

Rediscovery of *Hedychium longipedunculatum* A.R.K. Sastry & D.M. Verma [Zingiberaceae] from Nagaland, India

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Abstract

Hedychium longipedunculatum A.R.K. Sastry & D.M. Verma [Zingiberaceae] is recollected after a gap of more than four decades from two localities viz., Zunheboto and Tuensang districts of Nagaland. This species is endemic to north-eastern region and is characterized by long peduncle with much shorter flowering spike having spatulate staminodes and densely villous ovary. A detailed taxonomic description along with ecology, photographs and distributional map are provided in the article.

Key words: *Hedychium longipedunculatum*, Nagaland

INTRODUCTION

The genus *Hedychium* was first established by Koenig (1783) based on *H. coronarium* Koenig as type species. Since then a number of taxa has been published by various Botanists from India and some other adjacent countries, mainly by Smith (1811), Roxburgh (1820), Roscoe (1824-1828), Wallich (1853), Baker (1892), Schumann (1904) and Rao & Verma (1969-1972). With estimated about 80 species the genus is distributed mainly in Eastern Himalaya to South China, South India and South-East Asia (Sirirugsa & Larsen 1995). However, Mabberley (2005) recorded 50 species for the genus. In India, this is the largest genus in Zingiberaceae with about 43 species having 16 endemics mainly distributed in North Eastern states of India (Jain & Prakash 1995).

MATERIALS AND METHODS

During a floristic inventory to Zunheboto district of Nagaland state, the first author collected an interesting species of *Hedychium* growing on a tree in the year 2007. Later on in the year 2012, the second author collected the same species of *Hedychium* from a different locality viz., Tuensang district of Nagaland. After consulting literature and specimens at ASSAM, both the specimens has been identified as *Hedychium longipedunculatum* A.R.K. Sastry & D.M. Verma (Fig. 2 & Fig. 3). It is also known from the literature that this species was

collected during colonial time way back in the year 1844 and 1895 from Naga Hills. So these recent collections add remarkable rediscovery after a gap of over half-a-century. The citation, description, distribution, ecology, map and photographs are provided for its easy recognition. The voucher specimen is deposited in the Herbarium of the Department of Botany, Nagaland University and at ASSAM. The detailed account of this species is furnished below.

