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# *Cymbidium nanulum* Y.S. Wu & S.C. Chen, a new addition to the orchid flora of India

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## Abstract

*Cymbidium nanulum* Y.S. Wu & S.C. Chen (Orchidaceae), an IUCN Red listed endangered species, is now recorded from Senapati District of Manipur, India, for the first time. Coloured photographic images of the species, along with a taxonomic description, have been provided in order to facilitate easy identification.

## Introduction

The genus *Cymbidium* R.Br. ex Lindl. (Orchidaceae) has around 55 species distributed in tropical and subtropical Asia, south to Papua New Guinea and Australia (Liu et al. 2009). In India the genus is represented by 26 species, three subspecies and two varieties (Misra 2007). During a field trip to Senapati District of Manipur in September 2016, the author found an unusual orchid species in flower. After detailed examination of live material, review of relevant literature (Seidenfaden 1983; Wu and Chen 1991; Chowdhery 1998; Pearce and Cribb 2002; Kumar and Kumar 2005; Du Puy and Cribb 2007; Rao 2007) and critical evaluation of herbarium specimens and images, the plant was identified as *Cymbidium nanulum* Y.S. Wu & S.C. Chen, an IUCN Red Listed Endangered species IUCN 2016, previously only known from China. This represents a range extension for the species into India. A detailed description along with colour images, species notes and affinities with allied species, have been provided to help facilitate in its identification.

**Cymbidium nanulum** Y.S. Wu & S.C. Chen in *Acta Phytotax. Sin*. 29 (6): 551 (1991); N. Pearce & P.J. Cribb, Gen. *Cymbidium*: 296 (2007). Type: China, Yunnan, near Liuku, 800–1600 m, 15 Jun 1989, cult. Beijing B.G., *D.P. Yu 66* (holo: PE-image!).

**Description**: Terrestrial, autotrophic herb up to 16 cm tall with a slightly fleshy subterranean rhizome. *Rhizome* compressed, cylindrical, 5–6 cm long, usually 6–8 mm thick, with many nodes along its length. *Leaves* 2–3, erect, linear, 25.0–30.0 × 1.0–1.2 cm, base enclosed by fibrous sheaths, apex subacute, leaves deciduous prior to flowering. Inflorescence arising from base of plant, erect, 12–14 cm high; rachis laxly 4–5-flowered. Floral bracts linear or linear-lanceolate, 10–13 mm long, light green. *Flowers* fragrant, 4.0–4.3 cm wide (measured across the lateral sepals); pedicels and ovaries 18–22 mm long, strongly twisted, light green; sepals and petals greenish yellow with 5 prominent purplish red longitudinal striations. Dorsal sepal forming hood over the column, 18–20 × 6–7 mm, oblong apex obtuse-rounded, shortly apiculate; lateral sepals 18–20 × 6–7 mm, oblong, apex obtuse-rounded, spreading horizontally, slightly falcate. Petals oblong, 13–16 × 6–7 mm, strongly

clasping the column, apex obtuse-rounded, shortly apiculate. Labellum oblong-ovate, c. 14 × 6 mm, free from basal margins of the column, trilobed; lateral lobes white to pale pink with purplish-red striations, suberect, c. 8 mm long, margin entire, slightly undulate at junction of mid-lobe; mid-lobe yellowish green with irregular purplish-red spots, recurved, c. 6 × 6 mm, ovate-elliptic, apex obtuse, retuse, margin undulate; disk white with purple red striations, with 2 longitudinal lamellae which convergent toward their apices forming a tube. Column 6–7 mm long, curved, inner side cream in colour with red markings. *Anther* cap c. 2.0 × 2.5 mm, suborbicular, surface colliculate, light yellow, mouth slightly orange; pollinia 4, in 2 pairs of 2, each pollinium c. 1 × 0.5 mm, ovoid attached by short, elastic caudicles to a usually triangular viscidium. **Figs 1 and 2.**

**Phenology**: Flowers observed in September.

**Distribution and habitat**: Grows on soil substrate in a subtropical deciduous mixed forest (alt. c. 1220 m) near a stream. Only known from Manipur India and China (Fig. 3).

**Conservation status**: In India it should be considered Endangered A4c ver 3.1 (IUCN, 2016).

**Additional specimen examined**: INDIA: Manipur, Senapati, Hengbung, [precise locality withheld for conservation reasons], 14 Sep 2016, *V. Kumar 74200* (CAL!).

**Notes**: *Cymbidium nanulum* was originally described from a plant collected in 1991 from Liuku, Western Yunnan, in an area near Myanmar. The specimen from Senapati district of Manipur, was collected about 500 km from the type locality. It is likely that additional populations of *C. nanulum* occur in the regions in between these two localities. More extensive field surveys are needed to assess the present status of the species.

