

Notes on habitat and *ex situ* conservation of *Acanthophippium striatum* Lindley – a threatened terrestrial Orchid from Arunachal Pradesh, India

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Abstract

Acanthophippium striatum Lindl., a rare and threatened terrestrial orchid, is described with discussion on its rarity and conservation status in Arunachal Pradesh. The photographs of vegetative and floral parts are provided for its identification.

Key words: *Acanthophippium striatum*, Threatened species, *Ex-situ* Conservation.

INTRODUCTION

Acanthophippium Blume, is one of the terrestrial genera of the family Orchidaceae, with about twelve species distributed mainly in Southeast Asia from Sri Lanka, Nepal, Japan and India, all over the Malaysian Archipelago and in many islands of the Pacific (Thomas 1997; Su, H.J. 2000). The genus can be distinguished from allied genera by its characteristic jug-shaped flowers by which it is commonly known as “Striped Jug Orchid”. In India, the genus is represented by three species, out of which two occur in Arunachal Pradesh (Hegde 1984; Rao 2010). The habit is fairly uniform throughout the genus, and most of the diagnostic features are present in the flowers.

Acanthophippium striatum Lindl. is highly variable, especially in flower size. It differs from allied species in having solitary leaf, spur-like mentum and small-size mid-lobe of lip (Thomas 1997). It is one of the rare and ornamental species among the orchids reported so far from North-East India (Kataki *et al.* 1984; Deori & Das 1979; Gogoi 2012). In recent past, this species could be spotted in Arunachal Pradesh only from very small pockets in the natural habitats. During the field survey, it has been observed that these plants are very sensitive and highly specific to pollution free environment. Further critical study based on earlier herbarium collections, available literature and extensive field observations has revealed that its populations in the wild are depleting due to various natural and anthropogenic factors (Rao & Deori 1980; Kataki 1986; Rao 1986; Chowdhery 1997, 1998; Lucksom 2007; Gogoi 2017). Hence, *Acanthophippium striatum* needs immediate *in situ* as well as *ex situ* conservation measures by orchid enthusiasts, field Botanists, Foresters and government agencies including its multiplication through micropropagation techniques. Considering the rarity and threatening status of this species, as a part of *ex-situ* conservation programme of rare and threatened species, some live plants were collected from road construction sites of Sessa-Zero Point BRTF in West Kameng district of Arunachal Pradesh and were introduced in the Sessa Orchid Sanctuary, Sessa.

