

# Two New Additions of *Peristylus* Bl. to the Orchid Flora of Manipur, India

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**Abstract-** Two species of *Peristylus* viz. *P. parishii* Rchb. f. and *P. richardianus* Wt. reported as new additions to the orchid flora of Manipur.

## I. INTRODUCTION

The genus *Peristylus* Bl. (Orchidaceae) comprises of ca. 110 species distributed widely in South East Asia (Govaerts *et al.* 2013). The genus is characterised by small to medium terrestrial or rarely epiphytic herbs having 1 or 2 underground tubers, thin, linear to broadly elliptic leaves; terminal, racemose, laxly to densely few to many flowered inflorescence; simple to 3 lobed lip, connate at base with the margins of the column; short, pouch shaped spur and two shortly clavate pollinia.

The genus *Peristylus* is represented by ca. 29 species and 4 varieties in India (Misra 2007), of which ca. 6 species are reported so far from Manipur (Sathish Kumar & Suresh Kumar 2005).

During the field exploration in various parts of Manipur, two species of *Peristylus* were collected in vegetative condition from Hengbung of Senapati District and maintained in the orchidarium of Centre for Orchid Gene Conservation for Eastern Himalayan Region, (COGCEHR), Hengbung, where they flowered during June and August 2013. Based on the available literature (King & Pantl. 1898; Nageswara Rao 1995, 2010; Joseph & Nageswara Rao 1980; Pearce & Cribb 2002; Manilal & Sathish Kumar 2004; Lucksom 2007; Govaerts *et al.* 2013), the taxa were identified as *Peristylus parishii* Rchb. f. and *P. richardianus* Wight. The species are enumerated below with description and colour illustration.

*Peristylus parishii* Rchb.f. Trans. Linn. Soc. London 30: 139 (1874); Type: Myanmar (Burma) Moulmein, *Parish* 216 (holo K); Kataki *et al.* in *Plants Cons. Bull.* 5: 28 (1984); A. N. Rao, *J. Econ. Tax. Bot.* 14 (3): 638. 1995; A. N. Rao, *Bull. Arunachal For. Res.* 26 (1-2): 1-28 (2010). *Habenaria parishii* (Rchb. f.) Hook. f. *Fl. Brit. India* 6(1): 161 (1890); King and Pantl. *Ann. Roy Bot. Gard. Calcutta* 8: 323. T. 426 (1898). (Fig. 1.)

Plant erect, ca. 55 cm tall. Tubers 2, unequal, ellipsoid, 3.5-4.5 × 1.5-2.2 cm. Stem 21-30 cm tall. Leaves 2 - 3, 7 - 9 × 2.9 - 3.6 cm, ovate-elliptic, acute, clustered on the middle of the stem, undulate at margin, sheathing at base; petiole 0.5-1.5 cm long, channelled. Inflorescence 7-19 cm long, laxly many flowered; floral bracts 10 -12 × 2.5 mm, lanceolate, acuminate, green. Pedicellate ovary 5-7 mm long. Flower ca. 1 cm across, green, Sepals sub-equal, green; dorsal sepal 5 - 6 × 1.6 - 1.8 mm, oblong-lanceolate, obtuse, apiculate, 1-veined; lateral sepals 6 - 7 × 1.6 - 1.8 mm, narrowly-oblong to lanceolate, acute, curved

inside at margins. Petal 6 - 7 × 2 mm, oblong, obtuse, curved outside. Lip 6 - 7 × 2.3 - 2.5 cm, 3-lobed, spurred, broadly clawed at base, lateral lobes ca. 2 × 0.5 mm, shorter than midlobe, oblong, obtuse; mid lobe ca. 3.5 × 1.5 mm, triangular-oblong, sub-acute, longer than side lobes. Column 0.6 - 0.7 mm long, green. Pollinia 2, sectile, pyriform, with short caudiles.

*Flowering:* June.

*Locality:* Hengbung.

*Specimen examined:* Manipur, Senapati district, Hengbung 1298m, 25° 13.71' N and 94° 00.12' E, *Chowlu-00957*.

*Distribution:* India (Arunachal Pradesh, Sikkim, Andaman & Nicobar Islands), China, Myanmar, Nepal, Thailand and Vietnam.

*Habitat Ecology:* Found on sun exposed grassy hill slopes in humid climate of sub tropical zone at 1298 m elevation in association with *Anthogonium gracile* and unidentified grasses.

