

Panisea panchaseensis (Orchidaceae): an addition to the flora of India^a

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Abstract

Panisea panchaseensis Subedi is reported here as a new addition to the orchid flora of India from Nagaland. A detailed description and a photographic plate are provided, along with an account and key of the Indian species of *Panisea*.

Résumé

***Panisea panchaseensis* (Orchidaceae) : une nouvelle addition à la flore indienne** – Cet article est consacré à la découverte en Inde, pour la première fois, de *Panisea panchaseensis* Subedi. Cette espèce, collectée dans l'État de Nagaland, fait ici l'objet d'une description détaillée, accompagnée d'une planche de photographies. Une clé d'identification des espèces de *Panisea* de l'Inde est également proposée.

Introduction

The genus *Panisea* Lindley 1854 (Orchidaceae, Epidendroideae, Coelogyninae) consists of about 13 species (Govaerts, 2015). They are distributed from the Indian subcontinent to Southeast Asia. In India, the genus is represented by four species: *Panisea apiculata* Lindley, *Panisea demissa* (D.Don) Pfitzer, *Panisea tricallosa* R.A.Rolfe, *Panisea uniflora* (Lindley) Lindley (Deb & Imchen, 2008; Misra, 2007; Phukan, 1993). While

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on annual action plan tours of Botanical Survey of India to forest area of Waoshu village, Tuensang district in Nagaland, North East India, two of us (NO & RD) collected an unidentified epiphytic orchid in vegetative condition in 2014. The plant was cultivated in the Botanical Garden of the Botanical Survey of India, Shillong and kept under observation. During the month of November 2015 the plant bloomed and after critical examination of the specimen and protologue of *P. panchaseensis* (Subedi *et al.*, 2011) the plant is identified as *Panisea panchaseensis* Subedi, a hitherto unknown species in India.

In this article, *Panisea panchaseensis* is reported as an addition to the Flora of India. A detailed description from the living specimens, photographic illustrations, and other relevant information are provided for easy identification, as well as a diagnostic key to the Indian species, based on morphology.

Material and methods

The collection, pressing and preparation of herbarium specimens were made in accordance to the conventional herbarium techniques (Jain & Rao, 1977). Taxonomic measurements and descriptions of each part are based on living material. The floral parts were dissected using an Olympus stereo-zoom microscope SZ2-ILST, Japan and photographed with a Nikon COOLPIX P520, China.

Description

Panisea panchaseensis Subedi, *Nordic Journal of Botany* 29(3): 361-365 (2011). Fig.1

Epiphytic herb; roots 0.5-1 mm in diameter; rhizome short-creeping with imbricate scales on young shoot; pseudobulbs close together or distant, up to 5-8 mm apart, oblique, ovoid to ellipsoid, 5-25 mm long, 2-leafed; leaves elliptic, sub-acute to acute, sub-coriaceous, 1.5-3.5 × 5-10 mm; inflorescence 1-3-flowered arising from the base of the pseudobulb; floral bract ovate, acute, 5-6 × 4 mm, 5-6-veined; pedicel and ovary 7 mm long, straight, ovary ridged; flowers pure white, 9-10 × 7-8 mm; dorsal sepal narrowly ovate, obtuse, 10 × 3-3.5 mm, 3-veined; lateral sepals ovate, 9-9.5 × 2.7-3 mm (base broad), 4-veined; petals oblong, obtuse to sub-acute, 8.5 × 2.7-3 mm, 3-veined; lip 11 × 3 mm, white, obovate, sub acute to obtuse at apex, margin erose, undulate, 3 prominent veins, the laterals branching towards epichile,

