

Extended distribution of *Phyllanthus debilis* (Phyllanthaceae) in North-East India from Assam

*Rohit Kumar Verma, Sandeep Kumar Pal¹, Baleshwar Meena, Sushma Tamta² and Lal Babu Chaudhary

Plant diversity, Systematics & Herbarium Division,
CSIR-National Botanical Research Institute,
Rana Pratap Marg, LUCKNOW - 226001, INDIA

¹Academy of Scientific and Innovative Research
(AcSIR), AcSIR Headquarters CSIR-HRDC Campus,
Postal Staff College Area, Sector 19, Kamla Nehru Nagar,
GHAZIABAD-201002 (UP) INDIA

²Department of Botany,
Kumaun University,
NAINITAL-263 001 (UK) INDIA

*Corresponding Author

E-mail : rohityash.verma2@gmail.com

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ABSTRACT

Phyllanthus debilis, basically a species of coastal regions in India, is reported here for the first time from Assam State of North-East India. Earlier it was known only from Upper Siang District of Arunachal Pradesh and therefore it also forms an extended distribution in North-East region. The species is described and illustrated here for easy identification.

Figures : 02

References : 19

Table : 00

KEY WORDS : Assam, DimaHasao, New record, N. E. India, Phyllanthaceae.

Introduction

Phyllanthus, the largest genus in the family Phyllanthaceae is chiefly distributed in tropical to warm temperate regions¹⁴ and comprises about 833 species in the world¹⁰. In India the genus is represented by 51 species⁵ including 12 herbaceous species⁶. It is widely distributed throughout India from North to South and West to East.

Among many herbaceous species, the taxonomic identity of true *Phyllanthus debilis*, remained unresolved for long time in India. Finally, some workers¹⁶ pointed out that true *Phyllanthus debilis* was not correctly identified in any Indian flora, and the plants mentioned under this name belong to *P. debilis* which is altogether a different species. Since *P. debilis* became a later homonym of *Phyllanthus debilis*, it was replaced by *P. airy-shawii*^{16,17}. Subsequently, others⁶ synonymized *P. debilis* and *P. airy-*

shawii under *P. kozhikodanus*¹⁸. *P. debilis* was initially reported only from coastal regions of India (Bengal, Orissa, Maharashtra, Goa, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, and Andaman & Nicobar Island)^{6,16}. Subsequently, it was also recorded from Rajasthan and Madhya Pradesh.^{1,5} From North-East India *P. debilis* was listed for the first time from Upper Siang District of Arunachal Pradesh without providing any taxonomic details⁸.

Materials and Methods

While recently exploring the flora of DimaHasao district of Assam, we collected an interesting *Phyllanthus* species from Harangajao forest area (25°6'32"N to 92°58'41"E) at 420 m elevation. After the critical consultation of the relevant literature^{4-6,16,19} and herbarium specimens housed at LWG, the collected specimen was identified as *Phyllanthus debilis* which forms a new record

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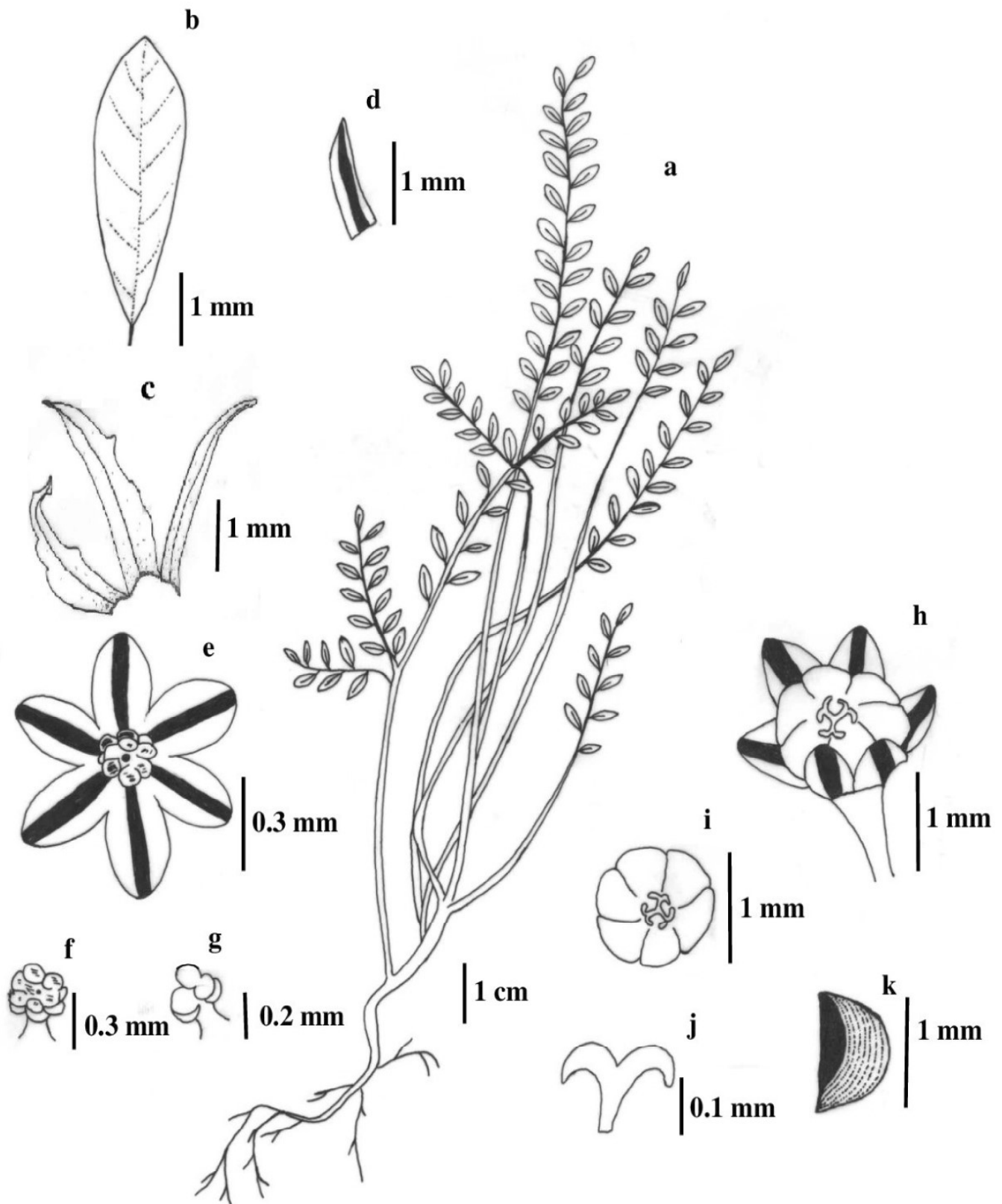


