'odoratiffima'. *Bulbophyllum odoratissimum* var. *racemosum* N.P. Balakr., J. Bombay Nat. Hist. Soc. 75: 157. 1978. *B. trichocephalum* var. *wallongense* Agrawala, Sabap. & H.J. Chowdhery, Indian J. Forest. 27: 305. 2004. **Figs. 1,2**

Herb, epiphytic, to 15 cm long; rhizomes creeping, branched, c. 2 mm thick. Pseudobulbs 5.5–6.5 cm apart, subcylindric, 3–4 × c. 0.8 cm, slightly oblique, grooved at one side. Leaves sessile, oblong, to 8 × 2 cm, obtuse and slightly emarginate at apex, leathery. Racemes shortened, umbellate, arising from rhizome near base of pseudobulb, stout, to 7 cm, densely 7–10-flowered; peduncles c. 1.5 mm in diam., with 3 or 4 tubular sheaths of c. 6.5 mm long; floral bracts ovate-lanceolate, c. 6 mm long, acuminate at apex, membranous, whitish. Flowers c. 7 mm long, white, slightly fragrant; pedicel with ovary shorter than floral bracts, c. 5.5 mm long. Sepals and petals white, turning yellowish orange later in apical half. Sepals free, thick; dorsal sepal ovate or ovate-lanceolate, c. 5 × 1.5 mm; lateral sepals lanceolate, c. 6 × 2 mm, margins incurved from middle to apex and tubular or subulate in shape, obtuse or subacute at apex. Petals subovate or elliptic, c. 1.5 × 1 mm, subobtuse at apex, thin. Lip slightly recurved, ligulate, c. 1.5 × 0.8 mm, fleshy, orange, with 2 densely minutely glandular-hairy ridges back and white-glandular hairs at margins, base of lip with a short claw attached to end of column foot, obtuse at apex. Column stout,

