

## Article



http://dx.doi.org/10.11646/phytotaxa.164.4.9

## Bulbophyllum manabendrae (Orchidaceae: Epidendroideae), a new species from Meghalaya, India

DILIP KR. ROY<sup>1</sup>, H.A. BARBHUIYA<sup>1</sup>, A.D. TALUKDAR<sup>2</sup> & B.K. SINHA<sup>3</sup>

<sup>1</sup>Botanical Survey of India, Eastern Regional Centre, Shillong—793003, Meghalaya, India; E-mail: dilipbsierc@gmail.com

## Introduction

Bulbophyllum sect. Trias (Lindley 1830: 60) Vermeulen (2014: 40) comprises about 15 species (WCSP, 2013), distributed from China to Indonesia (Seidenfaden 1976, 1986, Kumar 1989, Wood & Cribb 1994, Vermeulen & Lamb 1994, Averyanov & Averyanova 2006, Liu et al. 2007). In India, the genus is represented by five species (Hooker 1890, Prain 1903, Gammie 1906, Kumar 1989, Rao & Hegde 1988, Diwakar et al. 2006), of which two viz. B. bonaccordense (Kumar 1989: 105) Vermeulen, Schuiteman & de Vogel (in press) and B. stocksii (Bentham in Hooker 1890: 781) Vermeulen, Schuiteman & de Vogel (in press) are endemic.

During field exploration in Balphakram National Park located in the South Garo Hills district of Meghalaya, northeastern India, the first author discovered a few mature individuals of this miniature orchid species that was easily identified as a member of the *Bulbophyllum* sect. *Trias* due to its distinctive morphology, *e.g.* small plants with discoid one-leaved pseudobulbs, single-flowered inflorescence produced from base of pseudobulbs, uniform sepals spreading in a regular triangle, much smaller petals rising vertically on each side of the column and prolonged operculum. Observations in the field and careful studies of the voucher specimen have revealed number of morphological differences from all other known species, which warrant its description as a new species.

*Bulbophyllum manabendrae* D.K.Roy, Barbhuiya & A.D.Talukdar, *sp. nov*. (Figs. 1, 2) Type:—INDIA. Meghalaya: South Garo Hills, Balphakram National Park, Khundol Gup, 25°15'36.5"N & 90°53'06.4"E, ca. 182 m, 12 March 2013, *Roy 129694* (holotype: ASSAM!).

The new species differs from *B. oblongum* in having smaller leaves, squarish-oblong operculum without inrolled edges; from *B. capnophyton* in having longer scape, smaller linear-falcate petals; from both in the uniformly dark-red flowers and broadly elliptic lip with uncinate basal auricles.

Epiphytic herbs with a creeping rhizome, 1.5–2.0 mm thick, densely rooting. Pseudobulbs subglobose, closely spaced, sometimes nearly touching with each other, 5.0–8.0 mm in diam. and 1.5–2.3 mm high, flattened and warty when old, with a single apical leaf. Leaves sessile, ovate-elliptic to oblong, coriaceous, 11–17 mm long, 7–10 mm wide, base rounded, apex obtuse to sub-acute. Inflorescences one-flowered, arising from base of pseudobulbs, 1–2 in number. Flowers uniformly dark-red, 8–10 mm across. Floral bracts ovate, brown, 1.0–1.6 mm long. Pedicel and ovary 11-18 mm long, purple-red. Sepals ovate-lanceolate, dark-red, 5–6 mm long, 3–4 mm wide, veins not prominent, base rounded, apex acute to sub-acute. Petals red, linear, slightly falcate, weakly triveined, 1.5–1.9 mm long, ca. 0.9 mm broad, apex triangular acute. Lip broadly elliptic, dark-red, 3.0–3.5 mm long, 1.5–1.8 mm wide, apex obtuse, auricles uncinate, ca. 0.5 mm long placed at the base of epichile. Column 1.5–1.7 mm long, red with orbicular base, front side of proximal end with two triangular stylids, slightly lobed at apex. Operculum squarishoblong, ca. 0.8 mm long, proximal half light-red, distal half yellowish, prolongation with truncate-retuse apex. Pollinia 2, subpyriform, ca. 0.2 mm long. Capsule not seen.

