

# *Ilex fargesii* sub sp. *melanotricha* (Aquifoliaceae), a new addition to the Flora of India

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**Abstract:** The botanical survey conducted in the northeastern state of Manipur, India has resulted in the collection of *Ilex fargesii* Franch. subsp. *melanotricha* (Merr.) S. Andrews of (Aquifoliaceae), a current distribution of China, East Tibet, and Myanmar, is recorded for the first time from India. A detailed information is presented here with botanical descriptions, types, distribution, habitat notes, and photographs for easy identification. A dichotomous key including the nine species of *Ilex* found in the northeastern states is provided.

**Keywords:** Aquifoliaceae, *Ilex fargesii* subsp. *melanotricha*, KoziiirKorii, Manipur, New record

## Introduction

*Ilex* Tourn. ex L. is the monotypic genus of the Aquifoliaceae family, represented by 574 species and mainly distributed in tropical and subtropical regions of the world (Loizeau *et al.*, 2016; Jiang, 2017; POWO, 2024). Southeast Asia and South America are the main distribution centers of *Ilex* (Loizeau *et al.*, 2005). In India, the genus represents c. 28 species (Basu, 2000). Among these, nine species have been recorded from the northeastern states (Kanjilal & Bor, 1997; Chowdhery *et al.*, 1996; Basu, 2000). *Ilex* is characterized by a leathery, papery, or membranous leaf blade with a margin that is entire, serrate, or spinose; stipules are minute, persistent or caducous, with a callose scar. Male flowers have a 4–8-lobed calyx; 4–8

petals; and isomerous stamens. Female flowers have a 4–8-lobed calyx; 4–8 petals; and sagittate or cordate staminodes that are isomerous. The flowers are unisexual and borne in axillary, pedunculate, or sessile cymose inflorescences. The fruits contain 1–6 (–23) pyrenes, which are striate-sulcate or rugose and pitted (Loizeau *et al.*, 2016; Jiang, 2017).

During 2017, extensive field exploration was carried out in various locations in Manipur State, resulting in the collection of 267 taxa. The first author collected interesting specimens of *Ilex* species from moist evergreen forests along the forest edges of Koziiir Korii, Punanamai village, Senapati district. Among the collected specimens, a single species that could not be identified was further examined using authentic literature (Chen *et al.*, 2008; Hong, 2015). A critical examination of the fruiting material revealed its identity as *Ilex fargesii* Franch. subsp. *melanotricha* (Merr.) S. Andrews. A taxonomic evaluation of the specimens, scrutiny of relevant literature (Hooker, 1875; Deb, 1981; Haridasan & Rao, 1987; Chowdhery *et al.*, 1996; Kanjilal & Bor, 1997; Basu, 2000), and consultation of herbaria (ARUN, CAL, ASSAM) as well as online digital herbarium specimens (K, PE, BM, E, GBIF) were conducted. The voucher specimens were collected and deposited at the FRLH National Herbarium, Bangalore. Further scrutiny in India revealed that the representation of this species in literature and

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herbaria had not yet been recorded. Therefore, this paper presents the first authentic record with detailed descriptions and colour photographs for easy identification.

### Taxonomic Treatment

***Ilex fargesii*** Franch. subsp. ***melanotricha*** (Merr.) S.Andrews, Bot. Mag. (Kew Mag.) 3(3): 134. 1986. *Ilex melanotricha* Merrill, Brittonia 4: 101. 1941. *Lectotype* (designated by Hu, 1950): MYANMAR, Adung Valley, 2400 m, 31.03.1932, F. Kingdon-Ward 9331 (A [A00049576] digital image!; isolecto BM, E).

*Ilex chartaceifolia* C.Y.Wu ex Y.R.Li, Bull. Bot. Res., Harbin 5(1): 11. 1985. *Ilex chartaceifolia* var. *glabra* C.Y.Wu ex Y.R.Li, Bull. Bot. Res., Harbin 5(1): 12. 1985.

*Ilex micropyrena* C.Y.Wu ex Y.R.Li, Bull. Bot. Res., Harbin 5(1): 20. 1985.

