

## TWO NEW ADDITIONS TO THE ORCHID FLORA OF MANIPUR, INDIA

K Chowlu, Y Nanda, K S Thithila, and A Nageswara Rao

Orchid Research and Development Centre Hengbung P.O Kangpokpi, Senapati District Manipur-795 129, India

### Abstract

*Cymbidium cochleare* Lindl. and *Pholidota pygmaea* H. J. Chowdhery et G. D. Pal are reported for the first time from Manipur. The paper provides their brief description and illustration.

### Introduction

THE GENUS *Cymbidium* is represented by 71 species and 6 sub species and 8 varieties in the world distributed in India, China, Japan, Malaysia, Philippines, Borneo and Northern Australia (World checklist, 2013). In India, it is represented by 25 species (Chowdhery, 2009; Misra, 2007) and 3 sub species and in Manipur, it is represented by 15 species (Sathish Kumar and Suresh Kumar, 2005) and with this addition, the number will increase to 16. The genus *Pholidota* is represented by 40 species and 4 varieties in the world distributed throughout South-East Asia, the Malaya Arcipelago, Australia and the Pacific Island (www.apps.kew.org.). In India, it is represented with 7 species and 1 variety (Misra, 2007); 4 species have been reported from Manipur (Sathish Kumar and Suresh Kumar, 2005).

Few plants of *Cymbidium* and *Pholidota* in vegetative stage were collected in last of January 2013 and January 2011 from Oklong, Senapati district and Kwatha, Ukhrul district of Manipur. These plants were grown in the Orchidarium of Orchid Research and Development Centre, Hengbung, Manipur and flowered during November and September 2013. Based on the available literature studied, these were identified as *Cymbidium cochleare* Lindl. and *Pholidota pygmaea* H. J. Chowdhery et G. D. Pal (Chowdhery, 1995; 1998; Lucksom, 2007; Pearce and Cribb, 2002). All the specimens were collected and deposited in the herbarium of Orchid Research and Development Centre, Hengbung, Manipur.

### Species Description

#### *Cymbidium cochleare* Lindl.

*Cymbidium cochleare* Lindl. in Jour. Proc. Linn. Soc. Bot. 3: 28. 1859; Pearce & Cribb in Orch. Bhutan, 265. Pl. 8. 2002. Fig. 1.

*Cyperorchis cochlearis* (Lindl.) Benth in Linn. Soc., Bot. 18. 318. 1881.

*Plant* epiphyte, occasionally terrestrial, 30-65 cm tall. *Pseudobulbs* 10-14 × 2.5-3.5 cm, narrowly ovoid, *Leaves* 7-15, 21-55 × 0.7-0.9 cm, linear, acute, distichous, leaf base broad, sheathing at base. *Inflorescence* 35-50 cm long, from the base of the pseudobulbs, 4-17 flowered, curved or drooping; *Peduncle* 10-25 cm long, with bracts (6), 10-12 × 0.7-1.5 cm, boat shaped, acute at tip; *Rachis* 15-5 cm long; floral bract 3-4 × 1.5-2 mm, triangular, scarious; pedicel ovary 1.2-1.6 cm long, greenish brown. *Flower* 2-3 cm across, greenish brown, half open. *Sepals* sub-equal, narrowly obovate, acute, greenish-brown; dorsal sepal 4-4.5 × 0.5-0.7 cm, broader than lateral sepals; lateral sepals 4-4.5 × 0.4-0.5 cm, not spreading. *Lip* 4-4.5 × 1-1.5 cm, slender, elongate, 3 lobed, 2 lamella running in the centre; *Lateral Lobes* ca. 5 mm broad, triangular, sub acute at apex, erect; *Mid Lobe* 5-8 × 5-8 mm, cordate-elliptic, mucronate, margins undulate, pale yellow with brown spots, not spreading. *Column* 4-4.5 cm long, creamy, slender, deflexed at apex. *Anther* cap 3-4 × 2.5 mm, creamy, hairy inside. *Pollinia* 4, c. 2 mm long, round-obovate, yellow.

Flowering

November-December.