Fig. 1. *Phyllanthus debilis* a. habit; b. leaf; c. cataphylls; d. stipule; e. male flower with stamens; f. stamens; g. anther; h. female flower with fruit; i. fruit with styles; j. style; k. seed.

for Assam and extended distribution of the species in North-East India as it was not recorded earlier from here^{2,9,13}.

A field survey conducted during March 2017 in DimaHasao district of Assam, North-East India. The plants of *Phyllanthus debilis* Klein ex Willd., were collected from Harangajao forest area (25°6'32"N to 92°58'41"E) at 420 m elevation. The photographs were taken and GPS location data were recorded using Garmin instrument (eTrex10). For the preparation of herbarium specimens, the techniques outlined^{12,15} were followed. The voucher specimens of the species have been deposited at LWG for future record. The plants were examined under the stereo zoom dissecting microscope (Leica S8 APO) to record the morphological characters.

Result

Annual herbs, erect, 10–60 (–80) cm high, entirely glabrous. **Stems:** 2–3 mm thick, terete below, angular above, with normal leaves when young, bearing small scaly leaves when old, leafless and woody when mature; leaf-bearing branchlets up to 8 cm long, deciduous. **Cataphylls:** 0.8–1.5 × 0.4–0.6 mm, narrowly lanceolate or subulate to linear, truncate at base, acuminate at apex, thick along midrib, membranous. **Stipules:** 0.5–1.4 (–3) × 0.4–0.8 (–1.2) mm, triangular to narrowly lanceolate, truncate at base, acuminate at apex, thick along midrib, entire or sometimes irregularly wavy along margins, membranous. **Leaves:** 4–10 (–20) × 2–5 (–7) mm; petioles up to 1 mm long; lamina narrowly oblong-elliptic or linear-oblong or obovate-oblong, cuneate at base, entire along margins, tapering to acute at apex, glabrous on both the surfaces, membranous to chartaceous; with up to 6 pairs lateral nerves. **Cymules:** unisexual; male

cymules 2–5-flowered, at proximal nodes, female cymule 1-flowered, at distal node; bracts 0.5–1 × 0.2–0.5 mm, linear or linear-lanceolate. **Male flowers:** pedicels up to 1 mm long, filiform; sepals 6, 0.6–1 × 0.4–0.6 mm, biseriate, subequal, obcuneate, obovate or oblong-elliptic, with broad white or membranous along margins and thick along middle portion, obtuse or rounded at apex; disc glands 6, rounded to suborbicular; stamens 3, filaments connate into a column, 3-fid at apex; anthers 0.1 × 0.1 mm, globose-deltoid, transversely dehiscent. **Female flowers:** pedicels up to 2 mm long; sepals 6, 0.8–1.2 × 0.4–0.9 mm, biseriate, subequal, narrowly obovate or oblong-elliptic, with broad white or membranous margins and thick along middle portion, obtuse at apex; disc cupular to annular or saucer shaped, 0.5 × 0.5 mm, entire, shallowly 6 or more lobed; ovary 0.5–1 mm in diam., glabrous; styles 3, up to 0.5 mm long, free, spreading, deeply bifid to halfway. **Capsules:** 1–2 × 1.5–2.5 mm, imperfectly lobed, glabrous. **Seeds:** 0.6–1 × 0.3–0.5 mm long, trigonous, with 6–7 longitudinal ribs and many fine horizontally striae on the back, yellowish-brown.

