

***Calanthe yuksomnensis* (Orchidaceae: Epidendroideae): range extension and new addition to the flora of Meghalaya, Northeast India^a**

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Abstract

Calanthe yuksomnensis S.Z.Lucksom, an endemic species of India, is reported here as an addition to the orchid flora of the Meghalaya state. Its detailed description and photographic illustration are provided to facilitate identification.

Résumé

Calanthe yuksomnensis (Orchidaceae : Epidendroideae) : extension de sa distribution, nouvelle addition à la flore du Meghalaya, Inde du nord-est – *Calanthe yuksomnensis* S.Z.Lucksom, une espèce endémique d'Inde, est ici ajoutée à la flore d'orchidées de l'État du Meghalaya. Nous en proposons une description détaillée et une illustration afin de faciliter son identification.

Introduction

The genus *Calanthe* R.Brown (Orchidaceae) with ca. 209 species (Clayton & Cribb, 2013; Oh *et al.*, 2015) is distributed in tropical and subtropical Asia, Japan, SE Asia, New Guinea, Australia, Pacific Islands, tropical and South Africa, Madagascar, islands of the Indian Ocean, and the neotropics. In

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India it is represented by 33 species (Misra, 2007; Kumar *et al.*, 2014), with 9 species in Meghalaya (Chowdhery, 2009). *Calanthe* is characterized by plicate leaves, persistent floral bracts, and lip adnate to the column forming a tube with the spurred base (Clayton & Cribb, 2013).

During floristic exploration in Tuber sacred grove located in East Jaintia Hills District of Meghalaya, northeastern India, the senior author came across a curious plant belonging to the genus *Calanthe* which had not been previously reported from the state of Meghalaya. After a careful examination of morphological characters of the species and review of the pertinent literature (Hooker, 1890; King & Pantling, 1898; Katagi, 1986; Pearce & Cribb, 2002; Lucksom, 2007), it has been found that this material belongs to the endemic species *Calanthe yuksommensis* S.Z.Lucksom, hitherto known from Darjeeling and Sikkim, its type locality, but unrecorded from Meghalaya. This discovery widens the range of distribution of the species into Northeast India. The paper provides its detailed description and a photograph for future reference and correct identification.

Taxonomic description

Calanthe yuksommensis S.Z.Lucksom, *Journal of the Bombay Natural History Society* 95: 319, f. 1-8 (1998); Pearce N.R. & P.J.Cribb, *The orchids of Bhutan* 194-195 (2002); Lucksom S.Z., *The orchids of Sikkim and north east Himalaya* 428, f. 269 (2007); Yonzon R. *et al.*, *Life Science Bulletin* 9(2): 359-360 (2012); Clayton D. & P.Cribb, *The genus Calanthe* 152-153 (2013).

Type: India, Sikkim, Yuksom, 20.05.1996, Lucksom 311A (*holo.* CAL, *iso.* Gangtok, Forest Dept. Herb.).

Terrestrial herb, evergreen, 18-23 cm tall; pseudobulbs 1.3-1.8 × 1.0-1.5 cm, ovoid, with 2-4 annular rings; leaves 2-3, shortly petiolate, lamina 11.0-20.0 × 3.3-4.5 cm, elliptic-lanceolate, acute-acuminate, petiole channelled, 1.5-2.0 cm long; inflorescence solitary, synanthous, 5-7 flowered, peduncle 11-13 cm long, erect, puberulous, light-green with purplish tinge, base enclosed by 2-3 young leaves; peduncle & young leaves are enclosed by 2-3 unequal sheathing bracts, 3.0-5.5 cm long, many nerved, pale-green coloured when young and becomes fibrous and turns reddish-brown on maturity; peduncular bract 1, 0.7-0.8 cm long, ovate, acuminate, pale yellow, rachis terete, puberulous, 4-5 cm long; floral bracts 0.55-0.60 × ca. 0.25 cm, lanceolate, dull white with greenish tinge, 1-nerved; pedicellate