*Ilex punctatilimba* C.Y.Wu ex Y.R.Li, Bull. Bot. Res., Harbin 5(1): 21. 1985.

Fig. 1 & 2

Shrubs or small trees, 3–5 m tall. Young branches longitudinally ridged and slightly angled, brownish, glabrous; mature branches with raised rounded leaf scars, lenticels absent. Leaves alternate, oblanceolate

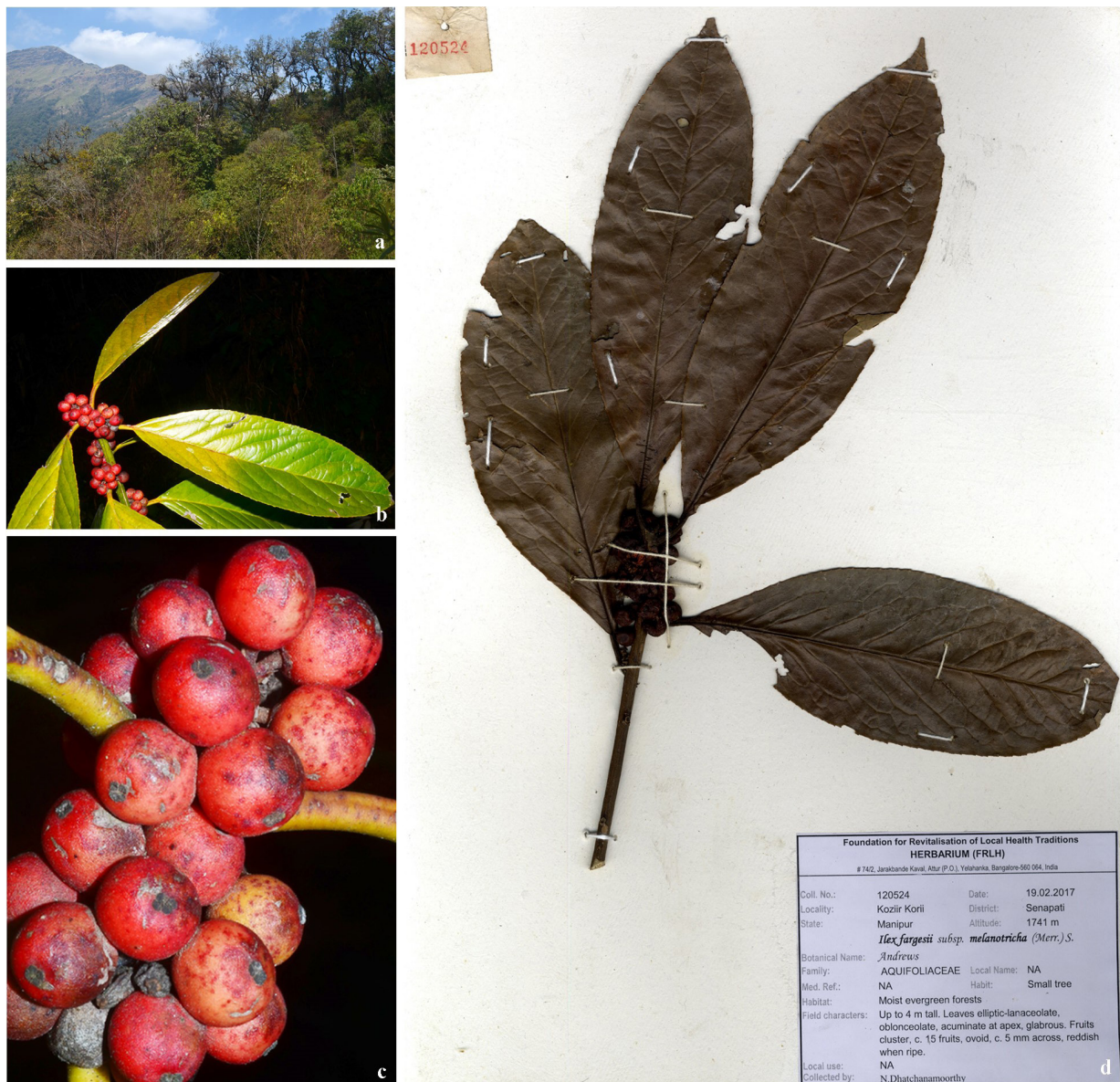


Fig. 1. *Ilex fargesii* Franch. subsp. *melanotricha* (Merr.) S. Andrews: a. Habitat; b. Habit; c. Solitary, axillary infructescence; d. Close up of the fruits.

