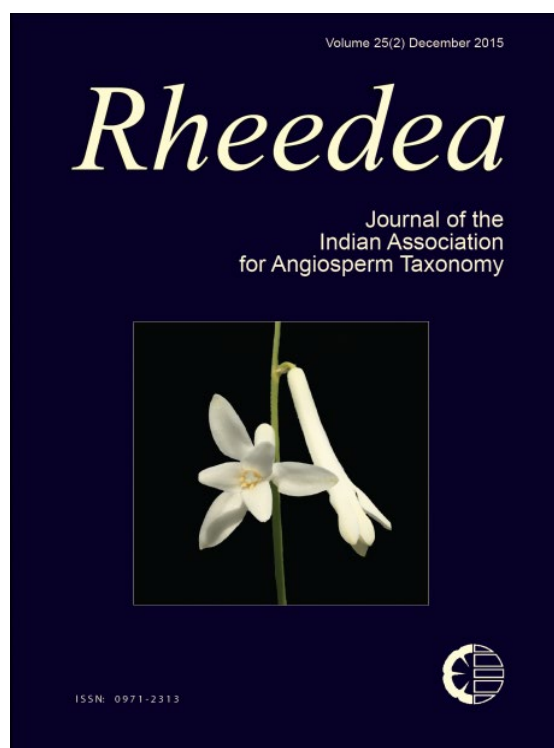




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Larsenianthus arunachalensis (Zingiberaceae): A new distributional record for the flora of Myanmar

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Abstract

Larsenianthus arunachalensis M. Sabu, Sanoj & Rajesh Kumar (Zingiberaceae) is reported for the first time from Myanmar. This species was found growing on the floor of dense tropical evergreen forest in Htamanthi Wildlife Sanctuary, northwestern Myanmar. Detailed description, habitats and ecology of the species are provided. Photographs of the species and a key to the taxa of the genus thus far recorded from Myanmar are also provided.

Keywords: *Larsenianthus arunachalensis*, Myanmar, New record, Zingiberaceae

Introduction

The genus *Larsenianthus* W.J. Kress & Mood has been established with four species; *L. careyanus* (Benth.) W.J. Kress & Mood, *L. wardianus* W.J. Kress, Thet Htun & Bordelon, *L. assamensis* S. Dey, Mood, & S. Choudhury, and *L. arunachalensis* M. Sabu, Sanoj & Rajesh Kumar (Kress *et al.*, 2010). The genus characterized by the combination of unique features such as narrow, elongate labellum with slightly thickened edges and a deeply channeled center combined with the small, cup-shaped lateral staminodes and strongly arched filament, that clearly distinguish this genus from others in the tribe. Phylogenetic studies based on plastid *trnK* intron and nuclear ITS DNA sequence data indicated that the four species of *Larsenianthus* form a monophyletic lineage that is sister to *Hedychium* J. Koenig, and the genus covers a large area of sub-Himalayan forests in Northeastern Bangladesh, the Indian States of Meghalaya, Assam, and Arunachal Pradesh, and into upper Myanmar (Kress *et al.*, 2010). Of the four species of the genus, only *L. wardianus* was described from Kachin State, northern Myanmar (Kress *et al.*, 2010). The Htamanthi Wildlife Sanctuary, established in 1974, is one of the largest protected forests (2,151 km²) in Myanmar. The Sanctuary is composed of intact tropical evergreen and semi-evergreen forests

that contains representative flora and fauna of northern Myanmar. During the field expedition in Htamanthi Wildlife Sanctuary along the Chindwin Rivers, in Hkmati and Homalin District of Sagaing Region (25°26'N, 95°37'E), *L. arunachalensis*, a species so far considered as a narrow endemic to Arunachal Pradesh, India was collected and it forms a new addition to the Zingiberaceae flora of Myanmar. This is the first record of this species from Myanmar. Detailed description, habitats and ecology of the species are provided. Photographs of the species and a key to the taxa of the genus thus far recorded from Myanmar are also provided for the ease of identification. Voucher specimens are deposited at RAF and TNS.

Larsenianthus arunachalensis M. Sabu, Sanoj & Rajesh Kumar, PhytoKeys 1: 28. 2010.