<sup>&</sup>lt;sup>2</sup>Department of Life Science and Bio-informatics, Assam University, Silchar—788011, Assam, India

<sup>&</sup>lt;sup>3</sup>Industrial Section, Indian Museum, Botanical Survey of India, Kolkata—700016, India

## References

Averyanov, L.V. & Averyanova, A.L. (2006) New orchids from Vietnam. Komarovia 4: 1-39.

Diwakar, P.G., Sharief, M.U., Radhakrishnan, V.M. & Sumathi, R. (2006) *Trias oblonga* Lindl. (Orchidaceae) – a new genus record for Andaman Islands. *Journal of Economic and Taxonomic Botany* 30: 564–565.

Gammie, G.A. (1906) The orchids of Bombay Presidency-3. Journal of Bombay Natural History Society 17: 31–37.

Hooker, J.D. (1890). Orchidaceae. In: Hooker, J.D. (ed.) Flora of British India, Vol.6. Reeve, London, pp. 1–198.

IUCN. (2001). IUCN Red List categories. Version 3.1. Prepared by the IUCN Species Survival Commission. World Conservation Union, Gland, Switzerland and Cambridge, United Kingdom. Available from: http://www.iucnredlist.org/technical-documents/categoriesand-criteria/2001-categories-criteria (accessed: 03 Nov. 2013).

Kumar, S.C. (1989) Two novelties in the genus Trias Lindl. (Orchidaceae). Blumea 34: 103-109.

Kurz, S. (1875) Preliminary report on the forest and other vegetation of Pegu. Baptist Mission Press, Calcutta, 409 pp. http://dx.doi.org/10.5962/bhl.title.25981

Lindley, J. (1830) *The genera and species of orchidaceous plants*. Ridgways, London, 553 pp. http://dx.doi.org/10.5962/bhl.title.499

Liu, Z., Chen, L., Lei, S. Rao, W. & Li, L. (2007) Reproduction strategy of *Trias verrucosa* (Orchidaceae) from China. *Acta Ecologica Sinica* 27: 4460–4468.

http://dx.doi.org/10.1016/s1872-2032(08)60003-7

Prain, D. (1903) Orchidaceae. In: Bengal plants, Vol. II. West Newman, Calcutta, pp. 998–1034.

Rao, A.N. & Hegde, S.N. (1988) Two orchids new to India from Arunachal Pradesh. Arunachal Forest News 6: 60-63.

Reichenbach, H.G. (1861) *Bulbophyllopsis*. *In*: Mueller, C. (ed.) Synopsis plantarum phanerogamicarum. *Annales Botanices Systematicae* 6: 243–265.

Seidenfaden, G. (1976) Contributions to the orchid flora of Thailand 7. Botanisk Tidsskrift 71: 1-30.

Seidenfaden, G. (1986) Orchid genera in Thailand 13. Opera Botanica 89: 1-216.

Vermeulen, J.J. & Lamb, A. (1994) Notes on Bulbophyllinae (Orchidaceae) from Borneo. Blumea 38: 335-348.

Vermeulen, J.J. (2014) *Bulbophyllum. In*: Pridgeon, A.M., Cribb, P.J., Chase, M.W. & Ramussen, F.N. (eds.) *Genera orchidacearum*, vol. 6, *Epidendroideae* pt. 3. Oxford University Press, UK, pp. 4–51.

WCSP (2013) *World checklist of selected plant families*. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; http://apps.kew.org/wcsp/ (accessed: 31 Oct. 2013).

Wood, J.J. & Cribb, P. (1994) A check-list of the orchids of Borneo. Royal Botanic Gardens, Kew, 421 pp.