

## Three New Distributional Records of Orchid from Intangki National Park, Nagaland, India

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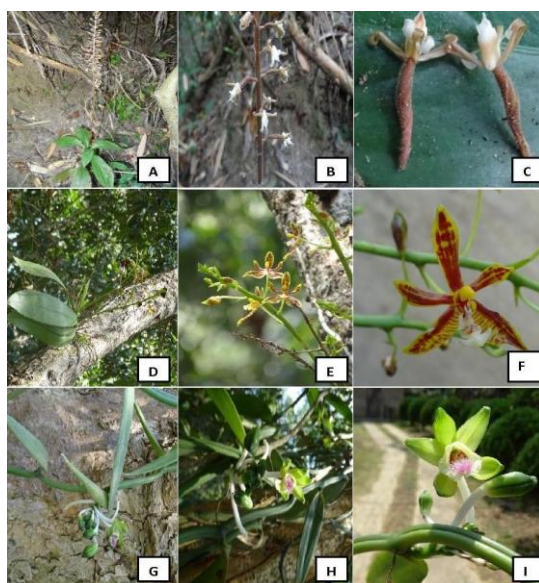
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**Abstract:** Three species of orchids have been added first time in the 'Orchid Flora of Nagaland' from Intangki National Park, Nagaland, India. Each species have been described along with colored photographs for their easy identification.

**Keywords:** Intangki National Park, Three orchid species, new records, Nagaland

### 1. INTRODUCTION

With about 25,000- 35,000 species in some 800 genera, the family Orchidaceae is one of the largest families of flowering plants with worldwide distribution [1] (Choudhery, 2001). In India, c. 1331 species are listed; of which maximum c. 890 species occur in North-East India [2] (Rao, 2007). During recent floristic exploration in Intangki National Park, Nagaland, India many orchid species were collected. The detailed study of them reveals three new records of orchid for Nagaland which was never mentioned from Nagaland in previous literatures [3-6] (Chankija *et al* 1992; Hynniewta *et al* 2000; Deb *et al* 2003; Deb & Imchen 2008). A detailed description along with photographs are provided for easy identification in the field (Figure 1). The voucher specimens were deposited in the herbarium of the Department of Botany, Nagaland University, Lumami, Nagaland, India.



**Fig1.** Photo gallery of three newly added orchid species of Nagaland. A-C: *Goodyera fumata* Thwaites [A: Habit, B: Inflorescence, C: Close-up] D-F: *Phalaenopsis manii* Rchb. f. [D: Habit, E: Inflorescence, F: Close-up] and G-I: *Vanilla parishii* Rchb. f. [G: Habit, H: Inflorescence, I: Close-up].

## 2. MATERIALS AND METHODS

### 2.1. Taxonomic Treatments

*Goodyera fumata* Thwaites, Enum. Pl. Zeyl.: 314 (1864). *Orchiodes fumatum* (Thwaites) Kuntze, Revis. Gen. Pl. 2:657 (1891). *Epipactis fumata* (Thwaites) Eaton in Proc. Biol. Soc. Wash. 21:64 (1908).

Plants terrestrial upto 1m tall. Rhizomes long with rooting at the nodes. Stem erect, 20-35cm tall with 5-7 leaves. Leaves petiolate, obliquely elliptic, ovate-elliptic, acuminate arising from the base of the stem c. 18 x 6.5cm; petiole c. 5.3cm long. Inflorescence cylindric with laxly many-flowered; peduncle dark greenish brown, glabrous below, puberulent above with several sterile bracts; floral bracts c. 1cm long, narrowly lanceolate, puberulent, apex acuminate. Flowers opening widely, yellowish brown; ovary cylindric, sessile, c. 1cm long. Dorsal sepal oblong-lanceolate, acute puberulent, c. 6 mm long; lateral sepals reflexed. Petals linear oblanceolate, apex obtuse; lip conduplicate, pale brown, rhombic-orbicular; apex produced into a long coiled linear lobes. Column pale brown, stipitate, c. 6 mm long.

**Flowering:** March. Fruiting: Not seen.

**Distribution:** India (Sikkim, Arunachal Pradesh, Kerala), Sri Lanka, Yunnan, Tonkin, Taiwan, Thailand, Ryukyu, Philippines and Japan.

