

***Dioscorea daunea* Prain & Burkill (Dioscoreaceae): a new report to the Flora of India**

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Abstract

Occurrence of *Dioscorea daunea* Prain & Burkill (Dioscoreaceae) in Arunachal Pradesh and Assam, North east India, forms new report for the flora of India.

Key words: New for India, *Dioscorea daunea*, taxonomy, Arunachal Pradesh, Assam

The Northeastern region of India comprising the states of Arunachal Pradesh, Assam, Meghalaya, Manipur, Tripura, Mizoram, Nagaland and Sikkim can be physiographically categorised into the Eastern Himalayas, Northeast Hills (Patkai-Naga Hills and Lushai Hills) and the Brahmaputra and the Barak Valley Plains (Carter 1985). Arunachal Pradesh and upper part of Assam lie on the Northeastern tip of India. It is located between 26° 30' and 29° 28' North latitude and 91° 36' and 97° 30' East longitude. Arunachal Pradesh is located on the boundary of Paleocentric, Chinese, Malayan and Indian bio-geographic region (Haridasan & Deori 1991). The genus *Dioscorea* Linnaeus, includes around 630 species, is the largest genus of Dioscoreaceae, distributed in Africa, India, Southeast Asia, Australia and tropical America (Jayasurya 1984; Wilkin 1999). Prain & Burkill (1936) reported the occurrence of about 50 species of *Dioscorea* in India, largely in the West, East and Northeast regions. During our consecutive survey in Arunachal Pradesh and Assam for diversity and taxonomy of the genus *Dioscorea*, the first author has already reported 30 species from Arunachal Pradesh and collected 16 species from Assam (Saikia & Das 2009; Saikia *et al.* 2011).

During floristic inventorying and the study of the genus *Dioscorea* in North east India, *Dioscorea daunea* Prain & Burkill, has been collected from East Siang district of Arunachal Pradesh and Tinsukia district of Assam and identified by critical scrutiny of herbarium specimen of CAL and K herbaria. The specimens have been deposited in AUH (Rajiv Gandhi University Herbarium) and at CAL. After identification, the authors have done a critical scrutiny of literature on report of this species and it revealed that this is its first report from India. This species was discovered and named by Prain & Burkill (1936) from Myanmar (Burma) and was recently reported from Thailand (Thapyai & Wilkin 2009). Detailed description and illustration of this species are provided below for its identification

and future study. This species has been introduced in Botanical Garden of Rajiv Gandhi University for future reference.

Dioscorea daunea Prain & Burkill, J. & Proc. Asiat. Soc. Beng. 4:450. 190 [PLATE - I; Fig 1]

Type: Amherst district: Dauria range, Burma, Alt. 941m (Holotype: K000098255, Isotype: CAL !)

Climbing to 7 m in height. Tubers 2 – 3 together, 5-10 x 2-3 cm, cylindric to clavate, annually replaced, vertically oriented. *Indumentum* absent, *Stem* 2-4 mm in diameter, twinning to left, annual, terete, unarmed. *Leaves* simple alternate, base cordate to sagittate or auriculate,; lamina broadly ovate to sagittate-ovate, chartaceous, 5 – 7 veined, first pair often near the leaf margin towards apex entire, acuminate; *Petioles* 3-9 cm long, *cataphylls*, *bulbils* and *lateral nodal organ* absent. Inflorescence pendent, male inflorescence racemose, simple or compound, 1-2 per axil, peduncles 3-4 mm long, axes 2 cm long; female inflorescence racemose, simple. Male flower arranged in alternate manner, tepals ovate, outer tepals 2-2.5 mm by 1.5-2 mm long, inner tepals 1.5 to 1 mm long, stamens 6. Female flowers on 3-4 mm long pedicels.

