



Bulbophyllum chyrmangensis (Orchidaceae: Epidendroideae), a new species from Meghalaya, Northeast India

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Bulbophyllum section *Brachyantha* (Reichenbach 1861: 264) comprises about 26 species distributed from India to Japan and the Philippines, with one species in New Guinea (Vermeulen 2014: 27). In northeastern India, the section is represented by nine species (Hooker 1890, Augustine *et al.* 2001, Lucksom 2007, Rao 2007, Chen & Vermeulen 2009), which were earlier treated under *Bulbophyllum* section *Umbellata* (Bentham & Hooker 1883: 503).

During botanical trip to the Chyrmang sacred grove located in West Jaintia Hills District of Meghalaya, northeastern India, one of the authors (DV) came across an orchid species belonging to *Bulbophyllum* Petit-Thouars (1822: tab. 3) that flowered from September to October in cultivation. After a careful examination of morphological characters of the species and study of literature (Lindley 1830, 1841, 1843, Griffith 1851a, 1851b, Reichenbach 1852, Hooker 1890, King & Pantling 1898, Finet 1909, Rolfe 1913, Hayata 1916, Seidenfaden 1973, Katakai 1986, Augustine *et al.* 2001, Pearce & Cribb 2002, Lucksom 2007, Chen & Vermeulen 2009), it has been found that this material belongs to a hitherto undescribed species that is morphologically similar to *B. umbellatum* Lindley (1830: 56). Hence it is described here as a new species with illustrations based on live material.

Bulbophyllum chyrmangensis D.Verma, S.Lavania & Sushil K.Singh, *sp. nov.* (Fig. 1)

Type:—INDIA. Meghalaya: West Jaintia Hills District, Chyrmang, 25°25.881' N & 92°14.573' E, 1353 m, 8 October 2013, *D. Verma 53* (holotype ASSAM!; isotype LWU!).

The new species differs from *B. umbellatum* Lindl. (1830: 56) in having larger lip, column, foot and long caudate stelia.

Epiphytic herbs with a creeping rhizome and fibrous sheath, 3–6 mm thick. Pseudobulbs ridged, ovoid, tapering towards the apex, 2.5–4.3 × 1.4–2.2 cm, covered with a sheath that later becomes fibrous, at intervals of 1.6–3.1 cm along rhizome. Leaves glabrous, elliptic-oblong, erect, 8.0–12.8 × 1.4–3.0 cm, apex retuse, contracted at the base to a thick cylindrical channelled petiole, 1.4–2.3 cm long. Inflorescence from base of the pseudobulb, erect, shorter than leaves, umbellate, 2–3 flowered, 6.0–10.1 cm long. Peduncle erect, glabrous, light green, streaked with purple, sheathed; sheaths 2, distant, tubular 7–9 mm long. Floral bract ovate-lanceolate, creamy-white, acuminate, 6–8 × 3–4 mm. Pedicellate ovary 2.8–3.2 cm long, slightly ridged, pale green with purple spots. Flowers pinkish yellow with fine purple spots, 3.2–4.0 cm long. Dorsal sepal broadly ovate, incurved, concave, 5–6 nerved, 1.2–1.5 × 0.8–0.9 cm, apex shortly apiculate with purple blotch, base creamy yellow, margin finely irregularly papillose, pinkish yellow with fine purple spots. Lateral sepals obliquely ovate-lanceolate, 5 nerved, 2.4–2.8 × 0.8–0.9 cm, upper margin infolded, cohering at the base, apices convergent, apex acute-acuminate, base creamy yellow, similar in colour to the dorsal sepal. Petals ovate-triangular, 5 nerved, 8–9 × 5–6 mm, pinkish yellow with fine purple spots, margin finely irregularly papillose, apex obtuse-rounded to shortly apiculate with large purple blotch, adaxially slightly warty. Lip oblong with broad base, 7.0–8.0 × ca. 5 mm, recurved, pinkish white with median creamy yellow stripe and finely spotted with purple, adaxially with a grooved keel, abaxially shallow grooved from base to near apex; base somewhat protruded & hairy along margins. Column 5–6 mm long, with triangular lateral wings; stelia 2, caudate, ca. 2.0 mm long; foot upcurved, 8–9 mm long with purple spots in front, truncate at apex. Anther cap ovoid, ca. 1.2 × 1.5 mm, creamy yellow with 2 brown stripes along margins. Pollinia 4, ellipsoid, yellow, attached to a disc, ca. 1.2 × 0.8 mm long. Fruit not seen.

