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NOTE

Zingiber kerrii (Zingiberaceae): A New Record for India from Manipur

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ABSTRACT: *Zingiber kerrii*, a native of Thailand has been reported for the first time from Manipur, India. Detailed description and illustrations are provided. The plant was found growing with a small population as under shrub in the tropical evergreen forest of Churachandpur district, Manipur. Inflorescence is cone shaped, bracts with reddish pink tip and flowers are milky white.

KEY WORDS: India, Manipur, new record, *Zingiber kerrii*.

INTRODUCTION

The genus *Zingiber* Boehm., with about 141 species, is distributed throughout tropical Asia, Australia and South Pacific with its centre of diversity in Southeast Asia (Theilade, 1999; Sabu, 2006). Larsen (1996) reported 25 species in Thailand while Theilade (1999) reported 26 species. Wu and Larsen (2000) enumerated 42 species in the Flora of China. In India the genus is represented by 17 species with 7 endemics of which four species are endemic to peninsular India, two species to Northeast India and one species to Sikkim Himalaya (Sabu et al., 2009). Hajra et al. (1996) reported 8 species of *Zingiber* from Sikkim, Tripathi and Singh (2006) reported 7 species from Northeast India while Sabu (2006) recorded 8 species from South India.

Manipur is situated in the north-eastern part of India sharing international boundary with Myanmar. As such, it falls in the Indo-Burma biodiversity hotspot and has its own unique bioresources of flora and fauna. An exploration trip for the Zingiberaceae was conducted in Churachandpur district of Manipur, Northeast India in the month of July, 2011. The *Zingiber* specimen was collected for the first time both in vegetative and reproductive phase from Ngaloi hill in Churachandpur district at a distance of about 90 km from Imphal city. The area is located at 24°20'12.8"N, 093°38'17.7"E at an altitude of 1,185 msl. The collected specimen was then planted in the Zingiberaceae germplasm conservatory of Institute of Bioresources and Sustainable Development, Takyelpat, Imphal and flowered in July. Detailed studies were undertaken with dissection of the flowers and references were made with various flora's and herbaria and is subsequently identified as *Zingiber kerrii.* The collection forms a new distributional record to the ginger flora of India. *Zingiber montanum, Z. zerumbet* and *Z. officinale* (Singh et al., 2000) has earlier been reported in the state of Manipur and with the recent discovery of *Z. kerrii,* the number of species has increased to 4 in Manipur and 18 species overall for India.

Note: This species is previously reported as a native species endemic to Thailand (Chaveerach et al., 2007) and this report marks the extended distribution of the species to Northeast India.

Key to the species

1a. Spike terminal ……..... 2
1b. Spike basal ……..……. 3
2a. Bracts lax, green, flowers yellow, densely dotted with deep brown spots ……..…… ***Z. clarkei***
2b. Bracts green with red margins, turning red with maturity, flowers pale yellow ……..……..…… ***Z. capitatum***
3a. Peduncle short 5–8 cm, not erect ……..…….…….... 4
3b. Peduncle long 10–30 cm, erect ……...……..…. 5
4a. Spike with large imbricate bracts which are pale green, yellow lip with darker yellow anthers ……..…….. ***Z. chrysanthum***
4b. Spike with tightly imbricate red bracts, lip with creamish background dotted with red spots, red anthers …….. ***Z. rubens***
5a. Leaves broad, oblanceolate 10–35 × 5–10 cm ……. ***Z. zerumbet***
5b. Leaves linear, lanceolate 15–30 × 2–8 cm ……..……..… 6
6a. Bracts purplish / reddish brown, pubescent ……..…. ***Z. montanum***
6b. Bract green, glabrous …… 7
7a. Labellum radiating dark purple on creamish background, bracts green with membranous margin, flower small ……. ***Z. officinale***
7b. Labellum white, bracts with reddish tips, flower large ..... ***Z. kerrii***

TAXONOMIC TREATMENTS

Zingiber kerrii Craib, Bull. Misc. Inform., Kew. 403, 1912; Loes-ener in Nat.Pflanzan fam.ed.2.15 a: 588; Ida Theilade, Nord. J. Bot.19 (4): 389–410, 1999. -Type Thailand, 1930.