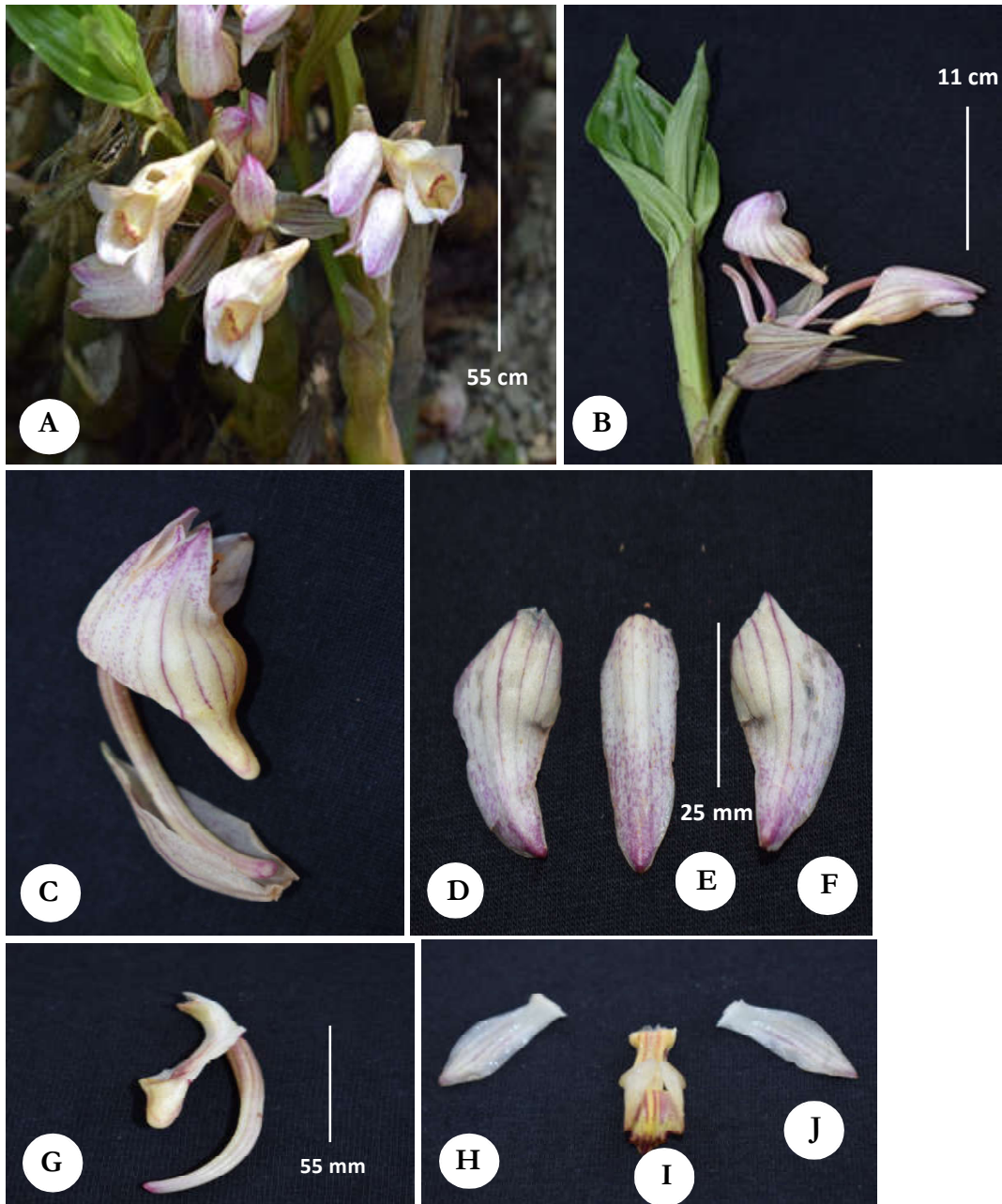


PLATE - I. *Acanthophippium striatum* Lindl. **A.** Habit; **B.** Inflorescence *in situ* closer view; **C.** Flower. **D&F.** Lateral sepals; **E.** Dorsal sepal; **G.** Pedicellate ovary, column, foot and mentum; **H & J.** Petals; **I.** Lip.

Acanthophippium striatum is a sub-tropical terrestrial herb, and usually prefers to grow in mild climate neither very warm nor very cold, between the altitudinal ranges of 700 – 2000 m above sea level on humid, humus-rich evergreen dense forest floor with rocky substrates of primary forests.

TAXONOMIC DESCRIPTION

Acanthophippium striatum Lindl., Bot. Reg. 24 (Misc.): 41. 1838; Hook. f., Fl. Brit. India 5: 816. 1890 & in Ann. Roy. Bot. Gard. Calc. 5: 22. 1895; King & Pantl. in Ann. Roy. Bot. Gard. Calc. 8: 122. Pl. 155. 1898; Prain, Bengal Plants: 762. 1903; Tiwari & Mahesh. in Ind. For. 89: 427. 1963; Mehra & Vij in Taxon 19: 106. 1970; Pradhan in Indian Orch. 2: 246. 1979; Bose & Bhattacharjee, Orch. India: 52. 1980; Pradhan in Orch. Rev. 89 (1057): 360. 1981; S.N. Hegde in Orch. Arunachal Pradesh: 43. 1984; A. N. Rao in Bull. Arunachal Forest Res. 26 (1&2): 88. 2010.

Terrestrial herb. Root 3 mm in diameter, densely pubescent. *Pseudobulbs* fleshy, narrowly ovoid, 6 – 10 x 1 – 3 cm, covered with several membranous sheaths at base and nodes, 1- or rarely 2-leaved. *Leaves* solitary, petiole about 7 – 10 cm long, blade elliptic, 25 – 30 x 10.5 – 12.5 cm, usually 5 veined, plicate. *Scapes* lateral, arising from the base of pseudobulb, about 9 – 12 cm long, glabrous. *Inflorescence* with many leafy membranous sheaths; rachis densely 4 – 6-flowered; floral bracts ovate-oblong, 3 – 3.5 cm, apex acute. *Flowers* creamy white with parallel red venation, tubular, 35 – 45 mm long; pedicel and ovary 30 – 35 mm, sparsely pubescent or glabrous. *Dorsal sepal* elliptic, 20 – 25 x 10 – 12 mm, 7-veined, obtuse at apex; *lateral sepals* oblong-triangular, slightly oblique, 26 – 35 x 15 – 20 mm, 5 – 7 veined, adnate at base to column foot to form a conico-tubular mentum, subacute and recurved at tip. *Petals* oblanceolate, 20 – 25 x 10 – 12 mm, fleshy, 7-veined, obtuse or acute at apex. *Lip* adnate to apex of column foot, 20 – 25 mm, membranous, 3-lobed; lateral lobes erect, falcate-triangular, 10 – 12 mm; mid-lobe with red spots or blotches, ovate-triangular, small, slightly undulate at margins, acute, recurved at tip; disk with a solitary broad yellow ridge. *Column* 10 – 15 mm, slightly recurved towards apex; anther cap 3 mm broad; *pollinaria* 4, yellowish, 2.2 – 1.5 mm long. *Capsule* 40 – 60 mm long. (Plate. I.)

Flowering: May – July.

Altitudinal range: 700 – 2000 m.

Distribution: NE India (Arunachal Pradesh, Assam, Nagaland), China, Indonesia, Malaysia, Nepal, Thailand, Vietnam.

Specimens examined: Hegde 1116; Jumter Nyorak 50020 (Orchid Herbarium Tippi).

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