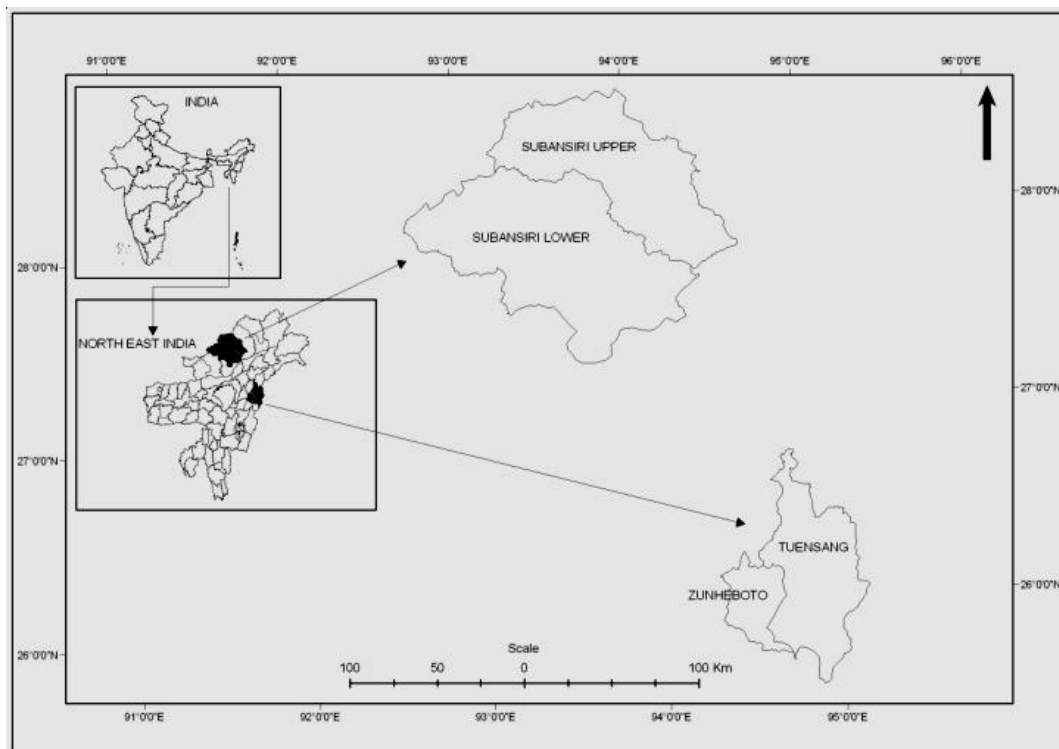


Fig. 1. Distribution map of *Hedychium longipedunculatum* in Arunachal Pradesh (Subansiri district) and Nagaland (Zunheboto & Tuensang district) in North East India

TAXONOMIC TREATMENT

Hedychium longipedunculatum A.R.K. Sastry & D.M. Verma, J. Bomb. Nat. Hist. Soc. 65: 293 – 295. 1968; A.S. Rao & D.M. Verma, Bull. Bot. Surv. Ind. 14(1 – 4): 130. 1972

Plants epiphytic, sometimes terrestrial. Rhizomes creeping, greenish outside, slightly aromatic. Pseudostem up to 42 cm tall, glabrous. Leaves 4 – 6, petiolate, lower sessile, petioles 0.2 – 1.5 cm long, sheathed; ligules up to 2 cm long, membranous, apex bi-lobed, glabrous; lamina 4 – 24 × 1.7 – 10 cm, elliptic or oblong-elliptic, entire, abruptly acuminate, base acute, both surfaces glabrous, green above, light purple beneath, lateral nerves many, arched upwards. Peduncle up to 14 cm long, slightly curved, glabrous, rachis hairy; spikes 4 – 6 cm long, many flowered; bracts 1-flowered, ca. 1.1 x 0.6 cm, triangular, obtuse, 9 – 11 -nerved, glabrous, as long as calyx; bracteoles ca. 6 x 4 mm, ovate, acute, membranous, faintly 3-nerved. Flowers ca. 3 cm long, creamy yellow, fragrant. Calyx tubular, ca. 1.1 cm long, 7 – 9 nerved, membranous, minute hairs at apex. Corolla tube as long as calyx, glabrous without, villous within; segments 3, linear-lanceolate, acute, ca. 1.5 x 0.5 cm, 3-nerved. Lateral staminodes



PLATE - I. *Hedychium longipedunculatum*; **Fig. A.** Habit; **Fig. B.** Rhizome; **Fig. C.** Inflorescence; **Fig. D.** Flower close-up; **Fig. E.** Infructescens

2, *ca.* 1.5 x 0.5 cm, petaloid, spathulate, cream coloured, slightly thick. Labellum deeply bilobed, clawed; claw *ca.* 5 x 3 mm. Stamen single, filament *ca.* 1.4 cm long; anther *ca.* 6 mm long, 2-celled anther locules divergent at base. Ovary *ca.* 3 mm in diameter, subglobose, densely villous; placentation axile; style filiform, *ca.* 2.8 cm long; stigma cup-shaped, *ca.* 1 mm broad, ciliate. Capsule *ca.* 1.3 cm diameter, subglobose, 3-angled.