Rhizomatous perennial herb; rhizome subterranean. Leafy shoot 220–245 cm high. Leaf sheath glaucous.

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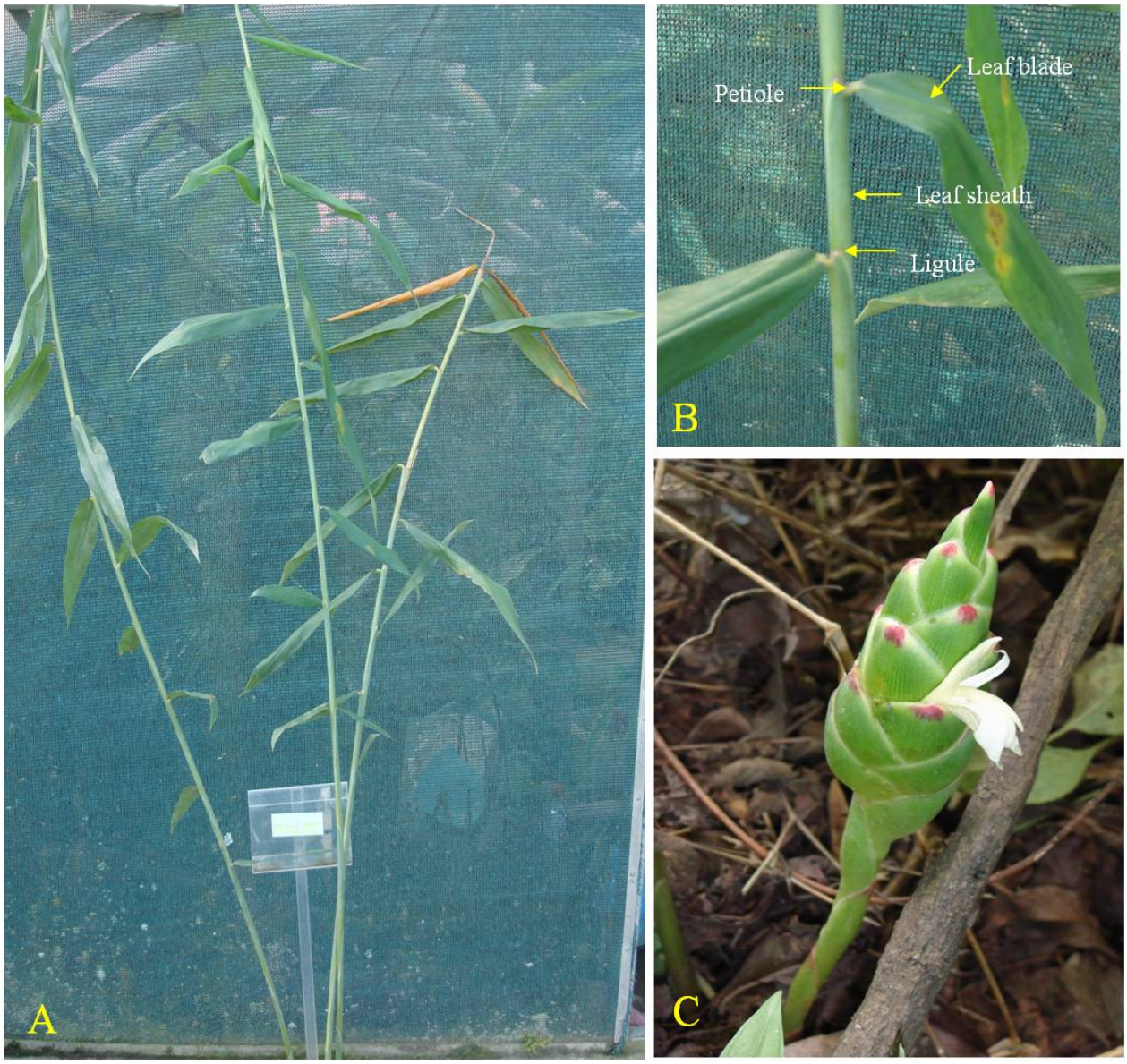


