

**ZINGIBER SALARKHANII (ZINGIBERACEAE), A NEW SPECIES
FROM BANGLADESH**

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Abstract

Zingiber salarkhanii Rahman *et* Yusuf, belonging to the family Zingiberaceae, is described and illustrated from Bangladesh as a new species. It was collected from six different localities of hilly forests in Chittagong, Khagrachari and Moulvi Bazar districts. Morphological diagnostic characters of closely related species of the genus are discussed.

Introduction

The genus *Zingiber* Boehm. is characterized by its aromatic branched rhizomes, leafy erect pseudo-stems, lateral spikes, lateral staminodes adnate to labellum, forming a 3-lobed structure, tri-locular ovary and dehiscent capsules. The genus is widely distributed throughout tropical Asia by more than 100 species (Mabberley, 2008). It is known to be represented in Bangladesh by 6 species, viz., *Zingiber capitatum* Roxb., *Z. officinale* Rosc., *Z. purpureum* Rosc., *Z. roseum* (Roxb.) Rosc., *Z. rubens* Roxb. and *Z. zerumbet* (L.) R.M. Smith (Yusuf, 2008).

While working with the family Zingiberaceae since 1993 for its species diversity and complete inventory for the flora of Bangladesh, we came across some unidentified specimens of the genus *Zingiber* Boehm. collected from the forests of Chittagong, Khagrachari and Moulvi Bazar districts which could not be matched with any named species of the genus. The specimens were critically examined and described. Consultation of relevant literature (Roxburgh, 1814, 1820, 1832; Wallich, 1829-1849; Baker, 1890; Prain, 1903; Heinig, 1925; Kanzilal *et. al.*, 1934; Raizada, 1941; Sinclair, 1956; Rahman, 1995; Rahman and Yusuf, 1996, 1997) and experts of the herbaria of E and K recognised this as a new species of the genus *Zingiber* Boehm. It is characterized by its shorter (0.5 cm) and 3-lobed ligule; ovoid, compact and pinkish spike; broader, emmerginate and variegated labellum; lanceolate and pinkish petals and larger fruits. Hence, the genus *Zingiber* Boehm. is being recognized here to be represented in the flora of Bangladesh by 7 species including this new one, *Zingiber salarkhanii*. The new species is described along with field photographs.

Key to the species:

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|--|---------------------------|
| 1. Inflorescence basal. | 2 |
| - Inflorescence terminal on a leafy shoot. Spike subcylindric, peduncle hairy, bracts lanceolate, pubescent. | <i>Zingiber capitatum</i> |
| 2. Inflorescence stalk 10-20 cm long, erect, spike much above the ground, lateral lobes of labellum well developed. | 3 |
| - Inflorescence stalk 2-7 cm long, prostrate, spike at ground level or partially burried; lateral lobes of labellum inconspicuous. | 5 |

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| 3. | Leaves narrow, 2-3 cm wide; spike small, 4.5-5.5×2-2.2 cm; labellum dark purple, with creamy yellow blotches. | <i>Zingiber officinale</i> | |
| - | Leaves broad, 4-8 cm wide; spike large, 7-16×2-6 cm; labellum pinkish or unspotted. | | 4 |
| 4. | Ligule minute, c. 1 mm long, bilobed; bracts pubescent, purplish-brown; labellum pinkish at base; rhizome deep yellow inside; spike head typically pointed. | <i>Zingiber purpureum</i> | |
| - | Ligule long, 1.5-3.0 cm, entire; bracts green; labellum not pinkish at base; rhizome pale yellow inside; spike head characteristically rounded. | <i>Zingiber zerumbet</i> | |
| 5. | Corolla tube less than 3.6 cm, hairy; lateral petals free. | | 6 |
| - | Corolla tube more than 4.5 cm, glabrous; lateral petals united. | <i>Zingiber rubens</i> | |
| 6. | Ligule 1.2-1.5 cm long, entire; spike dull red; petals linear, red with white bases; labellum entire, margin light yellow; fruits small, c. 3 × 2 cm. | <i>Zingiber roseum</i> | |
| - | Ligule up to 0.5 cm long, 3-lobed; spike pinkish; petals lanceolate, pinkish throughout; labellum 3-lobed, emerginate, variegated; fruits large, 5.5-7.7 × 2.0-2.7 cm. | <i>Zingiber salarkhanii</i> | |

***Zingiber salarkhanii* Rahman et Yusuf sp. nov.**

(Fig. 1).

Diagnosis: *Zingiber salarkhanii* distinctus per trilobus ligulis, compactus et subroseus spicatus, immerginatus et variegatus labellum, lanceolatus et subroseus petalis, grandis fructibus.

Holotypus: Bangladesh, Chittagong, Sitakundu, Chandranath hill, 13.08.1993, M. Yusuf & M. A. Rahman 825 (BCSIRH).