*Peristylus richardianus* Wight, *Icon. Pl. Ind. Orient.* 5(1): 12, t. 1697 (1851); Type: India, Nilgiri Hills, Richard s. n. (holo P); Joseph & Rao in *Bull. Bot. Surv. India* 22: 180-182 (1980); Manilal & Sathish Kumar in *Orchid Memories A tribute to Gunnar Seidenfaden 90-212* (2004); Rao in *Bull. Arunachal For. Res.* 26: 82-110 (2010). *Habenaria bicornuta* Hook. f., *Fl. Brit. India* 6 (1): 156 (1890). (Fig. 2.)

Plant height 45 cm long, erect. Tubers 2, unequal, 1.5-3.3 cm long, ovoid- globular. Leaves 3 - 4, 5 - 14 × 1 - 1.5 cm, oblong-lanceolate, acute-acuminate, alternate, sheathing at base, down the stem. Inflorescence 10 - 15 cm long, laxly many flowered, erect; floral bract 6 - 7 × 2 - 2.5 mm, lanceolate, acute, green, shorter than ovary; pedicellate ovary 8 - 10 mm long, green. Flower 3-4 mm across, green, sessile. Sepals sub-equal, oblong-lanceolate, obtuse, green; dorsal sepal 4.0 - 4.5 × 1.5 - 1.6 mm, lateral sepals 4.0 - 4.5 × 1.4 - 1.5 mm, apiculate, falcate. Petals 4.5-5.0 × 2 mm, oblanceolate, acute, pale green. Lip 3 lobed, lateral lobes 6 mm long, filiform, curved in horn shape; mid lobe 3 mm long, conical, obtuse, reflexed, spur ca. 3 mm long, clavate green. Column 0.5 - 0.7 mm long, green. Pollinia 2, ca. 0.4 mm long.

*Flowering:* August-September.

*Locality:* Hengbung.

*Specimen examined:* Manipur, Senapati district, Hengbung 1168m, 25° 13.82' N & 94° 00.21' E, *Chowlu-00954*.

*Distribution:* India (Arunachal Pradesh, Meghalaya, Kerala, Tamil Nadu), China, Myanmar and Thailand.

*Habitat Ecology:* Rarely found growing on sun exposed grasslands in humid climate of sub tropical forest at 1168 m altitude.

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## REFERENCES

- [1] GOVAERTS, R., CAMPACCI, M. A., BAPTISTA. D. H., CRIBB, P. H., GEORGE, A., KRENUZ, K. & WOOD, J. (2013): World checklist of Orchidaceae. Facilitated by the Royal Botanic Garden, Kew Published on the internet; [http:// apps. kew. org/ wcsp/](http://apps.kew.org/wcsp/) retrived. 2013-11-28.
- [2] JOSEPH J. & A. N. RAO (1980): *Peristylus richardianus* Wt. and *Liparis wrayii* Hook. f. -Two ground orchids new to North East India. *Bull.Bot. Surv. India* 22: 180-182.
- [3] KATAKI S. K., S. K. JAIN & A. R. K. SASTRY (1984): Distribution of orchids of Sikkim and North Eastern India. *Plant conservation Bulletin* 5: 35-38. POSSCEF, Botanical Survey of India, Howrah.
- [4] KING, G. & R. PANTLING (1898): The orchids of Sikkim Himalaya. *Ann. Roy. Bot. Gard. Calcutta* 8: 323-324.
- [5] LUCKSOM, S. Z. (2007): The Orchids of Sikkim and North East Himalaya, Spectrum House, Siliguri 688-772.
- [6] MANILAL K. S. & C. SATHISH KUMAR (2004): *Orchid Memories A tribute to Gunnar Seidenfaden*. Mentor books, D-37, Jawahar Nagar, Calicut for the Indian Association for Angiosperm Taxonomy (IAAT), University of Calicut, Calicut Pp. 211-213.
- [7] MISRA, S. (2007): *Orchids of India*. Bishen Singh Mahendra Pal Singh, Dehradun.
- [8] RAO A. N. (1995): Two ground orchid species new to Arunachal Pradesh (India). *J. Econ. Tax. Bot.* 19 (3): 637-638.
- [9] RAO A. N. (2007): *Orchid Flora of North East India- an upto date analysis*. *Bull. Arunachal For. Res.* 23(1&2): 6-38.
- [10] RAO A. N. (2010 a): *Orchid Flora of Arunachal Pradesh - An Update*. *Bull. of Arunachal For. Res.* 26 (1&2): 82-110.
- [11] RAO A. N. (2010 b): A Review of orchidoideae Genera in Arunachal Pradesh (India). *Bull. of Arunachal For. Res.* 26(1-2): 1-28.
- [12] PEARCE N. R. & P. J. CRIBB (2002): *The Orchids of Bhutan in Flora of Bhutan Vol. 3 part 3*. Royal Botanic Garden Edinburgh, Royal Government of Bhutan Pp. 173-183.
- [13] SATHISH KUMAR C. & P. C. SURESH KUMAR (2005): *Orchid digest of Manipur, North Eastern India*. *Rheedea*. 15: 1 – 74.