**Specimen cited:** Langkhor disa (Intangki National Park), Peren district, Nagaland; 15.03. 2015, altitude 184 m; Accession No. AJNU 1135. GPS Location N 25°37' 17.8" and E 93° 31'50.7".

*Phalaenopsis manii* Rchb. f. in Gard. Chron. 1871: 902 (1871). *Phalaenopsis boxallii* Rchb. f. in Gard. Chron. n.s. 19: 274 (1883). *Polychilos manii* (Rchb. f.) P.S. Shim in Malayan Nat. J. 36(1): 24 (1982).

Plants stout, pendent, 20-35 cm long; roots long, glabrous. Stem short, enclosed by overlapping leaf sheaths. Leaves upto 5, coriaceous, oblong-lanceolate, acute or obtuse, sessile, c. 28 x 5.2cm. Inflorescence 1 or 2, ascending or pendulous, racemose or paniculate, laxly 6-12 flowers; peduncle glabrous; floral bracts lanceolate c. 10 mm. Flowers opening widely, long lasting, coriaceous, waxy, glossy; sepals and petals yellow with maroon-red blotches; lip yellow to pale cream white; pedicel and ovary slender, 1.4-3cm long. Dorsal sepal ovate-lanceolate, acute, margins revolute, 2-2.3 x 0.6-0.8cm; lateral sepals obliquely ovate-elliptic, acute, margin revolute, 2.3-2.5 x 0.8-1.1cm. Petals lanceolate to weakly falcate, acute, margin revolute, 1.8-2 x 0.6-0.7cm. Lip 3-lobed, c. 1cm, base with a claw; lateral lobes sub-quadrangle, apex truncate, with a fleshy callus like swelling; mid-lobe papillose on surface, apex anchor shaped, margin erose-dentate to lacerate. Column cylindric, fleshy, c. 8mm long, with 2 lateral protuberances at base.

Flowering: March- May. Fruiting: Not seen.

Distribution: India, Myanmar, Bhutan, Nepal, Yunnan, Vietnam.

**Specimen cited:** Hatibu disa, Kadhangse (Intangki National Park), Peren district, Nagaland; 08.03. 2015, altitude 323.3 m; Accession No. AJNU 1104. GPS Location N 25°37' 17.8" and E 93° 31'50.7".

*Vanilla parishii* Rchb. f., Otia Bot. Hamb. 1:39. 1878; Ormerod, Oasis Suppl. 2:9. 2001. *Vanilla pilifera auct.* non Holtt. : Seidenfaden, Dansk Bot. Ark. 32(2):142, fig. 88. 1978; Borthakur & Hajra, Bull. Bot. Surv. India 18(1-4): 228. 1976.

Terrestrial climbing herb. Stem branched, terete, channelled, fleshy, green, 0.4-0.6cm thick. Leaves alternate, coriaceous, sub-sessile, elliptic, acuminate, dark green, many nerved, 6-17 x 1.5-3cm. Inflorescence axillary raceme with 6-14 flowers; bracts green, persistent, ovate, obtuse, clawed, 3-8 x 2-5mm; pedicellate ovary, white, 2-3mm thick, 5-7cm long; flowers fragrant, green with pinkish white lip; sepals pale green, lanceolate, subequal, apex obtuse, coriaceous; dorsal sepal 2.9-3 x 0.8-1.2 cm, 12-14 veined; lateral sepal 2.9-3 x 0.8-1.2cm, 10-12 veined, hooded at apex; lip 3-lobed, 2.8 x 2.7cm; side-lobe oblong-orbicular with pink hair inside; midlobe oblong, margin wavy, with a tuft of pink hair; column white c. 2cm long with pink line on ventral side.

**Flowering:** April- May. Fruiting: Not seen.

**Distribution:** India, Bangladesh, Myanmar, Thailand.

**Specimen Cited:** Langkhor Disa, Kadhangse (Intangki National Park), Peren district, Nagaland; 14.03. 2015, altitude 269 m; Accession No. AJNU 1129. GPS Location N 25°36' 32.9" and E 93° 24' 21.4".

### **3. RESULTS AND CONCLUSIONS**

This is the ever first report of vegetation from the Intangki National Park. Over 400 species of orchids species has been documented from the state of Nagaland. Present report enriched the 'Orchid Flora of Nagaland' by another three species. As the exploration progress, more new species will be added in the flora.

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