

Rediscovery of *Dioscorea lepcharum* Prain & Burkill [Dioscoreaceae] —from Arunachal Pradesh, India Pradesh, India after a century

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Abstract

Dioscorea lepcharum Prain & Burkill (sect. *Enantiophyllum*) is an edible yam species rediscovered after a century after its previous collections in 1903 and 1909. Recently the species has been collected from the Pasighat and Boleng areas of Siang valley of Arunachal Pradesh. The present article presents the taxonomic description and status of distribution of this rare species.

Key words: *Dioscorea lepcharum*, Rediscovery, Arunachal Pradesh

INTRODUCTION

Arunachal Pradesh, is located at the extreme north-east of India is known for its high biological diversity and its botanical paradise with high endemism. Field survey during the years 2008 – 2010 to record the distribution of the Genus *Dioscorea* in Arunachal Pradesh of India, a specimen was collected from Ruksin area under Pasighat (West Siang district), which was identified later on as *D. lepcharum* Prain & Burkill, using literature like Prain & Burkill (1936) and Burkill (1924). I.H. Burkill collected this species from Sadiya and Pasighat areas in 1903 and 1909. During present survey authors have collected this species from nearby places like Bolenge, Ingkiong and Jonai.

RESULT

Dioscorea lepcharum Prain & Burkill in J. Asiat. Soc. Bengal, n.s. 10: 36. 1914.

Type: East of Sadiya, Dist. Lakhimpur (Presently Tinsukia), Assam, 1909, Burkill 32665.

Tuber several, produced upon the end of long slender stalk which sprad laterally in soil as well as descend, the stalk may be as much as 50 cm long, towards the distal end it swells gradually in to a 5 – 15 cm long tuber with a diameter of 1 – 1.5 cm, flesh white and delicate, branched tuber was also noticed. Stems unarmed, glabrous with upto 8 longitudinal ridges, sometimes very obscure. Bulbils present, abundant, large, roundish or irregularly lobed in various directions. Cataphylls and lateral nodal organs absent. Leaves opposite or alternate; lamina often exactly cordate but equally often with the lobes slightly extended in a sub-