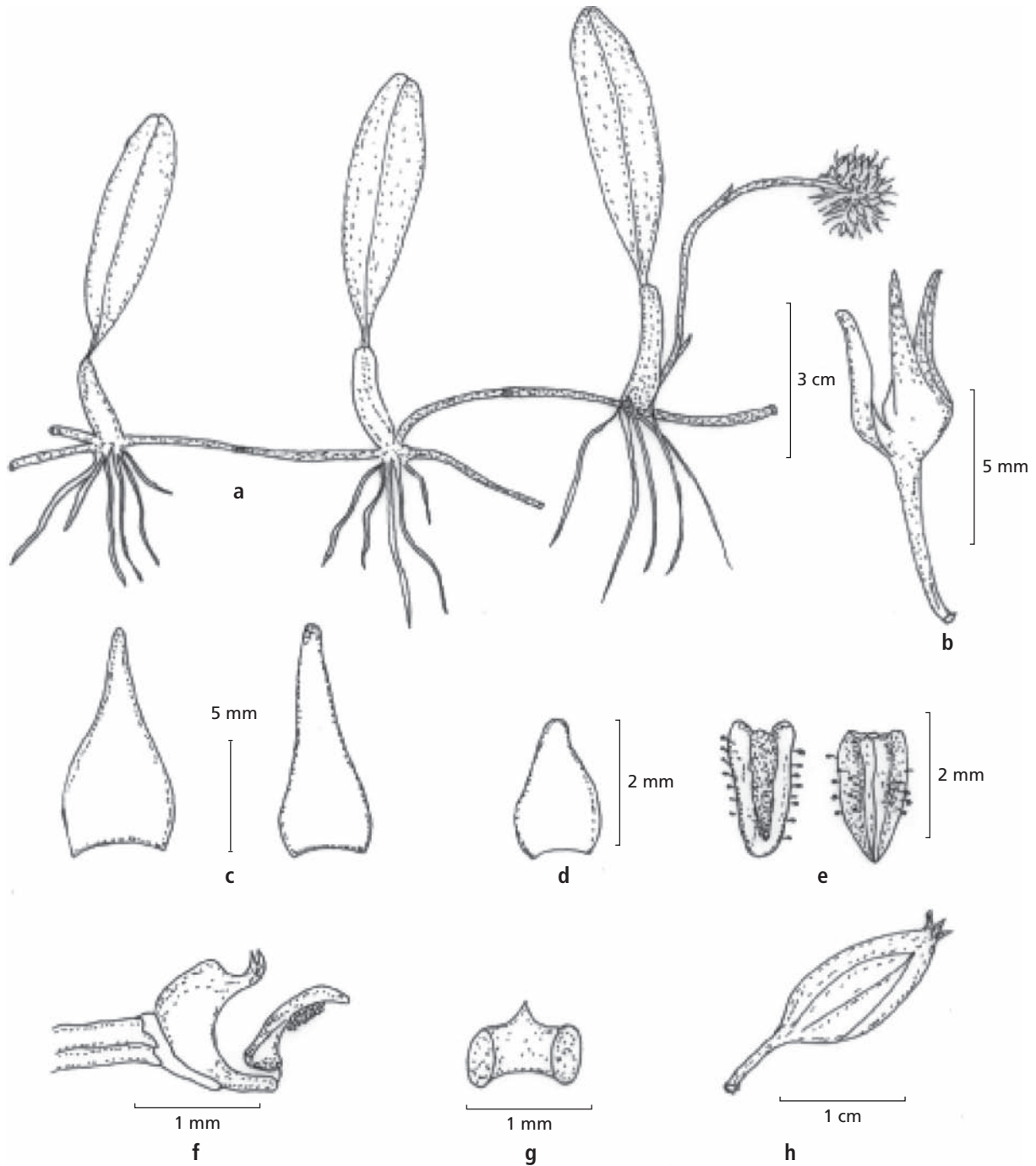


Fig. 1. *Bulbophyllum odoratissimum* (Sm.) Lindl.: a. Habit; b. Flower; c. Sepals (dorsal and lateral); d. Petal; e. Lip (adaxial and abaxial views); f. Column with lip; g. Anther; h. Capsule. Drawn from Joju P. Alappatt JPA 561, PBL.

c. 1 mm, orange; foot c. 1 mm, with free part c. 0.5 mm; stelidia 2, c. 0.2 mm long. Anther cap nearly subglobose or cordate, finely papillate; pollinia 4. Capsules oblongoid, c. 10 mm long, ribbed.

*Flowering:* July–October.

*Habitat:* Occasional in mangroves and inland semi-evergreen and mixed deciduous

forests, growing on the branches of *Rhizophora apiculata* Blume, *Terminalia procera* Roxb., *Pterocarpus dalbergioides* DC. and *Lagerstroemia hypoleuca* Kurz along with *Dendrobium crumenatum* Sw., *D. anceps* Sw., *D. tenuicaule* Hook.f., *D. polyanthum* Wall. ex Lindl. and *Oberonia ensiformis* (Sm.) Lindl. at elevation up to 25 m.



Fig. 2. *Bulbophyllum odoratissimum* (Sm.) Lindl.: a. Habit; b. Inflorescence; c. Flowers close-up; d. Capsule; e. Voucher specimen (Joju P. Alappatt JPA 561, PBL).

**Distribution:** Bhutan, Cambodia, China, India (Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and West Bengal), Laos, Myanmar, Nepal, Thailand and Vietnam.

**Specimens examined:** INDIA, **Andaman and Nicobar Islands**, South Andaman Island, Wrightmyo, 16.8.2013, Joju P. Alappatt JPA 561 (PBL); Padauk plantation, Wimberlygunj, 2.9.2013, Joju P. Alappatt JPA 573 (Herbarium Forest Training

Institute, Wimberlygunj). BHUTAN, Tashiyangtzi, 24.10.1965, N.P. Balakrishnan 43070B (PBL). NEPAL, N. Wallich 1987 (K001114849, image!)

**Dendrobium spatella** Rchb.f., Hamburger Garten-Blumenzeitung 21: 298. 1865; N.R. Pearce & P.J. Cribb, Orchids Bhutan: 422. 2002; G.H. Zhu et al. in Z.Y. Wu et al., Fl. China 25: 396. 2009. *Callista spatella* (Rchb.f.) Kuntze, Revis. Gen. Pl. 2: 655. 1891.