#### Locality

Oklong, (Senapati: Manipur) Chowlu-00439, 1611m, 25°23.381' N & 94°00.236' E.

#### Distribution

India (Meghalaya, Sikkim), China and Taiwan.

*Pholidota pygmaea* H. J. Chowdhery et G. D. Pal

*Pholidota pygmaea* H. J. Chowdhery et G. D. Pal, Nord. J. Bot. 411. Fig. 2. 1995.

*Pseudobulbs* 3-3.5 × 2.4-2.7 cm, ovoid-cylindric, clustered, smooth, sheathing at base. *Leaf* solitary, 15-22 × 4.5-5.5 cm, broadly elliptic-lanceolate, acute at



Fig. 1. a-g. *Cymbidium cochleare* Lindl.: A, Habit; B, Bract; C, Flower; D, Dissected parts; E, Column with pedicel ovary; F, Anther cap; G, Pollinia.



Fig. 2. a-i. *Pholidota pygmaea* H. J. Chowdhery et G.D. Pal: A, Habit; B, Part of Inflorescence; C, Bract; D, Flower; E, Dissected parts; F, Lip; G, Column with pedicel ovary; H, Anther cap; I, Pollinia.

apex, thick coriaceous; mid

nerve shallowly grooved underneath, reflexed; petiole 5-9 mm long. *Inflorescence* 30-35 cm long, curved; peduncle 10-14 cm long, terete, glabrous; rachis 17-21 cm long, densely flowered; *Floral bract* 6-7 × 4.5-5.5 mm, ovate-round, obtuse; pedicel ovary c. 5 mm long, pale green. *Flower* 4-6 mm across, creamy. *Sepals* unequal, creamy; dorsal sepal 4-5 × 3.5-4 mm, ovate, sub acute; lateral sepal 6.5-7 × 3-3.5 mm, oblong, acute, cymbiform with winged keel. *Petal* 3.5-4 × 1.5-2 mm, linear to linear-lanceolate, obtuse, minutely falcate, creamy. *Lip* 5-6 × 4-4.5 mm, 3-lobed, orbicular, lateral lobes rectangular, apical lobe small sinus. *Column* 3.0-3.5 × 2.5-3 mm, winged, creamy. *Anther* cap 0.6-0.7 × 1-1.3 mm, brown. *Pollinia* 4 in 2 pairs, ca. 0.5 mm, creamy.

#### Flowering

September-November.

#### Locality

Kwatha (Ukhrul: Manipur) Chowlu-00392, 402m, 24°19.011' N & 94°16.584' E.

#### Distribution

India (Arunachal Pradesh).

## Acknowledgement

Authors are grateful to the Govt. of India, SERB Division, Department of Science and Technology, New Delhi for financial support. Thanks are also due to Mr. H. Kipgen, President, FEEDS, Hengbung for facilities and encouragement and to Mr. H. Bishwajit Sharma and Mr. Atan who helped us during the collection tour.

## References

- Chowdhery, H. J. 1998. *Orchid Flora of Arunachal Pradesh*. Bishen Singh Mahendra Pal Singh, Dehra Dun, India.
- Chowdhery, H. J. 2009. Orchid diversity in North-Eastern States of India. *J. Orchid Soc. India*, 23(1-2):19-42.
- Chowdhery, H. J. and G. D. Pal. 1995. *Pholidota pygmaea* Chowdhery et G. D. Pal-A new species from Arunachal Pradesh, India. *Nor. Jour. Bot.*, 15(4):411-13.
- Lucksom, S.Z. 2007. *The Orchids of Sikkim and North East Himalaya*, Spectrum House, Siliguri, West Bengal, India.
- Misra, S. 2007. *Orchids of India*. Bishen Singh Mahendra Pal Singh, Dehradun, India.
- Pearce N. R. and P. J. Cribb. 2002. The Orchids of Bhutan. In: *Flora of Bhutan* Vol.(3):3. Royal Botanic Garden Edinburgh, Royal Government of Bhutan.
- Sathish Kumar, C. and P.C. Suresh Kumar. 2005. Orchid digests of Manipur, North Eastern India. *Rheedea*, 15:1-74.