to elliptic-lanceolate; lower leaf 11–17.5 × 5.5–6.5; upper leaves 20.5–21.5 × 6.5–7.0 cm, cuneate at base, serrate-serrulate at margin, acuminate at apex, leathery, adaxial and abaxial, glabrous, central veins strongly impressed, lateral veins 11–13 pairs, reticulate veins evident abaxially. Petiole 1.5–2.0 cm long, angled, or sub-flattened, thick, glabrous. Infructescence a 1-fruited cyme, pseudoracemose or fascicles, axillary, peduncles angled, 8–10 mm long; pedicels 2–5(–7) mm long, minutely hairy; bracts ovate, deciduous, minutely ciliate at margins; bracteoles deciduous. Flowers not seen. Fruiting calyx persistent, 4-lobed, lobes ovoid-obovoid, minutely ciliate at margins. Stigma persistent, flat, discoid, minutely 4-lobed. Fruit circular-globose, c. 7 mm long, bright red. pyrenes c. 4, oblong-ellipsoidal, c. 3–4 × 2–3 mm long, angled, longitudinally ridged.

*Flowering and fruiting:* Flowering not observed; Fruiting from February.

*Habitat:* The plants were growing inside the moist evergreen forests along with *Hedychium* spp.,

*Phlogacanthus thyriformis* Mabb., *Stauntonia latifolia* (Wall.) R.Br. ex Wall. and *Toona ciliata* M.Roem.

*Distribution:* It is native to China South-Central, Myanmar and Tibet (POWO, 2024) and now recorded from Senapati District of Manipur, India (Fig.).

*Specimens examined:* INDIA, **Manipur**, Senapati district, KoziirKorii forest, 1741 m, 19.02.2017, N. Dhatchanamoorthy 120524 (FRLH). CHINA, **Yunnan**, Gongshan, Changputung, 1700 m, 28.09.1940, K.M. Feng 8070. MYANMAR, **Adung** Valley, 1678 m, 09.09.1924, George Forrest 25069 (E [E00120343] digital image).

*Notes:* The present collection is from a dense, moist evergreen forest in KoziirKorii at 1741 m above sea level, Senapati district, Manipur and the authors observed only three fruiting individuals at 10 km sq. range, there is a possibility that the species may present in nearby areas. So, currently this species is categorized as regionally Data Deficient (DD) by IUCN (2024) threatened categories.