Fig. 1. A. Habit of *Zingiber kerrii* Craib. B: Close up view of a leafy shoot showing leaf blades, petioles, leaf sheath and ligule. C: An inflorescence arising from rhizome, showing light green bracts with pink coloured tip with young white flowers.

Leaves 35–39 in number, subsessile; petiole 0.4–0.6 cm long, green, hairy. Ligule short, 2–3 mm long, bifid, membranous, sparsely hairy; lamina 22–25 × 4.5–5 cm, linear, lanceolate, tip acuminate, lower and upper surface glabrous. Inflorescence basal, separate from leafy shoot; peduncle -10–12 cm long, clothed with green sheaths , tipped with red; spike short or long, 8–10 × 4–5 cm, cone-shaped, tapering to a narrow apex. Bracts 15–18 in number per spike, glabrous, 3–3.5 × 2–2.5 cm, ovate, tip rounded, green with reddish pink tips, closely imbricate. Bracteoles, 2.7–3 × 1 cm, lanceolate. Flower longer than the bract, 5–5.3 cm long, one flower open at a time. Calyx creamy white, tubular, membranous, glabrous, 0.7–1cm long. Corolla tube slender, creamy white, glabrous, 3 cm long; lobes unequal, dorsal lobe 2.5–2.8 × 0.5–0.6 cm, ovate, yellowish, apex acute, curved; lateral lobes 2.5–2.8 × 0.3–0.5 cm, narrowly ovate, yellowish, tip acute. Labellum 2.5–2.8 × 0.5–0.6 cm, sub-orbicular, base attenuate, 1–1.2 cm long, creamy white, emarginated - obcordate, margin crumbled. Lateral staminodes 0.7–0.9 × 0.3 cm, oblong, apex acute, and margin entire, white. Anther thecae, 7 mm long, dehisced by longitudinal slits, anther crest long 0.5–1 × 0.3 cm, filament white, curved. Ovary, 2.5 cm long, trilocular with numerous ovules on axile placenta. Stigma curved,