**Figs. 3,4**

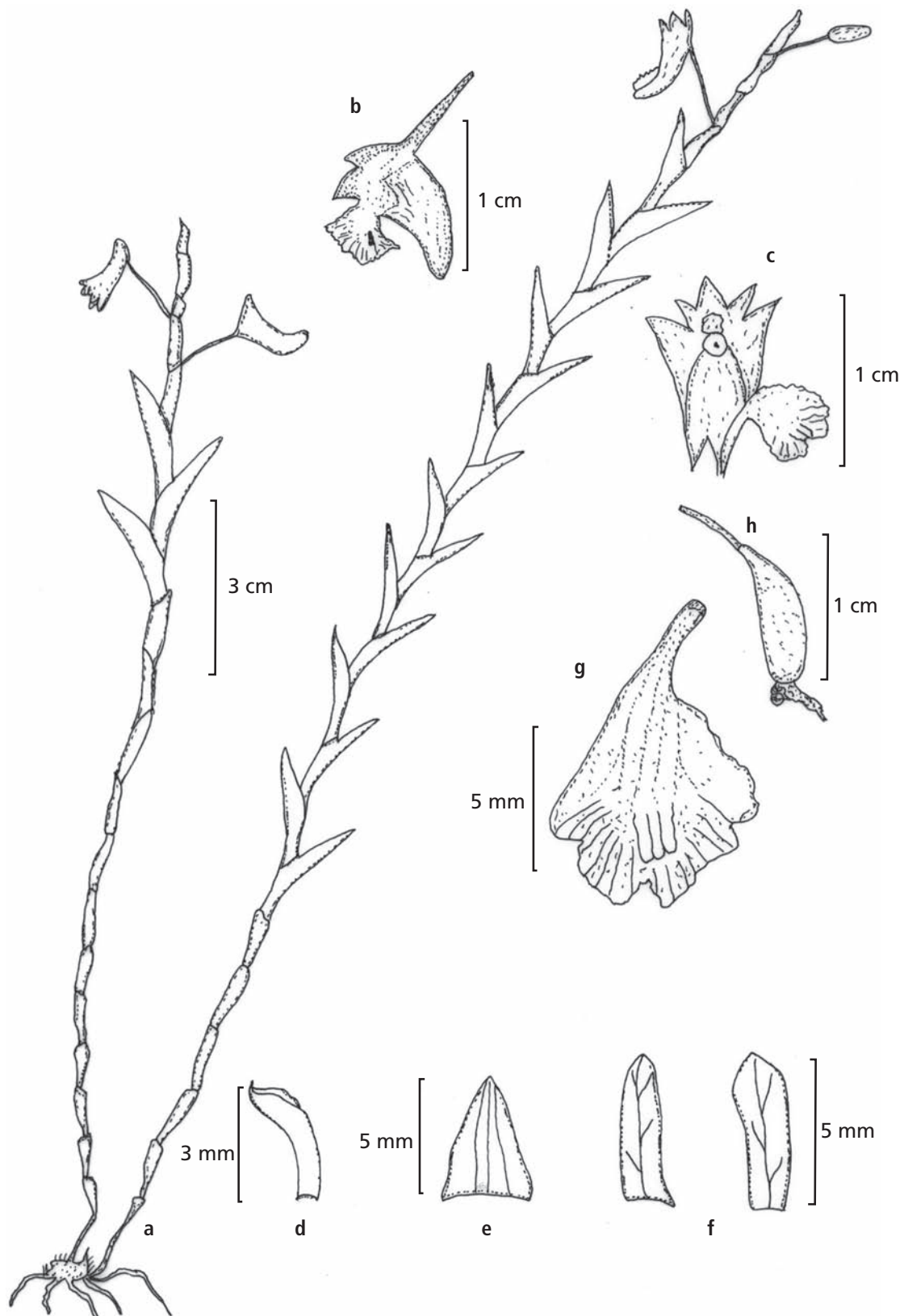


Fig. 3. *Dendrobium spatella* Rchb.f.: a. Habit; b. Flower; c. Flower split opened; d. Floral bract; e. Dorsal sepal; f. Petals; g. Lip; h. Capsule. Drawn from Joju P. Alappatt JPA 483, PBL.



Fig. 4. *Dendrobium spatella* Rchb.f.: a. Habit; b. Flowers; c. Flower close-up; d. Capsule; e. Voucher specimen (Joju P. Alappatt JPA 483, PBL).

Herb, epiphytic, to 30 cm long. Stems tufted, erect, unbranched, upper part leafless, lower part compressed, trilateral with leaf sheaths, c. 5 mm in diam., base contracted with many nodes; internodes c. 1.4 cm long. Leaves distichous, ensiform, 2.5–3 × 0.7–1 cm, imbricating and with equitant sheaths, acute at apex, laterally compressed, fleshy or

coriaceous, veinless, persistent. Inflorescence lateral, 1 or 2-flowered, leafless pseudoraceme; floral bracts c. 3 mm long. Flowers c. 1 cm long, creamy white; pedicels with ovary 1–1.5 cm long. Dorsal sepal ovate-oblong, c. 5 × 3 mm, acute at apex, 3-veined; lateral sepals obliquely ovate-triangular, c. 4 mm long, oblique at base, margins

close to column, acute at apex; mentum narrow, c. 1 cm long. Petals rhombic-elliptic, c. 5 × 1 mm, acute at apex, 1-veined. Lip rhomboid, recurved, c. 10 × 7 mm, white with yellowish tinge, adnate to apex of column foot; epichile fan-shaped, 7–8 mm wide, edges undulate with a narrow split at apex; callus subapical. Column c. 1 mm. Anther cap slightly toothed along apical margin; pollinia 4. Capsules ellipsoid, 8–10 mm long.

*Flowering & fruiting:* December–January.

*Habitat:* Rare in inland semi-evergreen and mixed deciduous forests, growing on the branches of *Terminalia procera* Roxb. along with *Dendrobium crumenatum* Sw., *D. tenuicaule* Hook.f. and *Oberonia ensiformis* (Sm.) Lindl. at an elevation of about 10 m.

*Distribution:* Bhutan, Cambodia, China, India (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram and Nagaland), Laos, Malaysia, Myanmar, Thailand and Vietnam.

*Specimens examined:* INDIA, **Andaman and Nicobar Islands**, Middle Andaman Island, Dhaninallah, Betapur, 7.1.2013, *Joju P. Alappatt* JPA 478 (Herbarium Forest Training Institute, Wimberlygunj); South Andaman Island, Wrightmyo, 12.1.2013, *Joju P. Alappatt* JPA 483 (PBL). THAILAND, Ban Mek Zah, Lampun, A.F.G. Kerr 249 (L1506965, image!)

*Notes:* This species has been misidentified as *Dendrobium acinaciforme* Roxb. as it is often called so in the earlier literature (Hooker, 1890; Fl. Reipubl. Popularis Sin. 19: 142. 1999), when it was not realised that the real *D. acinaciforme* Roxb. is a different species from the Maluku Islands (the Moluccas), Indonesia (Yukawa & Ohba, 1999).

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