Distribution and habitat:—Currently known only from the type locality. The species was found growing on tree trunks of *Acronychia sp.* (Rutaceae) in subtropical evergreen forest at 1353 m.

more finely papillose in the latter. Similarly the lip of both species is grooved on upper surface, but it is deeply grooved throughout in case of *B. umbellatum* whereas in new species it is shallowly grooved from base to near the apex. The upper surface of lip is minutely hairy near the base in both the species but these are more prominent in the new species (Fig. 2).

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References

- Augustine, J., Kumar, Y. & Sharma, J. (2001) *Orchids of India-II: Biodiversity and status of Bulbophyllum Thou.* Daya, New Delhi, 113 pp.
- Balakrishnan, N.P. (1970) Nomenclatural notes on some flowering plants-II. *Journal of the Bombay Natural History Society* 67: 57–66.
- Bentham, G. & Hooker, J.D. (1883) *Bulbophyllum*. In: *Genera plantarum*. Vol. 3. pt. 2, L. Reeve, London, pp. 501–504.
- Chen, X. & Vermeulen, J.J. (2009) *Bulbophyllum*. In: Wu, Z.-G., Raven, P. & Hong, D.-Y. (Eds.) *Flora of China*. vol. 25. Science Press, Beijing & Missouri Botanic Garden Press, St. Louis, USA, pp. 404–440.
- Finet, A.E. (1909) *Orchidées de l'Annam*. In: Lecomte, H. (Ed.) *Notulae systematicae, 1*. Geuthner, Paris, pp. 252–260.
- Griffith, W. (1851a) *Notulae ad plantas asiaticas*. vol. 3. Bishop's College, Calcutta, pp. 296.
- Griffith, W. (1851b) *Icones plantarum asiaticarum*. vol. 3. Bishop's College, Calcutta, t. 299.
- Hayata, B. (1916) *Bulbophyllum saruwatari*. In: *Icones plantarum formosananarum nec non et contributiones ad floram formosanam*. Vol. 6. Bureau of Productive Industries, Government of Formosa, Taihoku, pp. 72–73.
- Hooker, J.D. (1890) Orchideae. In: Hooker, J.D. (Ed.) *The flora of British India*, Vol. 5. L. Reeve London, pp. 667–858.
- Kataki, S.K. (1986) *Orchids of Meghalaya*. Government of Meghalaya, Shillong, 258 pp.
- King, G. & Pantling, R. (1898) The orchids of the Sikkim-Himalaya. *Annals of the Royal Botanic Garden, Calcutta* 8: 1–342.
- Lindley, J. (1830) *The genera and species of orchidaceous plants*. Ridgways, London, 553 pp.
<http://dx.doi.org/10.5962/bhl.title.499>
- Lindley, J. (1841) *Cirrhopetalum maculosum*. *Edwards's Botanical Register* 27: 81.
- Lindley, J. (1843) *Cirrhopetalum maculosum*. *Edwards's Botanical Register* 29: sub t. 49.
- Lucksom, S.Z. (2007) *The orchids of Sikkim and north east Himalaya*. published by the author, Sikkim, 984 pp.
- Pearce, N.R. & Cribb, P.J. (2002) *The orchids of Bhutan*. Royal Botanic Garden Edinburgh & Royal Government of Bhutan, 643 pp.
- Petit-Thouars, A.A. Du (1822) *Histoire particuliere des plantes orchidees recueillies sur les trois îles australes d'Afrique, de France, de Bourbon et de Madagascar*. Published by the author, Paris, 110 pp.
- Rao, A.N. (2007) Orchid flora of north east India, an up to date analysis. *Bulletin of Arunachal Forest Research* 23: 6–38.
- Reichenbach, H.G. (1861) *Bulbophyllum*. In: Mueller, C. (Ed.) *Walpers Annales Botanices Systematicae* 6: 243–265.
- Reichenbach, H.G. (1852) Gartenorchideen V. *Botanische Zeitung* 10: 927–937.
- Rolfe, R.A. (1913) *Plantae chinenses Forrestianae*. *Notes from the Royal Botanic Garden, Edinburgh* 8: 19–29.
- Seidenfaden, G. (1973) Notes on *Cirrhopetalum* Lindl. *Dansk Botanisk Arkiv* 29: 1–260.
- Vermeulen, J.J. (2014) *Bulbophyllum*. In: Pridgeon, M.A., Cribb, P.J., Chase, M.W. & Rasmussen, F.N. (Eds.) *Genera Orchidacearum, Epidendroideae (Part Three)*. Oxford University Press, Oxford, pp. 4–51.