

## **ZINGIBER FLAVOFUSIFORME (ZINGIBERACEAE: SECTION DYMCEWICZIA) – A NEW RECORD TO INDIA FROM ASSAM**

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### **Abstract**

*Zingiber flavofusiforme* M.M.Aung & Nob. Tanaka (Zingiberaceae: section *Dymczewiczia*) is represented here as a new record for flora of India from Assam.

**Keywords:** East Himalaya, Ginger.

### **INTRODUCTION**

The genus *Zingiber* Miller (1754) (Zingiberaceae) comprises around 145 species distributed throughout tropical Asia, Australia and the South Pacific with its center of diversity in Southeast Asia (Theilade, 1999; Sabu, 2006; Kishor and Leong-Skornickova, 2013; Leong-Skornickova et al., 2015; Ly, 2016; Biseshwori and Bipin, 2018). In northeastern India, so far, the genus includes about 20 species (Rao and Verma, 1972; Kishor and Leong-Skornickova, 2013; Kumar et al., 2013; Sabu et al., 2013; Thongam et al., 2013; Talukdar et al., 2015; Joe et al., 2017; Biseshwori and Bipin, 2018). During a field trip in July 2011 to Kakoi Reserve forest in North Lakhimpur district of Assam, Northeastern India, the authors encountered one plant of *Zingiber* Miller (1754) growing in moist shady places on the bank of Kakoi river. Some rhizomes of the said ginger plant were collected along with field notes and planted in the garden of Botanical Survey of India, Eastern Regional Centre, Shillong, Meghalaya (India). In the year 2018, during July it started to bloom on terminal inflorescence, with the erect peduncle. The inflorescence development pattern shows that the plant belongs to *Zingiber* section *Dymczewiczia* (Horaninov, 1862). The flowers were dissected, and detailed morphological study was carried out based on the living specimens and in the fields described in field note book. Afterward,

consultation of available literature on South and Southeast Asian *Zingiber* (Roxburgh, 1798; Roscoe, 1807; Baker, 1894; Rao and Verma, 1972; Theilade, 1998, 1999; Theilade and Mood, 1997, 1999; Wu and Larsen, 2000; Mood and Theilade, 2001; Sabu, 2003; Tripathi and Singh, 2006; Sabu et al., 2009; Tanaka, 2012a, b; Kishor and Leong-Skornickova, 2013; Kumar et al., 2013; Sabu et al., 2013; Thongam et al., 2013; Biseshwori and Bipin, 2014; Triboun et al., 2014; Ardiyani, 2015; Aung et al., 2015; Bai et al., 2015a, b; Hu et al., 2015; Kumar et al., 2015; Leong-Skornickova et al., 2015; Talukdar et al., 2015; Ye et al., 2015; Bai et al., 2016; Ly 2016; Prabhukumar et al., 2016; Singh and Singh, 2016; Triboun and Keeratiket, 2016; Aung et al., 2017; Joe et al., 2017; Nurainas and Dayar, 2017; Aung and Tanaka, 2018; Bai et al., 2018; Biseshwori and Bipin, 2018) the taxonomic identity of said ginger is confirmed as *Zingiber flavofusiforme* M.M. Aung & Nob. Tanaka – a species recently described from northwestern Myanmar (Aung and Tanaka, 2018). It is distinguished from any other taxa in the section *Dymczewiczia* by yellow to orange bracts, very small inconspicuous lateral staminodes and paleyellow labellum, with pale yellow streaks, purple-red to dark maroon tinge and numerous paleyellow blotches (Aung and Tanaka, 2018) (Figs. 1 & 2). In this paper *Zingiber flavofusiforme* is reported as a new record for flora of India.

**TAXONOMIC TREATMENT**

*Zingiber flavofusiforme* M.M. Aung & Nob. Tanaka, Phytotaxa. 316(2), 196. 2017.

**Type:** MYANMAR. Sagaing Region: Nam Ei Mae, along the Nam Ei Zu River, branch of the Chindwin, Htamanthi Wildlife Sanctuary, Khamti Township, 120 m alt., 12 September 2016, Tanaka *et al.* MY850 (holotype TNS, isotypes NY, RAF).

**Flowering:** Flowering from July to September.

**Habitat:** It grows as lithophyte in moist shady places on the bank of stream/river in the semi-evergreen forest.

**Distribution:** India (Kakoi Reserve forest, Assam) and Myanmar (Htamanthi Wildlife Sanctuary, Sagaing Region).

**Specimen examined:** INDIA. Assam, North Lakhimpur district, Kakoi Reserve forest, Bank of Kakoi river, 20<sup>th</sup> August 2018 ex hort. in Garden of Botanical Survey of India (Eastern Regional Centre, Meghalaya, East Khasi Hills, Shillong, Woodland Campus), *N. Odyuo & D.K. Roy 128913* (ASSAM!).

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Figure 1: *Zingiber flavofusiforme* – A&B. Habit; C. Rhizome with roots; D. Transverse section of rhizome; E. Tuber.

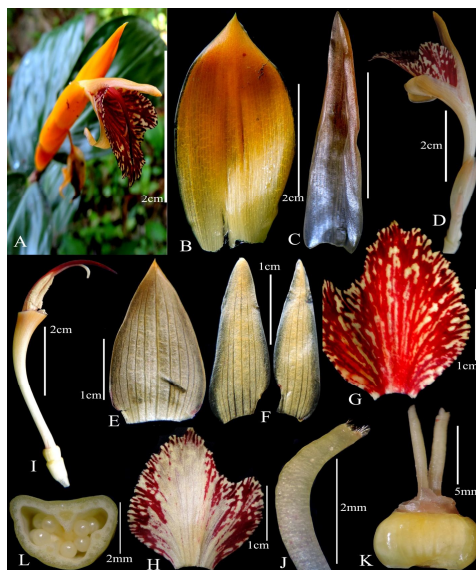


Figure 2: *Zingiber flavofusiforme* – A. Flowers on terminal inflorescence; B. Floral bract; C. Bracteole; D. A flower with calyx; E. Dorsal corolla lobe; F. Lateral corolla lobes; G. Labellum (frontal view); H. Labellum (dorsal view); I. Ovary, with floral tube, stamen, stigma and anther crest; J. Stigma; K. Ovary, with epigynous glands; L. Transverse section of ovary.

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