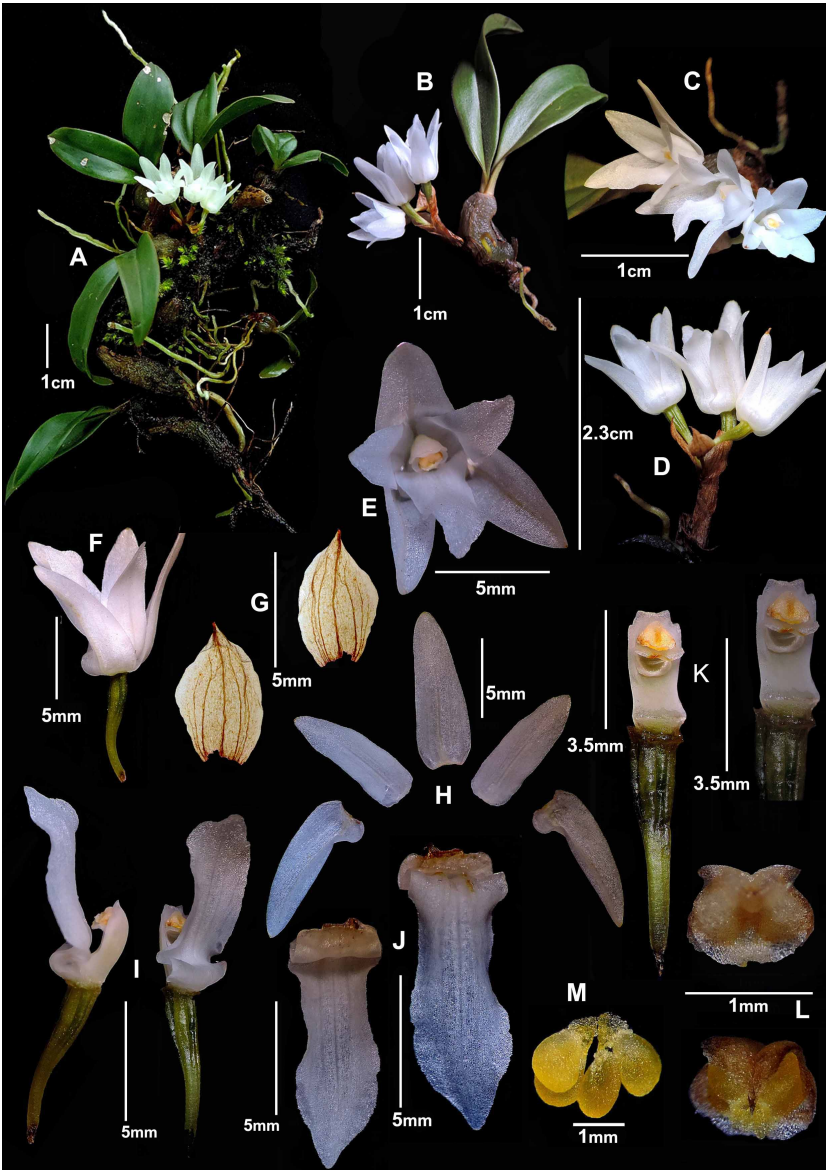


Fig.1: *Panisea panchaseensis*

A. Habit. B-D. Inflorescence. E & F. Flower, front and side views. G. Floral bract, dorsal and ventral views. H. Sepals and petals. I. Lip with column, pedicel and ovary. J. Lip, dorsal and ventral views. K. Column, with anther. L. Anther, dorsal and ventral views. M. Pollinia [ph. N.Odyuo & C.Deori after N.Odyuo & R. Daimary 132844]

keels 3, at the base of hypochile, middle one shorter than the laterals; column 3.5×1.5 mm, white, not winged, median margin notched; stigma semi-circular; rostellum broadly elliptic; anther $0.9-1 \times 1$ mm, broadly flattened, yellowish; pollinia 4, in two pairs, yellow, $0.5-0.7 \times 0.4$ mm, oblong or sub elliptic.

Flowering & Fruiting: November-December.

Distribution: Nepal, India: Nagaland.

Habitat: Epiphytic in moist subtropical forest at an altitude of 2200 m in association with *Pholidota*, *Oberonia* species etc.

Specimen examined: India: Nagaland: Tuensang district, forest area of Waoshu village, 2200 m, N.Odyuo & R. Daimary 132844, 19 November 2015 (ASSAM).

Conservation status: Not evaluated. The species was encountered only in one locality in India. Therefore further field assessment is required in the entire areas of the Tsuengsang district, Nagaland, India to ascertain its population status. One bunch of about 10-15 individuals was collected for *ex-situ* conservation and introduced into the Garden of Botanical Survey of India, ERC, Shillong, Meghalaya.

Key to the Indian species of *Panisea*

In India, the genus comprises five species: *P. apiculata*, *P. demissa*, *P. tricallosa*, *P. uniflora* and the new record *P. panchaseensis*.

- 1- Inflorescence one flowered, flowers light yellowish or greenish-----2
- 1a- Inflorescence with more than one flowered, flowers white-----3
- 2- Lip three lobed with short falcate side lobes -----*P. uniflora*
- 2a- Lip entire, obovate, oblong, spathulate, truncate -----*P. tricallosa*
- 3- Lip keeled-----4
- 3a- Lip without keel-----*P. demissa*
- 4- Lip oblong, apiculate at apex-----*P. apiculata*
- 4a- Lip obovate, sub acute to obtuse at apex-----*P. panchassensis*

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