

## Addition of Indo-China Fingerroot as new record to flora of Manipur, India

The genus *Boesenbergia*, belonging to Zingiberaceae family, comprises ca. 102 accepted species distributed throughout India, Borneo, Cambodia, China, Laos, Malaya Peninsula, Myanmar, Philippines, Sumatra, Thailand and Vietnam (Lý et al. 2025; Saensouk et al. 2025; POWO 2026). In India, there are reports of 14 species reported from the genus (Das & Sikdar 1982; POWO 2026). While in Manipur, with the addition of *Boesenbergia kingii*, along with pre-reported *Boesenbergia rotunda* (Sharma et al. 2011) and *Boesenbergia longiflora* (Biseshwori & Rohinikumar 2008) updates the species documented to three.

The genus is characterised by rhizomatous herbs, deciduous or perennials, fleshy aromatic rhizomes with fibrous roots, erect pseudostem with leafy shoots and terminal inflorescence (Chen & Xia 2019). *B. kingii* has been reportedly used in traditional medicine in treatment of respiratory ailments, inflammation, and gastrointestinal issues, also exhibits antioxidant, antibacterial and anti-HIV, due to presence of bioactive compounds such as flavonoids, chalcones and diterpenes (Primus & Choo 2025).

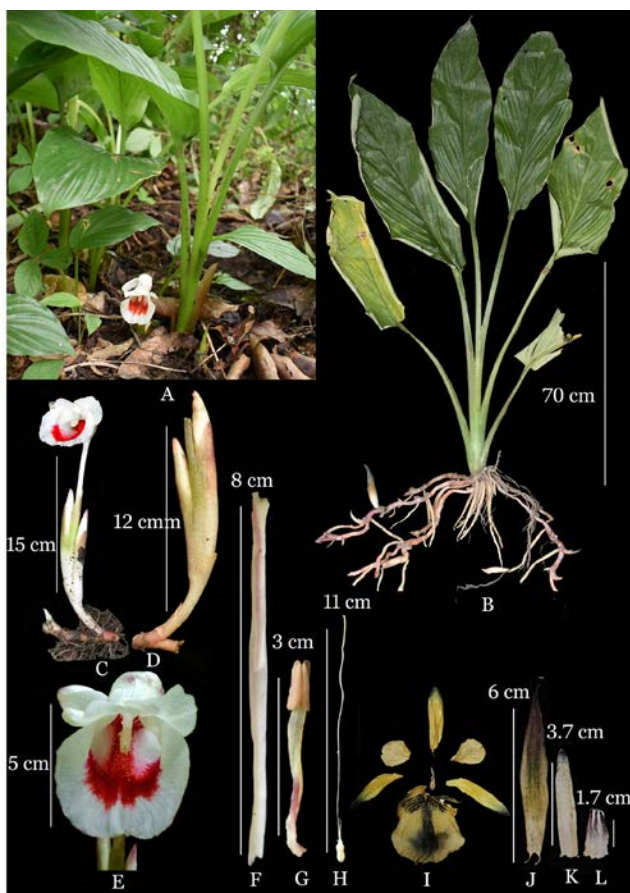
During a field survey at the Langol Hill range in Manipur the *Boesenbergia* species was found in its natural habitat. The identification of collected specimens was confirmed through consultation with the protologue and relevant literatures (Mood et al. 2013; Aishwarya et al. 2015; Chen & Xia 2019; Chowlu et al. 2022) as *Boesenbergia kingii* Mood & L.M. Prince. A herbarium specimen was prepared and deposited at

BRIC-Institute of Bioresources and Sustainable Development, Manipur, India.

### Taxonomic treatment

Type: Thailand, Kanchanaburi Province, Huai Kayeng, secondary forest margin, c. 200 m, 14°38.49' N, 98°31.40' E, 21.viii.2011, Mood & Vatcharakorn 3074, cultivated as M3074. [cf. Mood & Vatcharakorn 12P173, Cultivated in Hawaii, USA, 1.xi.2012] (holotype BK [BK065862!]).