Fl. & Fr.: January–March.

Habitat: Commonly growing as a weed in waste places, fallow and agricultural lands.

Distribution in India: It is widely distributed in Bengal, Orissa, Maharashtra, Goa, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, and Andaman & Nicobar Island and it was also recorded from Rajasthan and Madhya Pradesh.

Specimen examined: INDIA, Assam, DimaHasao District, Harangajao, 25°6'32"N to 92°58'41"E, 420 m, 29.03.2017, Rohit Kumar Verma, Vijay Vishnu Wagh & Baleshwar Meena 308481 (LWG).

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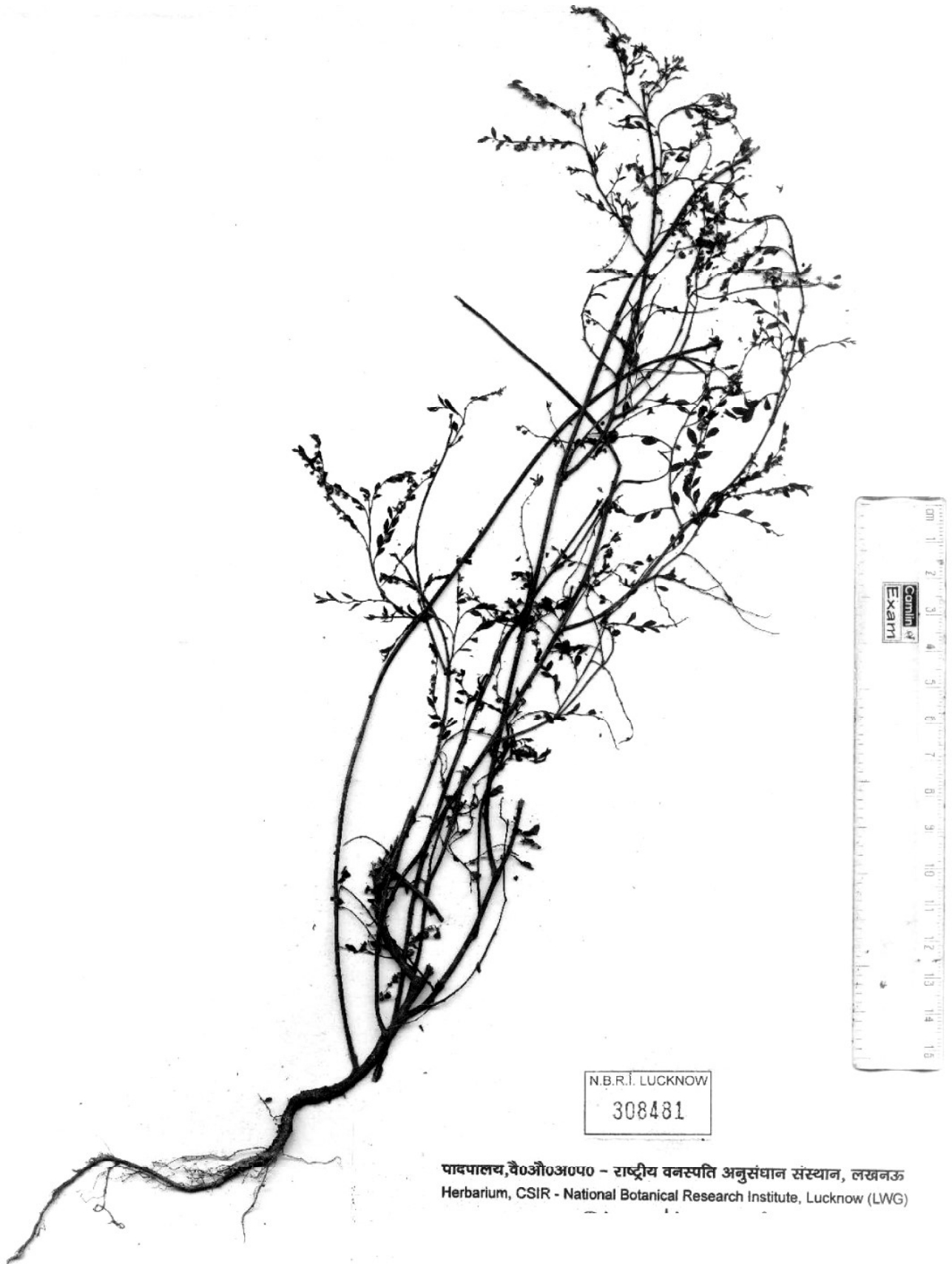


Fig. 2: Scanned image of herbarium specimen

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