Leafy stem 1.5-2.0 m long. Leaves sessile, elliptic or oblong-lanceolate, 45-66 × 13-16 cm, lower surface provided with long appressed hairs at maturity; ligules very short, less than 0.5 mm, glabrous. Spike short, sessile or sub-sessile, compact, ovate, c. 8 × 4 cm, pinkish, arising from the base of the plant; involucrate, bracts large, broad, 4.0-4.5 × 1.5-2.0 cm, pinkish, hairy; inner bracts lanceolate, acute, 4.5-5.4 × 1.0-1.5 cm, pink, hairy. Bracteoles obovate-oblong, 4.0 × 1.8 cm, 3-lobed, folded, pinkish, hairy. Calyx tubular, 2.0-2.5 cm long, irregularly 3-toothed, unilaterally split more than half part, pinkish, hairy. Corolla tube 3.4-3.6 cm long, pinkish-white, hairy; lobes 3, sub-equal, lanceolate, dorsal lobe 3.0-3.5 × 1.2-1.3 cm, lateral lobes 3.0-3.3 × 8.0-9.0 mm, hairy, light pink. Labellum ovate, 3-lobed, c. 3.2 × 2.5 cm; middle lobe notched at apex, white, marked with purple, lateral lobes variegated with red and yellow. Stamens arching over the lips; anthers sub-sessile, 1.7-1.8 cm long, yellow; beak of anther c. 1-2 cm long, red. Ovary 5 × 4 mm, villous; stigma curved, ciliate. Capsule large, ovate-oblong, triangular, 5.5-7.7 × 2.0-2.7 cm, 3-valved, valves fleshy, reddish, inside bright red. Seeds oblong, c 7 × 3 mm, black, covered with white fibrous arils, arranged in rows.

Phenology: Flowering from July to August and fruiting from September to November.

Specimens examined: **Chittagong:** Baroiadhala-Hazarikhil hill forests, 29.10.1978, Huq *et al.* H. 3974 (DACH); Sitakundu, Chandranath hill, 13.08.1993, M. Yusuf & M. A. Rahman 825 (BCSIRH: type!); Chittagong Cantonment area, Nachunikhola, 15.09.1993, M. Yusuf 845 (BCSIRH); Bordighee to Bhatiary road, 04.11.1993, M. Yusuf 860 (BCSIRH). **Khagrachari:**

Teen Tila, Marissa road, 30.08.1997, M. A. Rahman *et al.* 1871 (HCU). **Moulvi Bazar:** Srimangal, Lawachara reserve forest, 15.07.1993, M. Yusuf & M. A. Rahman 811 (BCSIRH).

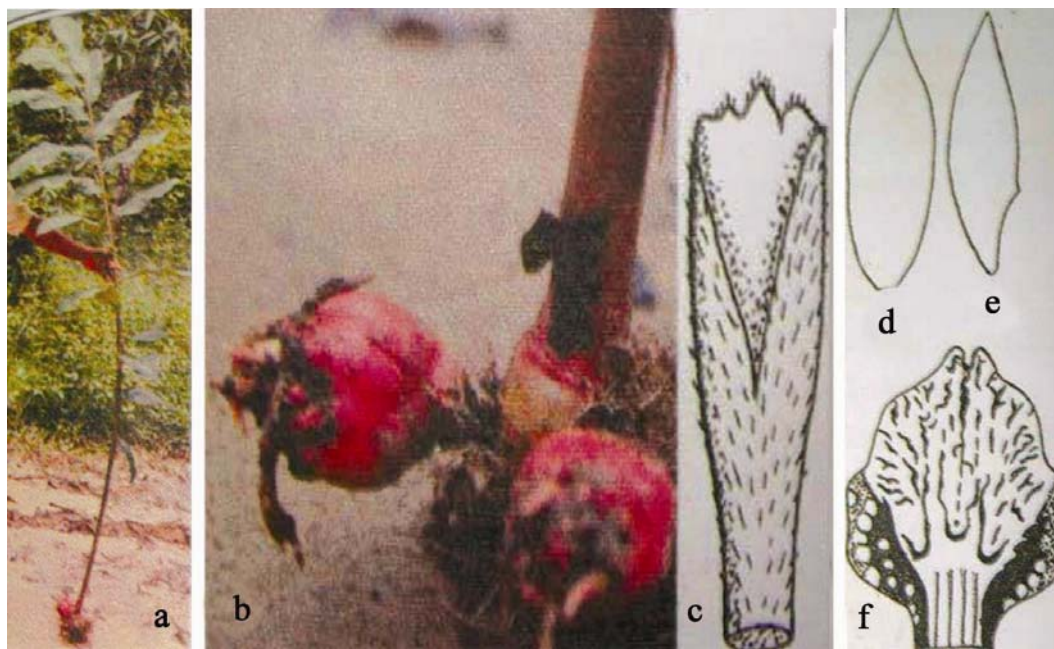


Fig. 1. *Zingiber salarkhanii* Rahman *et* Yusuf; a. habit; b. a shoot with lateral spike; c. calyx tube ($\times 2.4$); d. dorsal petal ($\times 1.3$); e. lateral petal ($\times 1.4$); f. labellum ($\times 1.4$).

Ecology: Grows in hill slopes and foot hills in partial shades.

Conservation status: It is located to more than six different localities in the tropical forests of eastern hilly areas of the country with a good number of populations. It can be regarded as LR (lc) category (IUCN, 1994).

Etymology: *Zingiber salarkhanii* Rahman *et* Yusuf is named in honour of Late Professor Dr. M. Salar Khan, the founder of Bangladesh National Herbarium, for his outstanding contribution and dedication towards the inventory of the flora, exploration, collection and identification of huge number of plant specimens.

Note: *Zingiber salarkhanii* Rahman *et* Yusuf is closer to *Z. roseum* (Roxb.) Rosc. but differs for its shorter and 3-lobed ligule; ovoid, compact and pinkish spike; broader, emerginate and variegated labellum; lanceolate and pinkish petals and larger fruits.

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