



Two Additions to Orchid Flora of Manipur, India

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Abstract

Two terrestrial orchid species, *Geodorum attenuatum* and *Peristylus constrictus*, are reported for the first time from the state Manipur in north-eastern India. Both species are enumerated in the present paper with brief description and colour illustration.

Résumé

Deux espèces d'orchidées terrestres, *Geodorum attenuatum* et *Peristylus constrictus*, sont signalées pour la première fois dans l'état de Manipur au Nord-Est de l'Inde. Les deux espèces sont présentées dans le présent document avec une brève description et une illustration en couleur.

Keywords: extended distribution, *Geodorum*, *Peristylus*

Mots-clés : distribution étendue, *Geodorum*, *Peristylus*

Introduction

During the recent field explorations in the Tengnoupal district of Manipur in north-east of India, two terrestrial orchids, observed in flower, were collected from Moreh surrounding areas. After critical study of the floral material, these two taxa have been identified with the help of available literature (Lindley, 1830-1840 and 1832; Griffith, 1845; Hooker, 1888-1890; King & Pantling, 1898; Pearce & Cribb, 2002; Kumar *et al.*, 2008; Misra *et al.* 2010) as *Geodorum attenuatum* Griffith (1845: 358) and *Peristylus constrictus* (Lindley 1832: 188) Lindley (1835: 300). Furthermore, according to different authors (C.S. Kumar & P.C.S. Kumar, 2005; Chowlu *et al.*, 2014; A.N. Rao & V. Kumar, 2018; Mao & Deori, 2018), these two species have not yet been reported in the state of Manipur. *G. attenuatum* is reported only from the state of Jharkhand and Odisha while *P. constrictus* from Arunachal Pradesh, Assam, Bihar, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Sikkim, Uttarakhand and West Bengal. Both species are presented below with a brief description and colour photo-plates.

Taxonomic Treatment

Geodorum attenuatum Griffith

Calcutta Journal of Natural History 5: 358 (1845); P. Kumar *et al.*, *Richardiana* 8(2): 80 (2008) ; S. Misra *et al.*, *Indian Journal of forestry* 33(1): 99 (2010).

Description (Fig. 1): plants terrestrial, appearing in red soils of agriculture fields soon after the first showers of monsoon rains. Pseudobulbs ovoid, 3-6 × 1.5-2.5 cm, with 4-6-noded, producing long fleshy roots basally and laterally. Stem 7-15 cm long, clasped with 2 tubular leafy sheaths. Leaves 3-5, close together, broadly elliptic, acute to shortly acuminate, 12-17 × 3-7 cm, undulate at margins, green, petiolate; petiole 3-10 cm long. Inflorescence produced from the base of pseudobulbs, much shorter than the leaves, sub-globose; peduncle with 2-3 tubular sheaths, terete, curved towards apex; rachis many flowered; floral bracts lanceolate, acuminate, green. Flowers 1-1.5 cm across, partly opening, white with yellow blotch on the disc of the lip; pedicellate ovary 0.6-1.2 cm, pale green. Sepals sub-equal but slightly broader than petals, ovate-lanceolate, sub-acute. Petals similar to sepals but slightly narrower. Lip 1.5-1.8 × 0.7-1.2 cm; hypochile cupular with 2 yellow lamellae coherent at the base leaving a minute spur below the

column; spur triangular, 2-3 mm in length; epichile oblong, channeled with faint crenulate callus on disc, undulate at margin with a sinus at tip of epichile. Column very short, as long as broad, *ca.* 5 mm long, with two teeth-like appendages at upper margin, white with purple striations. Pollinia round, yellow, with short stipe and small viscidium.

Flowering & Fruiting: May-June.

Specimen Examined: India, Manipur, Tengnoupal, Moreh, *K. Chowlu* 42804 (ARUN).

Distribution (Fig. 3A): India (Jharkhand, Odisha, Manipur); China, Laos, Myanmar, Thailand, Vietnam.

Notes: in 'World Checklist of Orchidaceae' maintained online by the Royal Botanic Gardens, Kew (Govaerts *et al.*, 2020), *G. attenuatum* is mentioned as synonym of *G. recurvum* (Roxburgh 1795: 33) Alston (1931: 231). We do not accept this treatment but support the opinion of P. Kumar *et al.* (2008) in considering the former species as distinct from the latter. Based on the critical comparative study of fresh material by K. Chowlu, it has been noted that *G. attenuatum* can easily be distinguished from *G. recurvum* in having partly opening flowers, 2 coherent lamellae at the lip base and a short quadrangular column with 2 teeth-like appendages at apex instead of widely opening flowers, absence of 2 lamellae at base of lip and a column being longer than broad without any appendage at apex. Further detailed taxonomic notes regarding the valid nomenclature and synonyms of *G. attenuatum* have been provided by P. Kumar *et al.* (2008).