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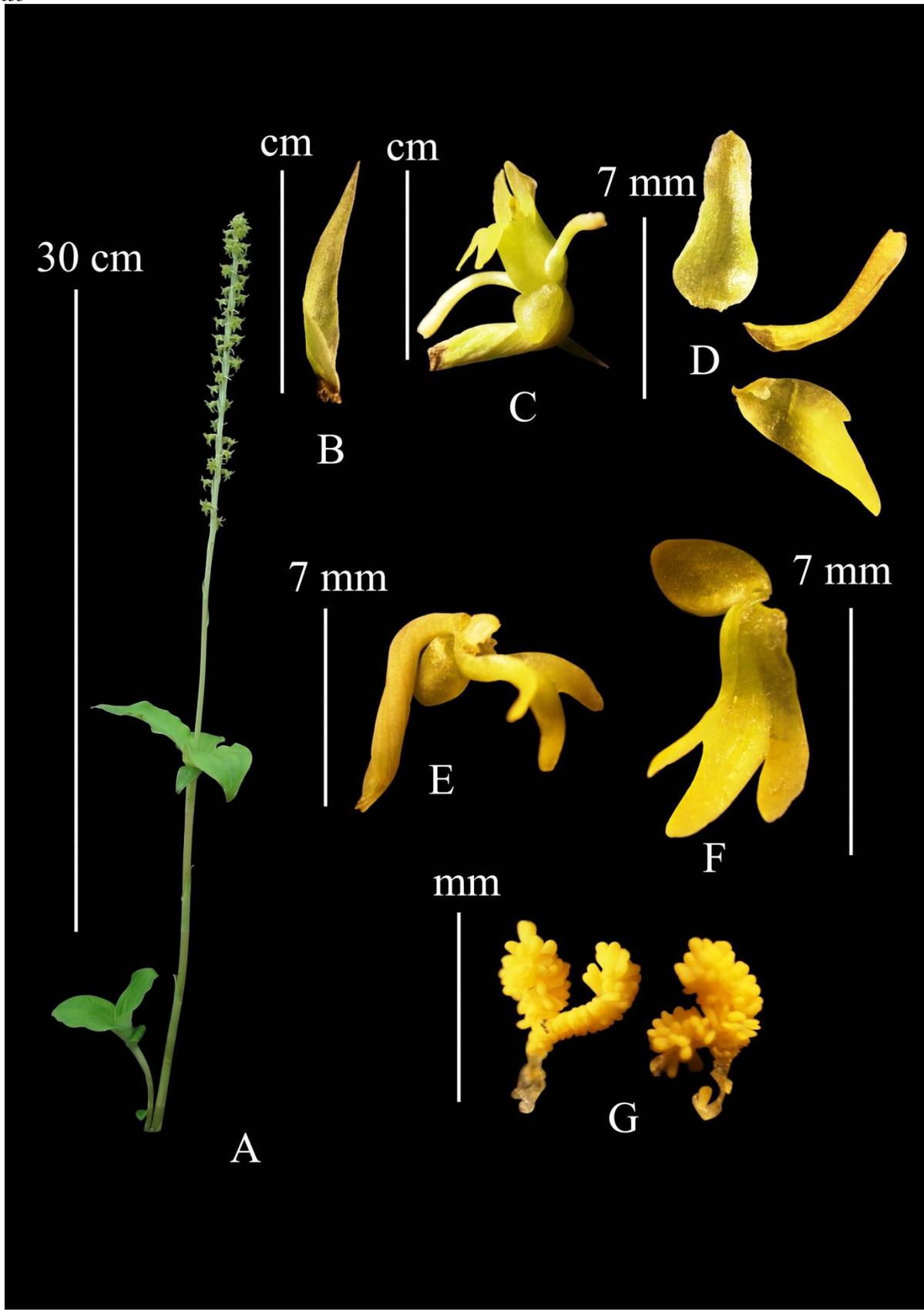