Flowering: September- November; *Fruiting:* December-February

Ecology: In Arunachal Pradesh the authors recorded this species from undisturbed forest along Siang river in Boleng area (640 m amsl) of East Siang District and in Assam, Tipong

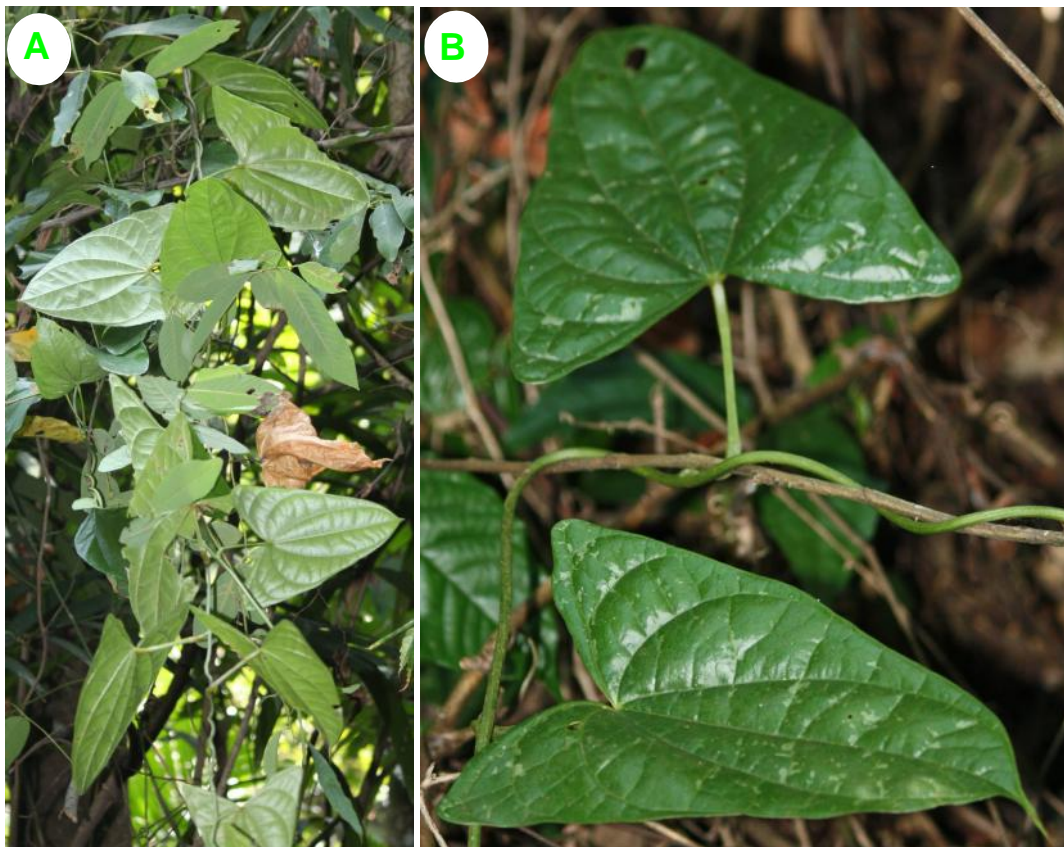


PLATE - I: *Dioscorea daunea* Prain & Burkill: A. Habit in natural habitat; B. Leaves