Peristylus constrictus (Lindley) Lindley

The Genera and Species of Orchidaceous Plants: 300 (1835); Pearce & Cribb, *Orchids of Bhutan*: 175 (2002).

Synonyms: *Hermidium constrictum* Lindley in *Edwards's Botanical Register; or Flower Garden and Shrubbery*. 18: sub t. 1499 (1832); *Habenaria constricta* (Lindley) J.D. Hooker, *Flora of British India* 6(1): 161 (1890); King & Pantling in *Annals of the Royal Botanic Garden Calcutta* 8: 325, t. 428 (1898); *Orchis leucantha* Hamilton ex Hooker f., *Flora of British India* 6: 161 (1890); *Habenaria cylindrocalyx* Gagnepain, *Bulletin of the Botanical Society of France* 78: 68 (1931).

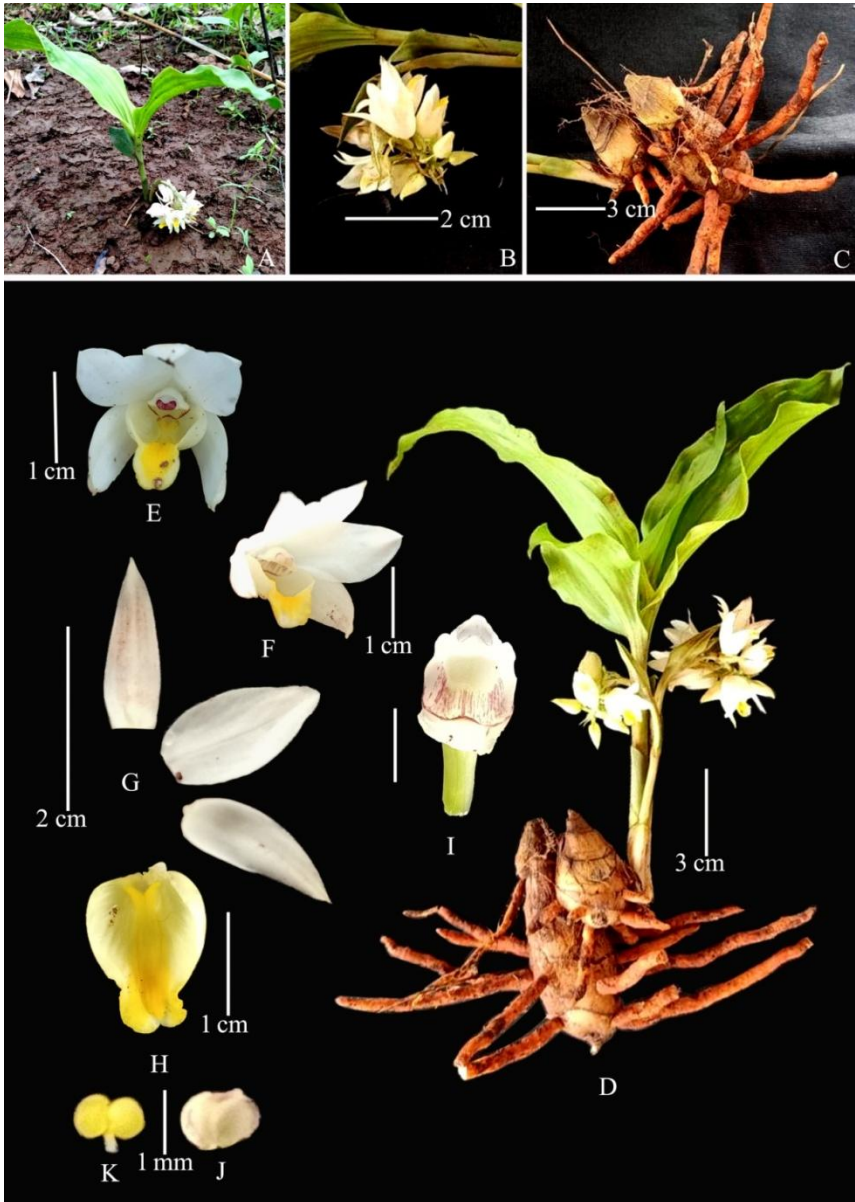


Fig. 1 : *Geodorum attenuatum*

A. Plant in natural habitat; B. Inflorescence; C. Pseudobulbs with roots; D. Plant; E-F. Flower;
 G. Sepals and Petal; H. Lip; I. Column; J. Anther cap; K. Pollinarium
 (by K. Chowlu)