Flowering & fruiting: May – August

Specimens examined: **N.E.F.A:** Subansiri district, Arunachal Pradesh, INDIA: Amjee, c 1220 m., 22.05.1966, A.R.K. Sastry 45509 A (Holotype-CAL); A.R.K. Sastry 45509 B-H, H in fr. (Isotypes- ASSAM); Begi-Amjee, 12.05.1966, A.R.K. Sastry 45222 in fl.; Hapoli vicinity, 28.05.1966, A.R. K. Sastry 45584 in fl. (Paratypes- ASSAM). **NAGA HILLS:** July 1844, Anon., s.n., (CAL, Accn. No. 466858) in fl.; Khonoma Hill, (7500 ft, C 2500 m.), 19-5-1895, G. Watt 11609 in fl. (Paratypes- CAL). **NAGALAND:** Zunheboto District, Kholeboto Village, 24 May 2008, M0944 (ASSAM). Tuensang District, Haak Village, 29 May 2012, SDNU 23 (ASSAM).

Distribution: Endemic to North-eastern India. (Arunachal Pradesh, Nagaland)

DISCUSSION

This species was first collected from Naga Hills, which is at present known as Nagaland, way back in the year 1844, of which record of specific location and collectors name is not available. Subsequently in 1895 G. Watt collected the same plant from Khonoma hills (Nagaland) but it was left undescribed until May, 1966 when Sastry and Verma collected the same plant from Subansiri district of Arunachal Pradesh and described it as a new species based of herbarium specimens from Naga hills and living specimen grown in 'woodlands' experimental garden, Shillong (collected from Arunachal Pradesh). After a gap of more than four decades, the authors collected the same taxon from Nagaland from two localities viz., Kholeboto village of Zunheboto district and Haak village of Tuensang district, on separate occasions. This species usually grows below 2000 m amsl in shady moist environment and is endemic to Arunachal Pradesh and Nagaland in North Eastern India. This taxon has become threatened due to deforestation and Jhum cultivation practices by the local people, with having only few individuals found growing wild.

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LITERATURE CITED

- Baker, J.G. 1892. Scitamineae. In: Hooker, J. D. (ed.), *Flora of British India*. Vol. 6. L. Reeve & Co., London. Pp. 199 – 264.
- Jain, S.K. & Prakash, V.1995. Zingiberaceae in India: Phytogeography and Endemism. *Rheedea*. 5: 154 – 169.
- Koenig, J.F. 1783. In: Retzius, A.J. (ed.), *Observationes Botanicae*. Vol. 3. Apud siegfried lebrecht crusium, Lipsiae, Pp. 73 – 74.
- Mabberley, D.J. 2005. *The Plant – Book: A Portable Dictionary of the Vascular Plants* (Sec. ed.). Cambridge University Press, Cambridge, UK.
- Rao, A.S. & Verma, D.M. 1972. Materials towards a monocot flora of Assam-II.*(Zingiberaceae & Marantaceae). *Bull. Bot. Surv. India* 14(1-4): 114 – 143.

- Rao, A.S. & Verma, D. M. 1969. Notes on *Hedychium* Koenig, including four new species from Khasi and Jaintia Hills, Assam. *Bull. Bot. Surv. India* 11(1&2): 120 – 128.
- Roscoe, W. 1824 – 1828. *Monandrian Plants of Order Scitamineae*, Liverpool, George Smith.
- Roxburgh, W. 1820. *Flora Indica*. Vol. 1. Mission Press, Serampore.
- Sastry, A.R.K. & Verma, D.M. 1968. *Hedychium longipedunculatum*, a new species of Zingiberaceae from Subansiri district, North East Frontier Agency. *J. Bomb. Nat. Hist. Soc.* 65: 293 – 295.
- Schumann, K. 1904. Zingiberaceae. In: Engler, A. (ed.), *Das Pflanzenreich*, Leipzig, Berlin. 4(46): 1 – 458.
- Sirirugsa, P. & Larsen, K. 1995. The genus *Hedychium* (Zingiberaceae) in Thailand. *Nord. J. Bot.* 15(3): 301 – 304.
- Wallich, N. 1853. Initiatory attempt to define the species of *Hedychium*, and settle their synonymy, *Hook. J.Bot.* 5: 321 – 329, 367 – 377.