Fig. 1. *Peristylus parishii* Rchb. f. A. Habit. B. Bract. CA. Flower. D. Dissected parts. E. Lip with the column. F. Lip. G. Pollinia

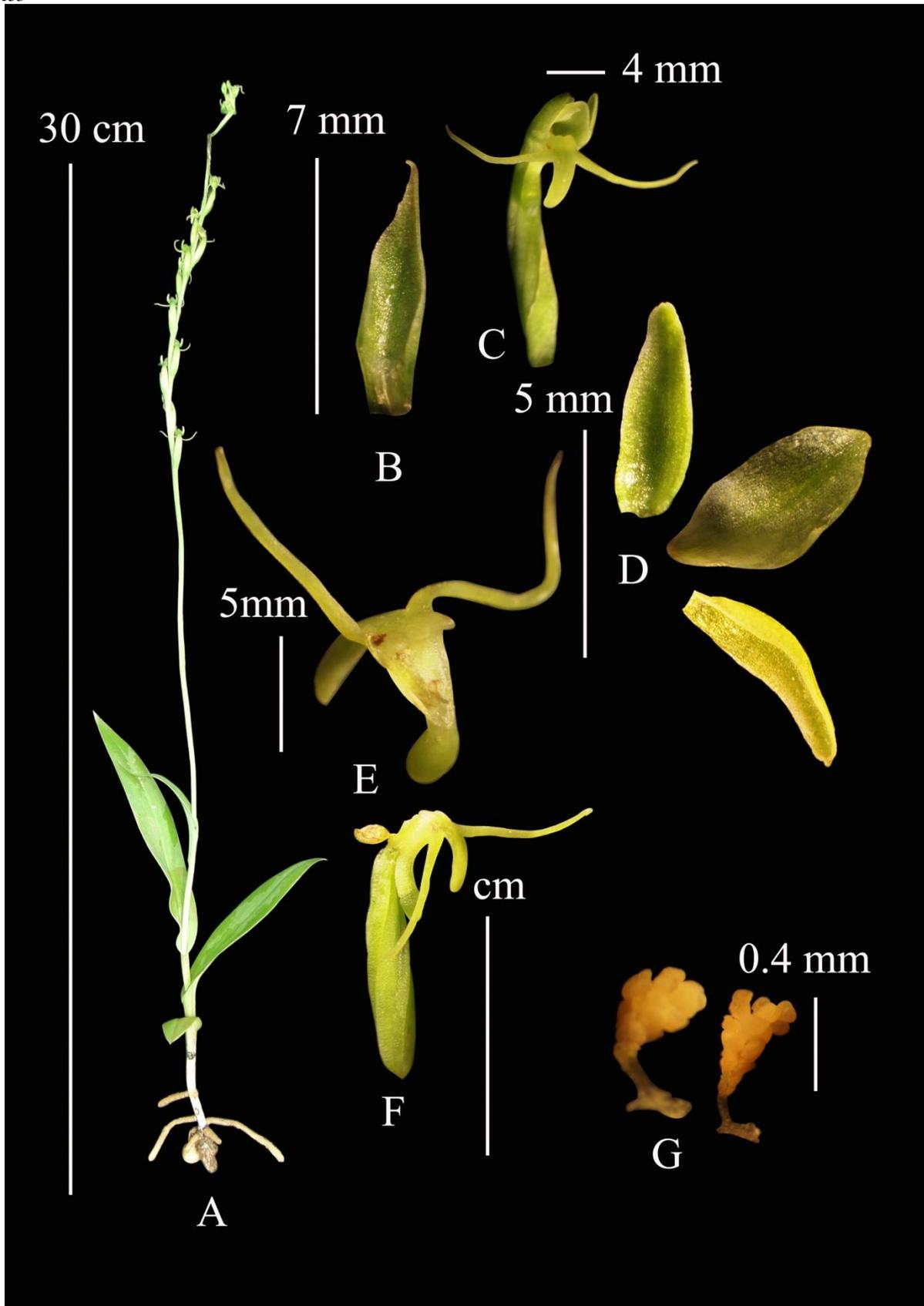


Fig. 2. *Peristylus richardianus* Wight A. Habit. B. Bract. CA. Flower. D. Dissected parts. E. Lip with spur. F. Lip with column. G. Pollinia.