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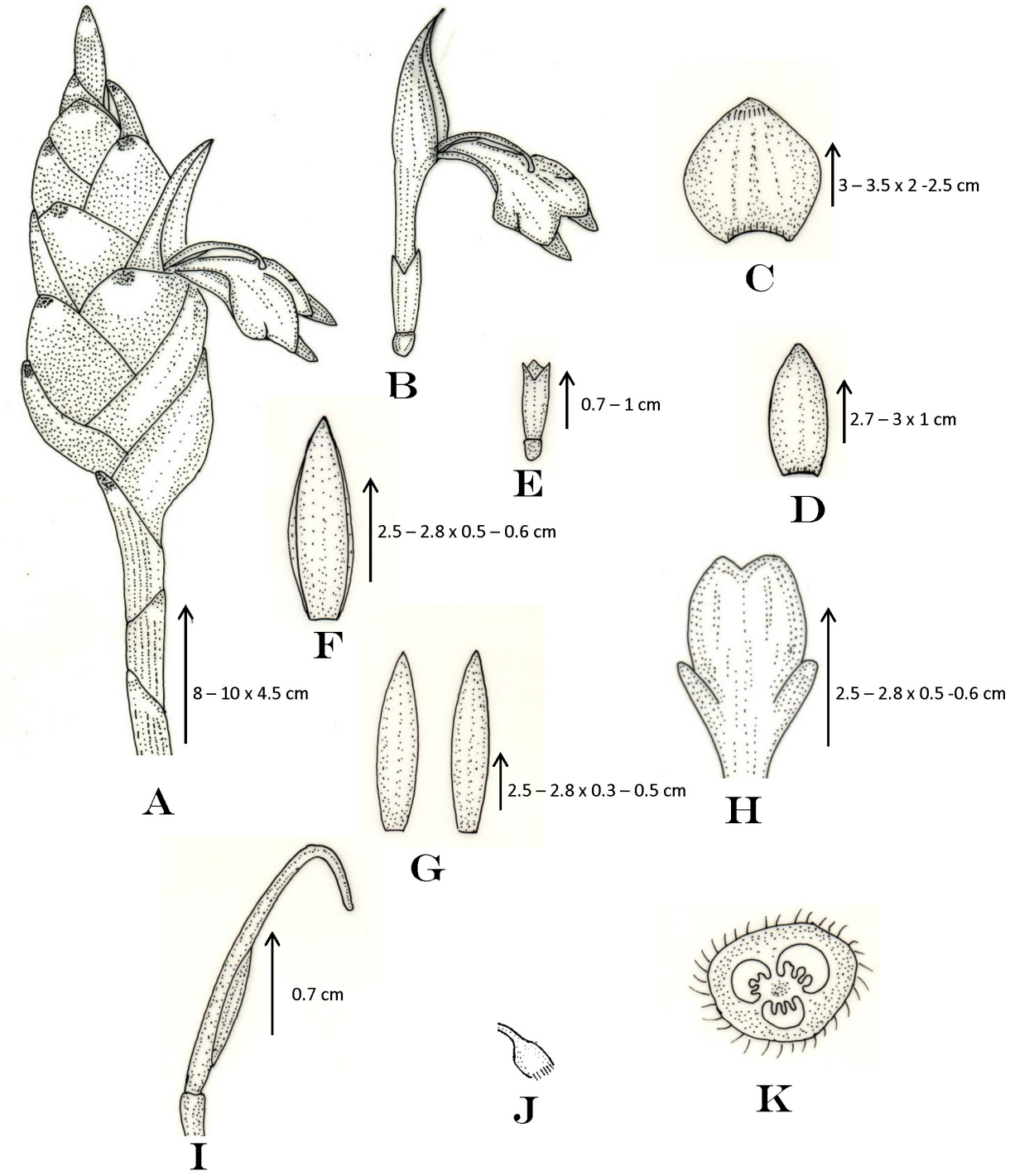


Fig. 2. *Zingiber kerrii* Craib. A: Inflorescence. B: Flower. C: Bract. D: Bracteole. E: Calyx. F: Dorsal corolla lobe. G: Lateral corolla lobe. H: lateral staminodes. I: Labellum. J: Androecium. K: Stigma. L: T.S. of ovary.

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white. Epigynous glands, cylindrical, tip blunt, creamy white.

Flowering and Fruiting: July–September.

Distribution: India, Myanmar and Thailand.

Ecology: Found growing under the shade of trees.

Conservation point of view: The species was found growing along with other Zingiberaceae species such as *Larsenianthus, Hedychium* and other *Zingiber*'s. It is only known from a single locality in India apart from Thailand and Myanmar where its distribution has been listed as Shan district (Kress et al., 2003) and the area of the surrounding hills is found to be degraded due to anthropogenic activities threatening its habitat. As such, we propose it as vulnerable under criteria B and D following the IUCN guidelines (IUCN Standards and Petition Subcommittee, 2011).

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自印度曼尼普爾邦發現的 *Zingiber kerrii*（薑科）新紀錄分布

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摘要：*Zingiber kerrii*（薑科）是原生於泰國的物種，本文首次報導此種在印度的新紀錄分布，並提供分類描述與圖片以供辨別。本文所發現的族群是生長在曼尼普爾邦楚里遷坡區熱帶常綠林灌叢下的小型族群；本種特徵為花序成錐狀，苞片尖端呈粉紅色，花朵為乳白色。

關鍵詞：印度、曼尼普爾邦、新紀錄、*Zingiber kerrii*。

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