**Recognition**: *Cymbidium nanulum* is allied to *C. defoliatum* Y.S. Wu & S.C. Chen, but differs in having a shorter inflorescence (12–14 cm long), a usually solitary leaf, small size of sepals (1.3–1.6 cm long), and mid-lobe of lip orbicular in shape. It is also similar to the *C. ensifolium* subsp. *haematodes* (Lindl.) Du Puy & Cribb but *C. ensifolium* subsp. *haematodes* has robust habit and larger floral parts, broader leaves which are serrulate along margin, and flowers that are straw yellow with purple spots.

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**Fig. 1**. *Cymbidium nanulum* flowering *in situ*. (Photographed in Senapati district, Manipur by V. Kumar).

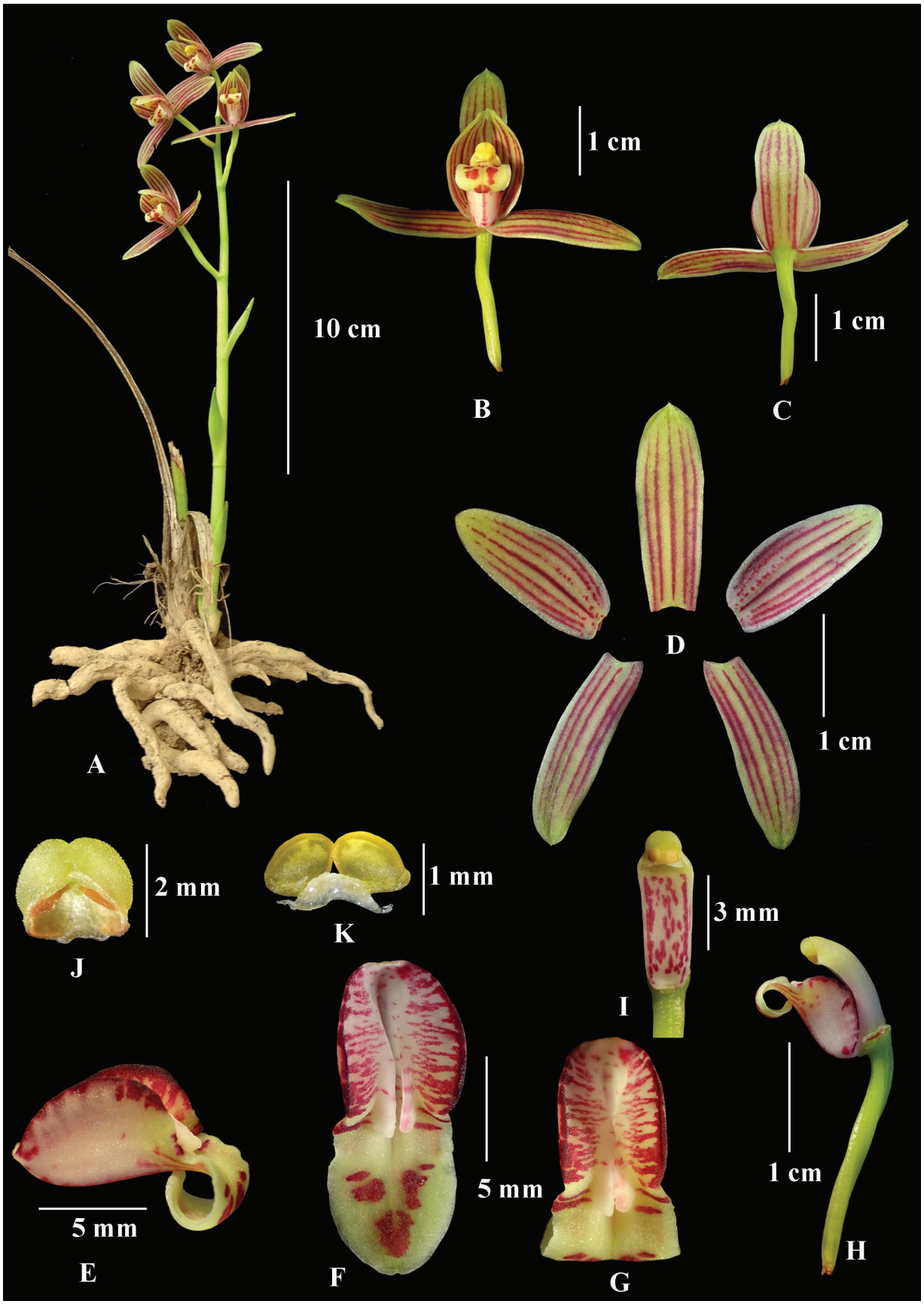


**Fig. 2**. *Cymbidium nanulum* **A**, habit; **B**, frontal view of flower; **C**, dorsal view of flower; **D**, sepals and petals; **E**, lateral view of labellum; **F**, ventral side view (flattened) of labellum; **G**, labellum with callus; **H**, labellum with column, pedicel and ovary; **I**, column; **J**, anther cap; **K**, pollinia. (Drawn from *V. Kumar 74200*)