Description: Herbs, deciduous, perennial, growing up to 70 cm tall, creeping rhizome 15 cm long; new shoots protrude horizontally, rhizome branched, outer skin maroon to light pink, transverse section of rhizome yellow to orange or brown, aromatic. Thin, white, root hairs extended from rhizomes. 1–2 leafless sheaths per pseudostem, oval, 5–15 cm long, longitudinally ridged, green or reddish, glabrous on both surface, hyaline margin. Leaves, 4–6 per pseudostem, 8–11.9 × 12–13.5 cm long; petiole glabrous, light green, 17–38.5 cm long; ligule bilobed, soft papery, translucent, glabrous, 3–5mm long; leaf blade 8–11.9 cm wide, elliptic or obovate, adaxial dark green, abaxial light green, base round or cordate, apex acute or attenuate. Inflorescence radical to terminal, one per pseudostem on separate shoots arising from rhizome, with symmetric cylindrical form; Flower Creamy white, 3 per inflorescence, 12–15 cm long; peduncle, 2.5 cm, white, glabrous; basal sheaths, 1.5–4 cm off-white, glabrous. Bracts ensiform, 1–2 × 4–6 cm, greenish-white, apex acute, red, glabrous on



*Boesenbergia kingii* Mood & L.M.Prince: A— Natural habitat | B— Whole plant | C— Inflorescence | D— Flower bud | E— Flower | F— Flower tube | G— Stamen | H— Ovary with Style | I— Floral Dissection | J— Bract | K— Bracteole | L— Calyx. © Mayengbam Aldrin

both side; bracteoles lanceolate, one each per flower 0.4–0.7 × 2–3.7 cm, apex acute, white glabrous; calyx tubular, 0.8 × 1.7 cm translucent white glabrous, apex dentate. Flower tube, 8–10 cm, white glabrous exterior and interior; corolla lobes (dorsal and lateral) oblong, 3.5 × 0.7 cm, creamy-white, apex obtuse or round, margin slightly involute, faintly pink, glabrous; Labellum saccate, elongate, 3.5 × 4.5 cm, lip white creamy, centre of throat bright red, with white dots, margin undulate, apex entire; lateral staminodes 1.3 × 1.5 cm creamy white, obovate. Stamen 3 cm, glabrous, white with a tinge of red filament base; anther basifixed, slightly bilobed. Ovary, white, 1 × 0.3 cm, trilocular with axile placentation, glabrous. Style, 11 cm, filiform; stigma elongate, white, ostiole vertical,



Herbarium specimen of *Boesenbergia kingii* (BRICIBSD/M322).

rectangular, unciliated; epigynous glands linear, two, 7–9 mm, white.

**Phenology:** Flowering from July to August. Fruiting not observed.

**Habitat:** Moist, shade area, evergreen forests, loose soil, at an elevation 1,072 m.

**Distribution:** Bangladesh, China, Myanmar, Thailand, and India (Andhra Pradesh, Arunachal Pradesh, Assam, Manipur, Mizoram, Sikkim, and Tamil Nadu).

**Specimens examined:** India, Manipur, Langol Hill range, 24.846° N, 93.905° E, 1,072 m, 17.vii.2025, BRICIBSD/M322.

**Diagnosis:** The three species of *Bosenbergia* genus reported from the state of Manipur can be morphologically identified based on the structure of rhizomes, inflorescence, anther,

Morphological differences between the three *Boesenbergia* species found in Manipur.

Plant character	<i>B. kingii</i>	<i>B. rotunda</i>	<i>B. longiflora</i>
Rhizome	Creeping	Short, compact and central rather than creeping	Running
Inflorescence	Radical to terminal, separate shoots arising from rhizome	Terminal, clasped within leaf-sheaths	Radical, separate shoots from the side of rhizome
Flower	White to creamy white	Pink	White to yellow
Bracteoles	White, glabrous, apex acute	White with light coral tinge, sparsely hairy, apex acute.	White translucent, glabrous, apex acute.
Lateral staminodes	Creamy white	Pink	Light yellow
Labellum	Labellum saccate, 3.5 × 4.5 cm, lip white creamy, centre of throat bright red, with white dots.	Labellum saccate 3.0–3.2 × 1.5–1.7 cm, lip deep pink towards tip and white with crimson dots and bands emanating laterally in the throat.	Labellum saccate, semi-orbicular, 2.2–2.5 cm, pale yellow, dark red in the middle of the throat, maculate, with spots of yellow showing through, and red pattern spreads to the tip of the lip.
Anther	Crest absent	Crest anther	Crest anther small and recurved, or absent
Corolla lobes	Oblong creamy white, apex obtuse, glabrous	oblong, white with pink tinge, apex acute, glabrous	linear to lanceolate, yellowish-white, glabrous,

and flower. The flowers of *B. kingii* are white to creamy white colour which differs from the pink flowers of *B. rotunda* and white to yellow in *B. longiflora*. In depth differences can be observed in the detailed colouration of the labellum and other floral structures as summarized in the table.

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