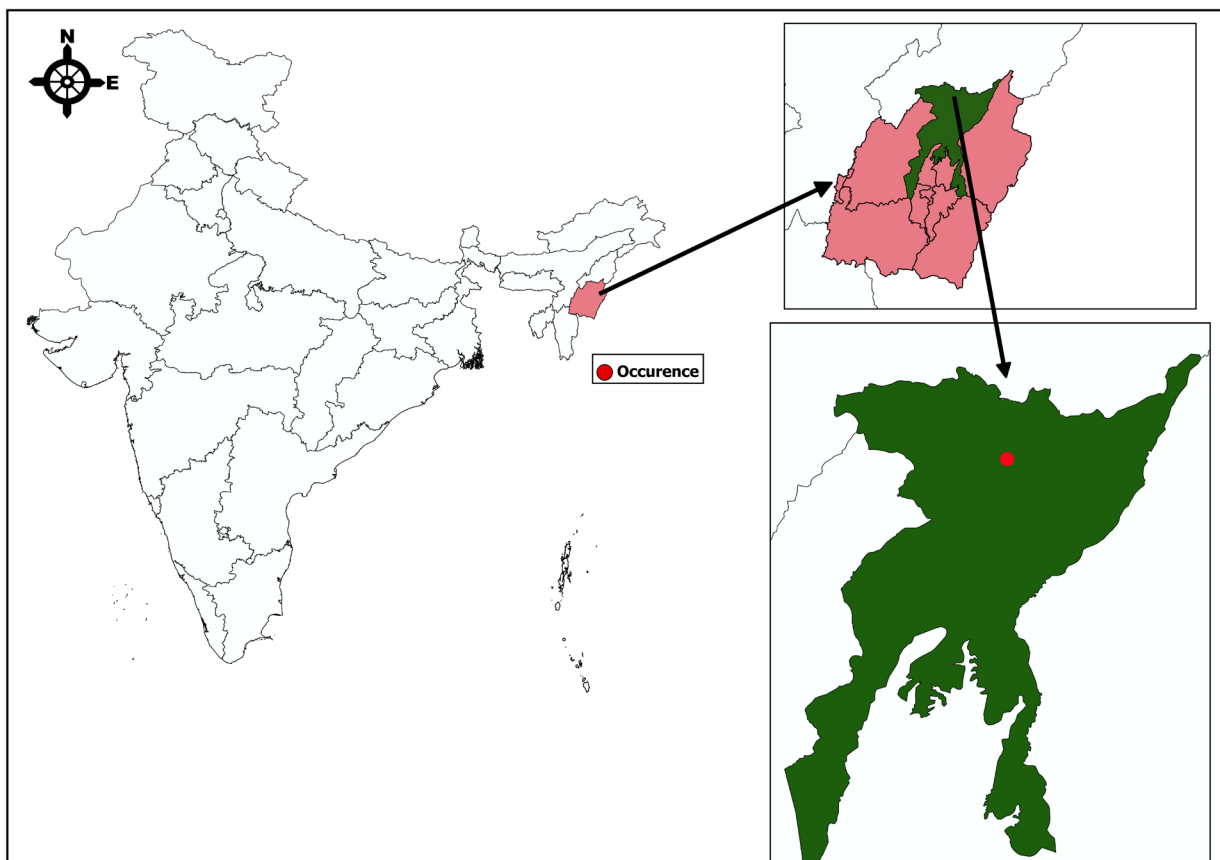


Fig. 2. Distribution map of *Ilex fargesii* Franch. subsp. *melanotricha* (Merr.) S.Andrews.

**Key to the species of *Ilex* from Northeast India**

1. Leaves fairly entire ..... 2
1. Leaves serrate or serrulate ..... 5
2. Branchlets glabrous; flowers 4–6-merous ..... *I. venulosa*
2. Branchlets other than glabrous; flowers 4–5-merous ..... 3
3. Calyx-lobes ovate ..... *I. doniana*
3. Calyx-lobes orbicular ..... 4
4. Calyx-lobes ciliate at margins, glabrous outside; petals ovate-obovate to oblong ..... *I. godajam*
4. Calyx-lobes entire at margins, pubescent outside; petals orbicular-oblong ..... *I. sulcata*
5. Leaves dark gland dotted beneath ....*I. thomsonii*
5. Leaves not gland dotted beneath ..... 6
6. Flowers solitary; 4-merous .....*I. griffithii*
6. Flowers fascicled; 4–5-merous ..... 7
7. Petioles channeled. Calyx lobes not unequal .. 8
7. Petioles winged. Calyx lobes slightly unequal .... 9
8. Branchlets warty; leaves few distant, spinous teeth or rarely entire; flowers 4-merous .....*I. embelioides*
8. Branchlets white streak granular; leaves acuminate-caudate; flowers 4–5-merous. .... *I. theaeifolia*
9. Leaves membranous ..... *I. fragilis*
9. Leaves coriaceous ..... 10
10. Leaf lateral veins 10–13 pairs .....  
.....*I. fargesii* subsp. *melanotricha*
10. Leaf lateral veins 12–15 pairs ..... *I. sikkimensis*

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