Description (Fig. 2): plants terrestrial, appearing in red soils of agriculture fields soon after the first showers of monsoon rains. Underground tubers 2, unequal, covered with root hairs. Roots long, slender with hairs, arising from the union point of tubers and stem. Stem terete, pale brownish-green, bearing well developed leaves in upper half and 4-5 tubular sheaths towards the base. Leaves 6-7, ovate-elliptic, acute, 11-18 × 2.5-7 cm, sheathing at base. Inflorescence cylindric, densely many flowered; rachis glabrous, 20-31 cm long; floral bract lanceolate, acute, pale green. Flowers many, widely opening, 1.5-2 cm across, white with brownish tinge on sepals externally, sweet fragrant; pedicel with ovary pale green, glabrous. Dorsal sepal oblong-lanceolate, acute, 0.6-0.8 × 0.2-0.3 cm. Lateral sepals linear-oblong, acute, 0.8-0.9 × 0.15-0.2 cm. Petals obliquely ovate to lanceolate, sub-acute, 0.9-1.1 × 0.35-0.45 cm. Lip 3-lobed; side lobes longer than the midlobe, ligulate, acuminate; midlobe slightly broader than the side lobes, ligulate, obtuse subacute spur small, scrotiform, green. Column broad and short, 0.2-0.3 cm long, pale green.

Flowering & Fruiting: June-July

Specimen Examined: India, Manipur, Tengnoupal, Moreh, *K. Chowlu* 42806 (ARUN)

Distribution (Fig. 3B): India (Arunachal Pradesh, Assam, Bihar, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Sikkim, Uttarakhand & West Bengal), Bangladesh, Bhutan, China, Myanmar, Nepal, Philippines, Thailand.

Ethnobotany: Local people of Kuki tribe called this plant as *khoijo kolbu*. They use leaf juice to stop bleeding from fresh cuts on the body; the mashed underground tubers are used to cure the pain from the wasp or bee stings.

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Fig. 2: *Peristylus constrictus*

A. Plant in natural habitat; B. Plant with roots and tubers; C. Portion of inflorescence.
(by K. Chowlu)

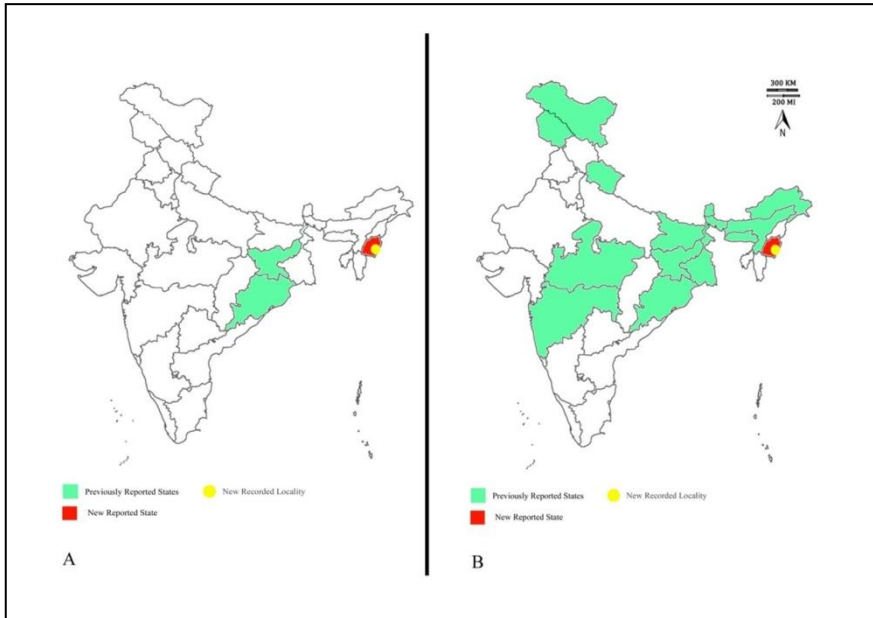


Fig. 3: Distribution map

A. *Geodorum attenuatum* ; B. *Peristylus constrictus* (Drawn by R. Maity)

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