



## Research Article

## Addition of *Habenaria pantlingiana* Kraenzl. in the Orchid Flora of Nagaland, India.

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**Abstract:** *Habenaria pantlingiana* Kraenzl. is being reported as a new addition to the Orchid Flora of Nagaland in this communication. Description, range of distribution, photographs and phenology are furnished.

**Key words:** *Habenaria pantlingiana* Kraenzl., new record, Orchid Flora, Nagaland.

### Introduction

During floristic explorations of two reserve forests in Kohima district of Nagaland, the first author came across an interesting orchid amongst the ground vegetation of thick-canopied forests on two different occasions viz. August, 2015 and September, 2016. The two protected areas are namely, Jotsoma Community Forest (JCF) and Pulie Badze wildlife Sanctuary (PBWS) which are physically contiguous but separated by barbed wire fencing. Located between 25° 35. 800' to 25° 40.100' N latitudes and 94°01.700' to 90°05. 800' E longitudes, they comprise a total area of about 50 sq km.

Only two individuals were encountered, one at JCF (N25 39.128 E94 04.210) and the other at PBWS (N25 38.931 E94 05.106) at the elevation of 1931m amsl and 1766m amsl respectively. On close examination of the specimens, it was concluded that both specimens belong to *Habenaria pantlingiana* Kraenzl., a new record for Nagaland.

### Materials and Methods

Seasonal field explorations were conducted from 2015 to 2016 for observation and collection of the plant specimen. Fresh specimens were collected, processed and mounted on herbarium sheets after the standard method as given by Jain & Rao (1977). Authentic identification was done with the help of literature and comparison with specimens at ASSAM herbarium. A herbarium specimen has been deposited at the herbarium, Department of Botany, Nagaland University, Lumami, Nagaland, India.

### Results

This specimen fits the overall description given for the plant occurring in China (Chen *et al.*, 2009), Sikkim (King & Pantling 1898), Bhutan (Pearce & Crib 2002), Arunachal Pradesh (Chowdhery 1998)

and Thailand (Kurzweil 2009). However, this plant was seen amongst ground vegetation under thick canopied forest and not in open spaces as described in most other reports. The plant is described in the following:

*Habenaria pantlingiana* Kraenzl. Orchid. Gen. Sp. 1: 892. 1900; *Habenaria cirrhifera* Ohwi, Acta Phytotax. Geobot. 1: 141 1932; *Habenaria longitentaculata* Hayata, Ion. Pl. Formosan. 4: 127 1914; *Habenaria stenopetala* var. *polytricha* Hook.f. , Ann. Roy. Bot. Gard. (Calcutta) 5: 64 1895; *Habenaria seshagiriana* A.N.Rao, J. Econ. Taxon. Bot. 6: 223 1985.

Terrestrial herb, plants about 70 cm tall. Tubers fleshy, oblong, ca. 2-4 × 1-2.5 cm. Stem erect, green, cylindrical, stout, 6 to 8 leaves spirally arranged near middle of the stem and 2-5 bract-like leaves above it. Leaf lamina oblong-lanceolate or obovate-lanceolate, 10-15 × 3.0-4.5 cm, base attenuate, narrowed into amplexicaul sheath, margin undulate, apex acute or acuminate, slightly curved. Inflorescence, up to 4-12.5 cm long, densely many flowered raceme, floral bracts persistent, lanceolate, 16-24 × 2.5-4.2 mm, usually longer than or as long as ovary, apex long acuminate. Flowers green, dorsal sepal prominently erect, lanceolate, concave, apex long acuminate and caudate, 2.0-3.0 × 0.4-0.6 cm, lateral sepals reflexed, oblique, linear, 1.8-2.5 × 0.3- 0.5 cm, apex long acuminate and caudate, petals deeply bi-lobed from base, divergent, lobes filiform, upper lobe 1.1-1.5 x ca. 0.3 cm, lower lobe 1.8-2.0x ca. 0.3 cm, filiform, tortuous, lip tri-lobed from base, 2.0-2.5 cm × ca. 0.7 mm, lobes filiform, tortuous, mid-lobe usually shorter than lateral lobes, spur pendulous, cylindrical, 1.5-2.0 cm long, as long as ovary, ovary cylindrical, twisted, 1.7- 2.2 cm long, glabrous; pollinia oblong, viscidia, small, orbicular, stigmas club shaped.

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**Figure A:** Habit and habitat; **B:** Close-up view of flower; **C:** Roots (without pseudobulb) **D:** Full view of flower

**Distribution:** China (SW Guangxi, SE Hainan), N. Taiwan, India (N.Bengal, Sikkim and Arunachal Pradesh), Bhutan, Thailand, Japan (Ryukyu Islands), Nepal and Vietnam.

**Flowering:** August to October

**Ecology / Habitat:** It grows amongst ground vegetation under thick canopy of sub-tropical oak forest as well as sub-tropical mixed-evergreen forest showing low frequency and low density.

**Specimen examined:** Jotsoma Community Forest (N25 39.128 E94 04.210) at 1931m and Pulie Badze wildlife Sanctuary (N25 38.931 E94 05.106) at 1766m.

**Exsiccatae:** NUK-063 (Nagaland University), dated 05.09.2015

### Discussion and Conclusion

Interestingly, a similar specimen had been collected by Prain in 1895 from broadly the same area but it was identified as *Habenaria stenopetala* var. *polytricha* Hook.f. The authors could not confirm whether or not this old specimen is identical to the present collection. In any case, *Habenaria pantlingiana* Kraenzl. has not yet been reported from Nagaland (Changkija *et al.*, 1992, Deorani & Naithani 1995,

Hynniewta *et al.*, 2000, Deb *et al.*, 2003, Deb & Imchen 2008, Chowdhury 2009, Choudhury *et al.*, 2011). Hence, this communication reports that *Habenaria pantlingiana* Kraenzl. is a new addition to the orchid flora of Nagaland.

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