

# *Dioscorea puber* Blume. (*Dioscoreaceae*): a new addition to the flora of Manipur

## Abstract

*Dioscorea puber* Blume, has been recorded from Churachandpur district of Manipur, India extending its distributional areas for the first time in this North Eastern part of the country. Illustrations, associate flora and ecology has provided for the easy identification in field. The medicinal values were collected from locals through a Passport Data Form. The survey results revealed that the plant has been used for different uses as a substitute to common vegetables or as an herbal medicine popularly used by tribal communities.

**Keywords:** *Dioscoreaceae*, new record, Manipur, distribution of *Dioscorea*, medicinal values

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## Introduction

Manipur is one of the state in North-Eastern part of India, is a hub of different types of plant species which are yet to be discovered especially available in the forest areas of the state. This state is also a part of Indo Burma Biodiversity Hotspots enriched by huge amount of endemic and endangered floral and faunal biodiversity. Many species of floral diversity are distributed in the regions which are yet to be explored. Among them, the species of genus *Dioscorea* is abundantly found in the hilly terrains and Valleys of the state. During the survey on floral diversity, authors are found a species of *Dioscorea* from South of Churachandpur district of the State (24°16'46.70"N latitude, 93°41'15.32" E longitude and 880 m elevation). After morphological characterization, authors confirmed it as *Dioscorea puber*. *Dioscorea* genus has starchy edible tuber of over 600 species. According to Sheikh et al.,<sup>1</sup> there are about 50 species of *Dioscorea* reported from India, out of which few species are reported from North-East India. This constitutes about 16 species from Meghalaya, about 30 species from Arunachal Pradesh,<sup>2</sup> about 10 species (*D. bulbifera*, *D. alata*, *D. glabra*, *D. pentaphylla*, *D. hamiltonii*, *D. hispida*, *D. puber*, *D. oppositifolia* etc.) from Tripura,<sup>3-5</sup> and about 4 species<sup>6-8</sup> has been so far reported from Manipur (*D. bulbifera*, *D. alata*, *D. sativa* and *D. pentaphylla*). Keeping all in views, an attempt has been made to collect the medicinal values from the local communities of this new *Dioscorea* species for Manipur.

## Materials and methods

The collected specimen is identified by Authors through the critical analysis of morphological characters. The Herbarium sheets (APRF-MAN-BCD/2018-0002) was made and deposited in the Biodiversity and Conservation Division of APRF. The collected specimen plant is also grown in the APRF garden, Imphal for further analysis of its components. The Passport Data Form has been used to collect the ethnomedicinal information.

## Results

### Morphology and taxonomy

*Dioscorea puber* Bl. Enum. Pl. Javae 1:21. 1827; Prain & Burkill Ann Roy. Bot. Gard. (Cutcutta) c14(2):402. tt. 138 & 143. 1938; Burkil in Steenis. Fl. Males. I.4:333. 1951.

**Synonyms:** *D. anguina* Roxb. Fl. Ind. 3: 803. 1832; Hook. F. Fl. Brit. India 6:293. 1892; Haines, Bot. Bihar & Orissa 3: 1117 (1167). 1924; Fischer in Gamble, Fl. Madras#: 1513 (1057). 1928.

**Description:** Stem twining to the right, densely pubescent. Root sock woody, directly producing cylindrical tuber; tuber 35-50cm long, 1.6cm diameter at the neck, 3.5-3.9cm in the middle. Bulbils axillary, potato like, 1.3-2.6cm across, with greenish skin. Leaves are opposite, broadly ovate or sub orbicular. 7.8-25x5-22cm, acuminate or cuspidate, pubescent on the nerves beneath, base cordate, petiole half to as long as the blade, pubescent. Stamen 6 perfect, small adnate to the inner perianth lobes. Female spikes densely pubescent, 6-11cm long, solitary axillary or mostly in short axillary panicles, 9-11cm long. Perianth 1.1 mm long, thickened at base with age outer perianth lobes ovate rounded, inner rather smaller. Ovary densely pubescent or tomentosa, not beaked. Capsule 1.2-2.3cm long and 2.1-3.2 cm broad, sub cordate at top and bottom, margine of wings thickened. Seeds winged all around (Figure 1).

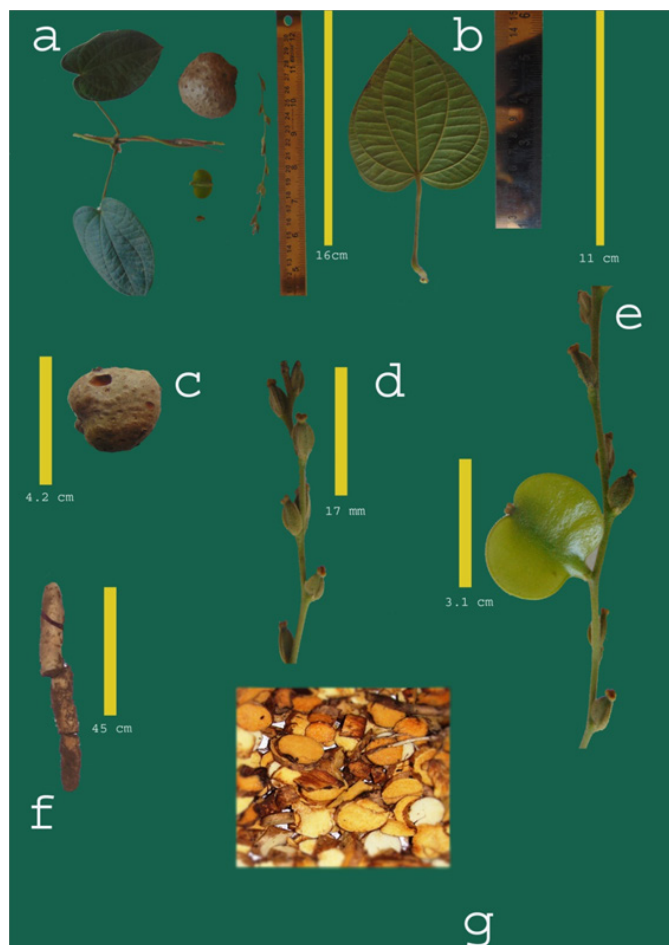
**Flowering:** September to November

**Fruiting:** December to January

**Ecology:** *D. puber* is found in hilly regions where temperature is moderate and found to be grown associated with *D. bulbifera*, *Cissamples pereiyara*, *Smilax ovalifolia*, *Curcuma aromatic*, *Celastrus paniculata*, *Lygodium flexuosum*, *Melastoma malabathricum* etc.

**Conservation threats:** Authors did not observed any threats during

the collection period but in near future the deforestation will destroyed soon.



**Figure 1** Vegetative parts of *Dioscorea puber*

**Specimen:** India, Indo-Burma Biodiversity Hotspot, Churachandpur, Manipur, 24°16'46.70"N, 93°41'15.32" E, 880 MSL, Sabeela Beevi Ummalyma, Rajkumari Supriya Devi, Sanjeet Kumar, APRF-MAN-BCD/2018-0002.

**Note:** The collected species indicate its distribution up to the Indo-Burma Biodiversity hotspots of the country. Its new distributional record shows the occurrence of other associate floras in Manipur. The ethno botanical survey revealed that the tubers are used as food and

other parts are used to treat skin infections. The local use the tuber to get instant energy. Other researchers also reported its medicinal values.<sup>8,9</sup>

### Acknowledgments

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### Conflicts of interest

The authors declared there are no conflicts of interest.

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