ovary 1.3-1.5 cm long, slightly curved, pubescent, pale-green with purplish tinge; flowers 3.1-3.7 cm across, whitish-brown, fragrant; dorsal sepal 1.4-1.5 × 0.70-0.75 cm, elliptic, acute, externally pubescent, brownish-orange with green tinge, 5-nerved; lateral sepals similar to dorsal sepal, spreading; petals 1.2-1.3 × 0.40-0.45 cm, rhombic, subacuminate, similar in color as sepals, 3-nerved, spreading; lip 1.2-1.3 × ca. 1.3 cm, 3-lobed, spurred, base clawed and adnate to column, lateral lobes oblong-ovate, obtuse, mid-lobe subreniform, 2-lobulate, lobules subobovate, obtuse, crenulated, disc with 3 shallow elongated calli; spur 1.9-2.1 cm long, slightly curved, cylindric, pubescent; column ca. 7 mm long, hairy inside; anther ca. 3.5 mm in diameter, ovate; pollinia 8, obovate-clavate, subequal, yellow, ca. 3 mm long, attached to a translucent disc; fruit not seen. Fig. 1.

Flowering: March-April.

Habitat: the species was found growing in subtropical evergreen forest in association with *Begonia josephi* A.de Candolle, *Podocarpus neriifolius* D.Don, *Strobilanthes* and *Tectaria* sp.

Specimen examined: INDIA, Meghalaya, East Jaintia hills, Tuber sacred grove, 25°26'05.20"N & 92°16'23.28"E, 1359 m, 15.04.2014, D.Verma 314 (LWU).

Distribution: endemic to India [Sikkim: Yuksom and Tendong; Darjeeling: Dhotrey and Rombi forest, Sukiapokhari; Meghalaya: Tuber, East Jaintia hills (present report)].

Note: the plants collected by the senior author from Meghalaya are characterised in having a shorter petiole than the Sikkimese plants from type locality.

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Fig. 1: *Calanthe yuksommensis* S.Z.Lucksom
(see opposite page)

Opposite page

Fig. 1: *Calanthe yuksommensis* S.Z.Lucksom

A. Habit (in situ), B. Vegetative shoot, C. Pseudobulbs, D. Leaf (adaxial surface), E. Floral bract, F. Flower (front view), G. Flower (back view), H. Dorsal sepal, I. Lateral sepals, J. Petals, K. Labellum, column, pedicel & ovary (dorsal view), L. Labellum, column, pedicel and ovary (lateral view), M. Pedicellate ovary, N. Labellum (adaxial view), O. Labellum (abaxial view), P. Column, Q. Anther cap (adaxial view), R. Anther cap (abaxial view), S. Pollinarium [A, not to scale]. Photographs by D.Verma

References

- Chowdhery, H.J., 2009. Orchid Diversity in North Eastern States of India. *Journal of the Orchid Society of India*. 23(1&2): 19-42.
- Clayton, D. & P.Cribb, 2013. *The genus Calanthe*. Natural History Publications (Borneo) Sdn. Bhd.: Kota Kinabalu and Royal Botanic Gardens, Kew. 399 pp.
- Hooker, J.D., 1890. Orchideae. In *Flora of British India* vol. 5: 667-858. L.Reeve & Co. London.
- Kataki, S.K., 1986. *Orchids of Meghalaya*. Forest Department, Shillong.
- King, G. & R.Pantling, 1898. The orchids of the Sikkim-Himalaya. *Annals of the Royal Botanic Garden, Calcutta* 8: 1-342.
- Kumar, R., A.Bhattacharjee, S.K.Singh & S.Sharma, 2014. A rare species of *Calanthe* R.Br. recorded for the first time from India. *Telopea* 16: 213-217.
- Lucksom, S.Z., 2007. *The orchids of Sikkim and north east Himalaya*. Spectrum House, Siliguri. 984 pp.
- Misra, S., 2007. *Orchids of India – A Glimpse*. Bishen Singh Mahendra Pal Singh, Dehradun. 402 pp.
- Oh, S.-H., H.-J.Suh & C.-W.Park, 2015. Two new species of *Calanthe* (Orchidaceae: Epidendroideae) from Korea. *Phytotaxa* 218(1): 69-76.
- Pearce, N.R. & P.J.Cribb, 2002. *The orchids of Bhutan*. Royal Botanic Garden Edinburgh & Royal Government of Bhutan. 643 pp.

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