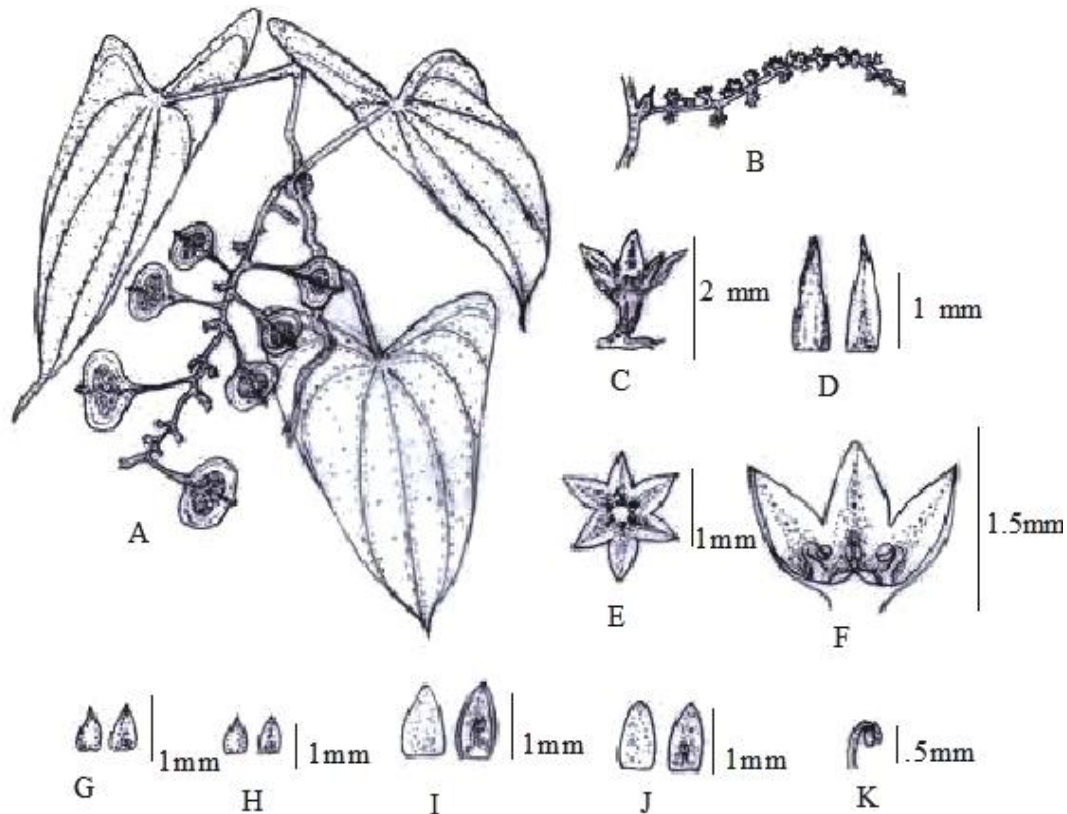


Fig 1. *Dioscorea daunea* Prain & Burkill: **A.** Habit with immature inflorescence; **B.** male inflorescence (in part); **C.** male flower in side view, **D.** male primary bract, dorsal and ventral views, **E.** male flower, top view, **F.** vertical section of male flower showing stamen, pistilode, **G - H.** floral bracts and bracteoles, dorsal and ventral surfaces, **I - J.** Outer and inner tepals, dorsal and ventral surface, **K.** Stamen

(251 m amsl), Digboi, and Lekhapani (146 m amsl) of Tinsukia District. It is a forest species found in hill evergreen forests especially in undisturbed area. This species is confined to narrow range of habitat in both Arunachal Pradesh and Assam. In Assam, the authors have recorded the species in the Tropical Wet Evergreen Forest.

Distribution: Myanmar, Thailand and India (Arunachal Pradesh and Assam)

Arunachal Pradesh: Boleng (East Siang).

Assam: Tipong PRF under the Lekhapani Range of Digboi Forest Division in Tinsukia District. [1) N-27D18M18.4S, E-095D52M04.2S, Alt-146m: 2) N-27D18M21.1S E-095D52M17.4S, Alt-251m.]

Specimen Examined: Boleng, Arunachal Pradesh, *Bhaskar 0193*, dated 27.10.2010 (AUH), & *Bhaskar 0581*, 14.8.2011 (AUH); Assam: *J. Sarma 20*, 2013.

Note: The species has close affinity with *D. garrettii* Prain & Burkill but the stem is more slender (Wilkin & Thapyai 2009). Wilkin & Thapyai (2009) in *Flora of Thailand*, mentioned an identification key for sterile material of *D. daunea* by the relatively large leaves in which the first vein pair often curves sharply out towards the leaf margin, especially in the apical

third of the blade. The locality and date of collection of the type has not been clearly mentioned which is available in Kew. We did not able collect specimen with female flower, just collected one specimen with damaged female inflorescence.

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