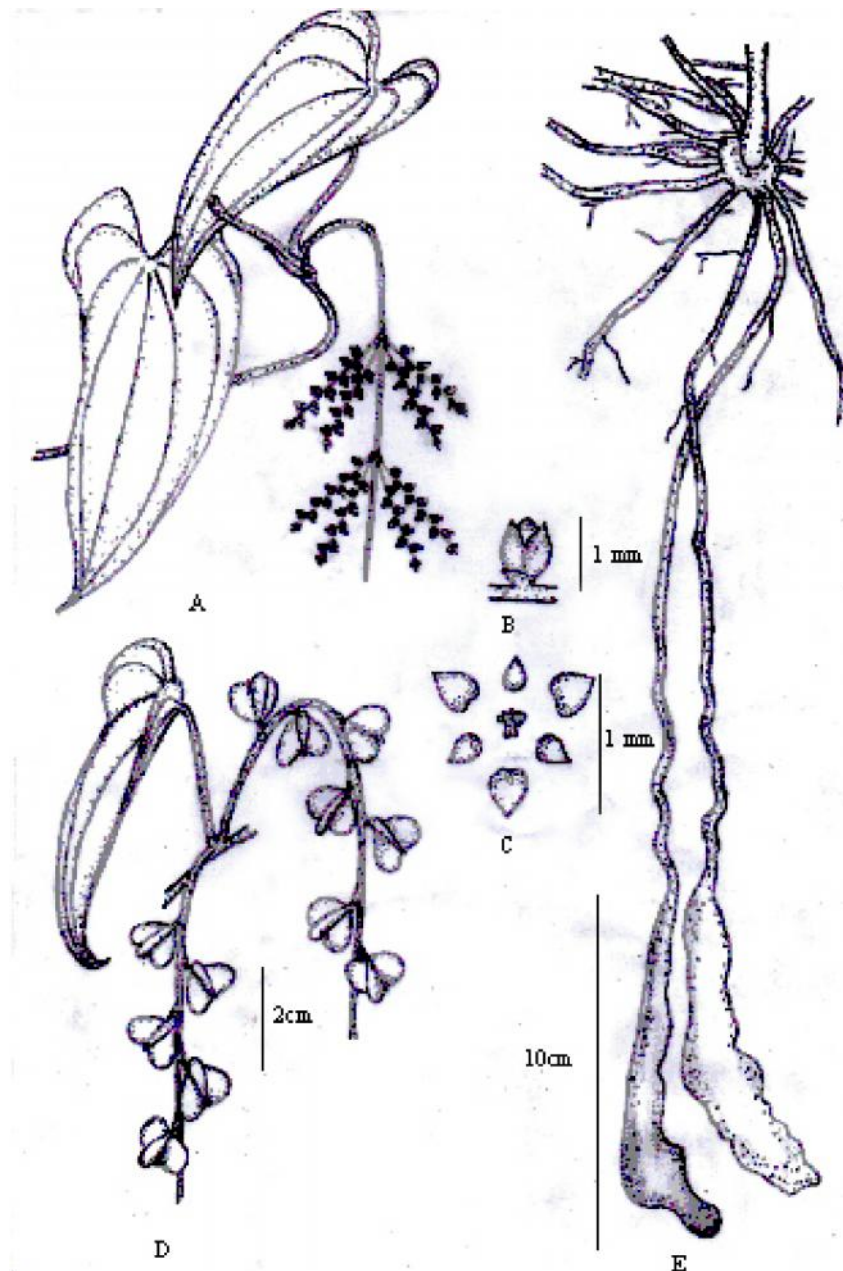


Fig. 1. *Dioscorea lepcharum* Prain & Burkill: **A.** Male plant with inflorescence; **B.** Lateral view of male flower; **C.** Arrangement of bracts and tepals of male flowers; **D.** Female inflorescence; **E.** Root-stock and tuber

hastate way, 4.5 – 7 by 6 – 10 cm, thin, 7 nerved, first pair of nerves enclose a narrowly elliptic ovate area, second pair of nerves diverge from the midrib at about 80° angle to become sub marginal in the upper half of lamina, nerves of third pair curve in the lobes and give off a branch towards the extremity of lobes, upper surface glabrous, with larger nerves prominent and network markedly very distinct, margin of lamina not strengthened; petioles 4 – 7 cm long. Inflorescence pendent, spicate. *Male spikes* simple on long special leafless

branches those attain 40 – 50 cm in length and have rather long internodes, spikes 2 – 4 per axil, 3 - 5 cm long, axes glabrous, angular with 10 – 30 flowers; flowers with outer tepals, broadly obovate, inner tepals 0.7 – 1.2 mm by 0.9 – 1.1 mm, obovate to shortly spatulate; stamens 6, erect. Female spikes simple or compound, 1 – 2 per axil, up to 25 cm long, elongating in fruit, angled, glabrous, more than 15 flowers in each exile; bracts ovate; female flowers with outer tepals to 1.5 mm long and inner tepals rounded, 1.2 x 1 mm. Capsules 1 – 1.5 cm long and 0.5 – 0.8 cm width. Seeds 6 - 8 x 5 – 7 mm, wing 1.4 – 1.8 x 1.5 – 2 cm, all around the seed.

Distribution: Eastern Himalaya, India (West Bengal, Assam and now from Arunachal Pradesh) and Northern Burma (Burkill 1924). In Arunachal Pradesh the species found growing at Ruksin, Jonai, Ingkiong, Jeng-ging, Aloo, Boleng and Kalaktang

Specimen Examined: Arunachal Pradesh:, Ingkiong, 02.10. 2010, *Bhaskar 208* (AUH); Boleng 29.10.2010, *Bhaskar 201* (AUH); Jonai 23,09.2010, *Bhaskar 196* (AUH).

Additional specimen examined: Assam, 1903 No. 26534 (CAL); Dibrugrah, 1909, Burkill 32611 (CAL); Darjeeling, 1911, No. 34207 (CAL); Bhamo, 1904, Burkill 22828 (CAL).

Note: Prain & Burkill first published the species in 1914 and, later in Burkill (1924) recorded the species in his book “Botany of Abor Expedition”. For last 85 years the Indian literature remained silent about occurrence of this species. This species has resemblance with *D. hamiltonii* Hooker f. by its arrangement of leaves and male flowers but length of stem (avg 15.5 m) is much more than *D. hamiltonii* (avg. 5 m) and ridges in stem are absent in *D. lepcharum* but is a significant character for *D. hamiltonii*. In Siang valley, the root-tuber of this is edible but, may be, due to high rate of collection directly from the forest without giving attention for cultivation, its population is now very much limited. During the present survey, the species was collected from 6 different localities but the total recorded population was not more than 50 individuals. The species is now introduced into the Botanical Garden of Rajiv Gandhi University, Arunachal Pradesh.

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LITERATURE CITED

- Burkill I.H. 1924. Botany of the Abor expedition. *Rec. Bot. Surv. India* 10 (1): 347 – 349.
- Prain, D. & Burkill, I.H. 1914. A synopsis of the *Dioscorea* of the world, Africa excluded, with descriptions of new species, and varieties. *J. & Proc. Asiat. Soc. Bengal* 10(1): 5 – 41.
- Prain, D. & Burkill, I.H. 1936. An account of the Genus *Dioscorea* in the East. *Ann. Royal Bot. Gard., Calcutta*. Longman, London, UK