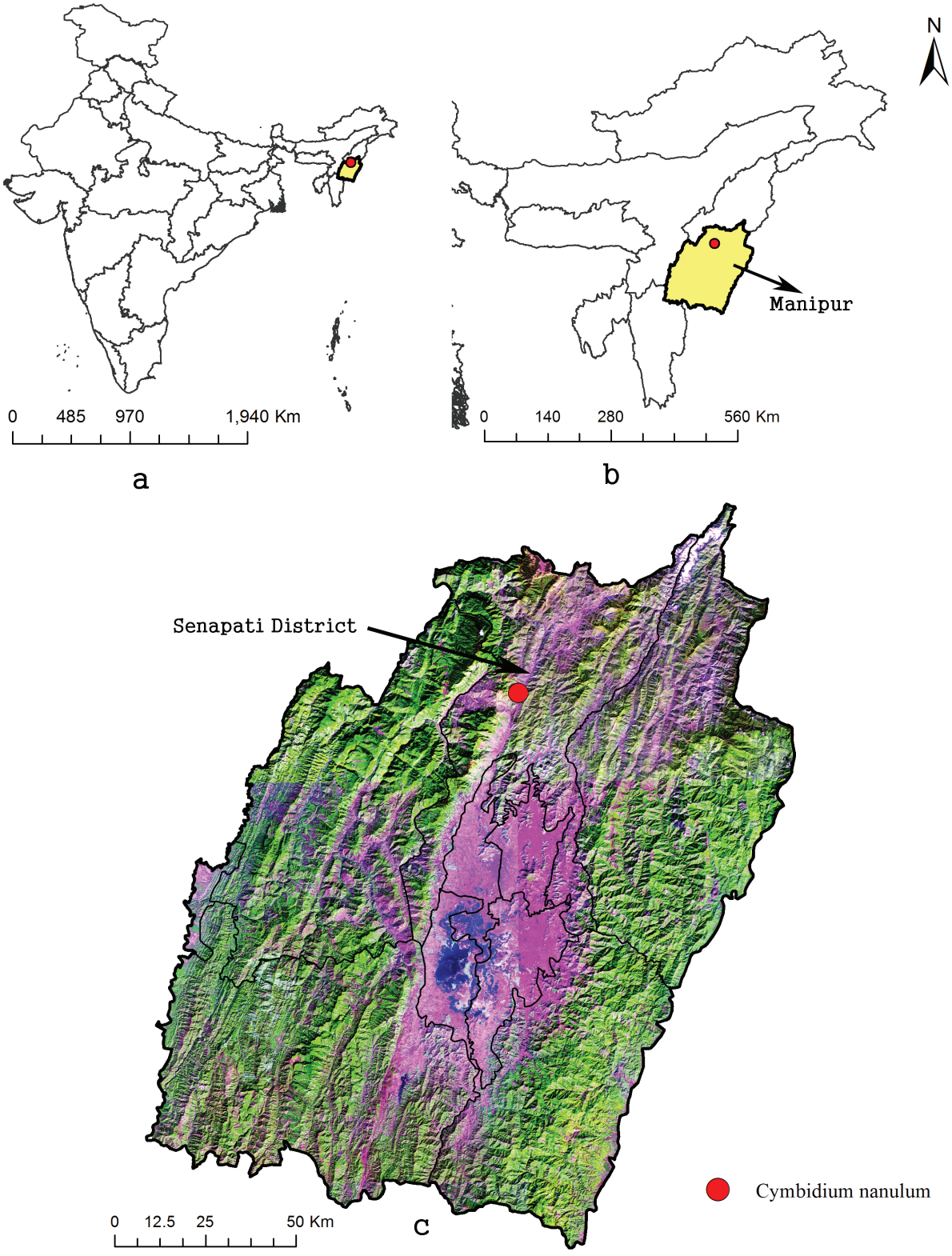


**Fig. 3**. Locality map of *Cymbidium nanulum* in the Senapati district of Manipur, India. False colour composite of Manipur (AWIFS, 56 m) was generated using ENVI 5 and Arc Map 10.1 software showing urban areas in pink, vegetation in green, and water in blue.