Type. INDIA: **Arunachal Pradesh**, Lohit Dt.: Lalpani, Hayuliang Road, N 27°56' 28.2", E 96°22' 21.9", 6.8.2009, E. Sanoj & T. Rajesh Kumar 105640 (Holotypus CAL!; Isotypii CALI, ASSAM). **Fig. 1**

Evergreen herb c. 1.5 m tall. Rhizome c. 2 cm in diameter, slightly aromatic. Leafy stem erect; base 2.5–3 cm in diameter, aromatic. Leaves 2–3 per



Fig. 1. *Larsenianthus arunachalensis* M. Sabu, Sanoj & Rajesh Kumar: **a.** Habit & inflorescence terminal on a leafy shoot; **b.** Close up view of inflorescence with flowers.

flowering shoot, reddish green, densely pubescent towards apex; petiole 20–25 cm long, pubescent, green; ligule *c.* 6 cm long, *c.* 1 cm wide, lanceolate, apex attenuate, pubescent abaxially; blade 35–75 × 11–18 cm, abaxially pale green and densely pubescent with silvery hairs, elliptic-oblong, dark green, glabrous above. Inflorescence terminal, erect up to 90 cm long; apical part of peduncle 25–55 cm long, pubescent, pale green; spike elliptic, *c.* 18 × 4 cm; bracts 2.7–3 × 2.6–2.7 cm, imbricate, orbicular to broadly elliptic, deep red, base white tinged, both surfaces pubescent. Flowers conspicuous, 2–4 per bract; calyx tubular, 16–17 × *c.* 3 mm, apex trilobed, unilaterally split, 5–6 mm long, pale red, white towards base, pubescent, densely hairy at apex, membranous; floral tube 3.2–3.3 cm long, *c.* 3.5 mm wide at opening, red, lobed with each lobe 15–17 mm long, oblanceolate, dorsal lobe reflexed, sparsely pubescent externally with scattered unicellular branched hairs inside, lateral lobes glabrous; lateral staminodes *c.* 4 × 3.5 mm, orbicular to broadly elliptic, white with pale red tinge, revolute; labellum 25–28 × 2.5–3 mm, semi-spathulate, red to pale red towards base, beak-like apex. Fertile stamen with filament 2.4–2.6 cm long, red becoming creamy-yellow near anther, arching;

anther *c.* 3 × 2 mm, creamy yellow, glabrous. Ovary trilocular, *c.* 3 × 2.5 mm, pale red.

Flowering: September – October.

Habitat & Ecology: Growing on the slope of dense tropical evergreen forest along the stream at about 140 m above sea level. Usually found growing associated with *Alocasia* sp., *Begonia* sp., *Calamus* sp., *Dendrocalamus* sp., *Maranta* sp., and *Musa* sp.

Distribution: India (Arunachal Pradesh) and Myanmar (Sagaing Region).

Fig. 2

Specimen examined: MYANMAR. Sagain Region: Basin of Chindwin River, along the Nankhawedaing stream, Nankhawedaing area, Htamanthi Wildlife Sanctuary, 25°20' N, 95°17' E, 140 m, 27.10.2014, Mu Mu Aung MMA 76 (RAF!, TNS!).

Notes: The species is previously reported as a native species and endemic to Arunachal Pradesh, Northeastern India. The current record marks the extended distribution of the species to northwest Myanmar (Fig. 2). Further explorations would extend its distribution to the eastern and/or south. Vegetative parts of *L. arunachalensis* are uniquely aromatic.

Key to the species of *Larsenianthus* in Myanmar

1. Inflorescence terminal on a leafy shoot; bracts bright red ***L. arunachalensis***
1. Inflorescence on a basal leafless shoot; bracts bright green with reddish apex ***L. wardianus***

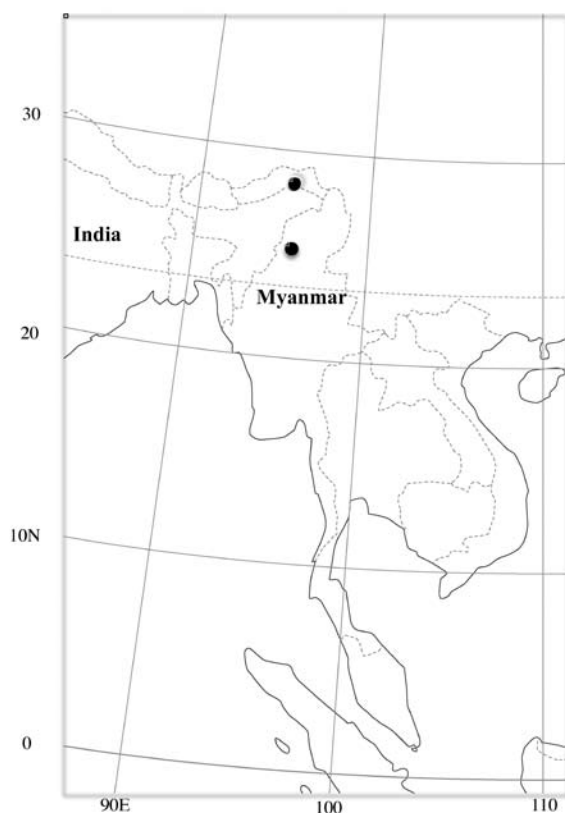


Fig. 2. Distribution map of *Larsenianthus arunachalensis*
M. Sabu, Sanoj & Rajesh Kumar.

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