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RESEARCH ARTICLE

# *Dioscorea glabra* Roxb. (Dioscoreaceae): an addition to the flora of Telangana, India

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**Abstract**:*Dioscorea glabra* Roxb. is reported here as an addition to the Flora of Telangana. Detailed description, photo plate and relevant notes are provided for easy identification.

**Keywords**: Addition, *Dioscorea*, Flora, Kanakagiri hills, Khammam, Telangana

## Introduction

The genus *Dioscorea* L. belongs to the monocot family Dioscoreaceae. They are commonly referred to as "Yams." These plants are having underground tubers and rhizomes; climbing herbs or shrubs; stems annual, twining either to right or to left, sometimes with auxiliary aerial bulbils; leaves alternate, rarely opposite, simple and compound, often cordate with reticulate venation. Many people around the world rely on the underground and/or aerial tubers of this plant for protein, fats, carbohydrates, and vitamins. Especially several species of *Dioscorea* L. are staple food for many tribal people. It is recognized as the fourth most important tuber crop after potatoes, cassava, and sweet potatoes and contributes about 10% of the total root and tubers production around the world (Viruel *et al*. 2016). Besides, from its nutritional value, *Dioscorea* L. is a potential source of bioactive substances of interest useful in the treatment of a variety of diseases. However, ethnomedicinal potential needs to be validated, and more research on pharmacological properties and phytochemical composition is needed.

The genus *Dioscorea* L. comprises c. 630 species worldwide and is mostly confined to the tropical and subtropical regions with a few in North temperate regions (Mabberley 2008). In India, the genus is represented by 32 species and 28 taxa (Karthikeyan *et al*. 1989) and 60 taxa, 37 species and 23 varieties (Manas Bhaumik 2020). Among them six species are endemic (Singh *et al*. 2015). In Telangana, the genus *Dioscorea* L. is represented by six species (Pullaih 2015) and eight species (Reddy and Reddy 2016). Since then, one species *Dioscorea pubera* Blume. was added to the Flora of Telangana by (Swamy *et al*. 2021). The present study results, one more species i.e *Dioscorea glabra* Roxb., was added to the Flora of Telangana state from Khammam district. Therefore, as of now, there are 10 species of *Dioscorea* L. represented in Telangana state.

## Materials and methods

While exploring the plant wealth of Kanakagiri hills, Khammam district of Telangana state. The first author came across and collected some interesting plant specimens of Dioscoreaceae. After a critical study, the collected specimens were identified using relevant floras and literature (Hooker 1872-1897, Prain and Burkill 1938, Rao and Verma 1973). The scrutiny of the literature revealed that this species has not been

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listed in the Flora of Telangana (Pullaiah 2015, Reddy and Reddy, 2016) and the recent Floral checklist by (Reddy 2018). Hence, this species is reported here as a new addition to the Flora of Telangana state. Detailed description, GPS coordinates and colour photographs were provided to facilitate easy identification. The voucher herbarium sheets were prepared by standard herbarium methods (Jain and Rao 1977), voucher specimens are deposited at the Osmania University, Hyderabad, Telangana (HY).

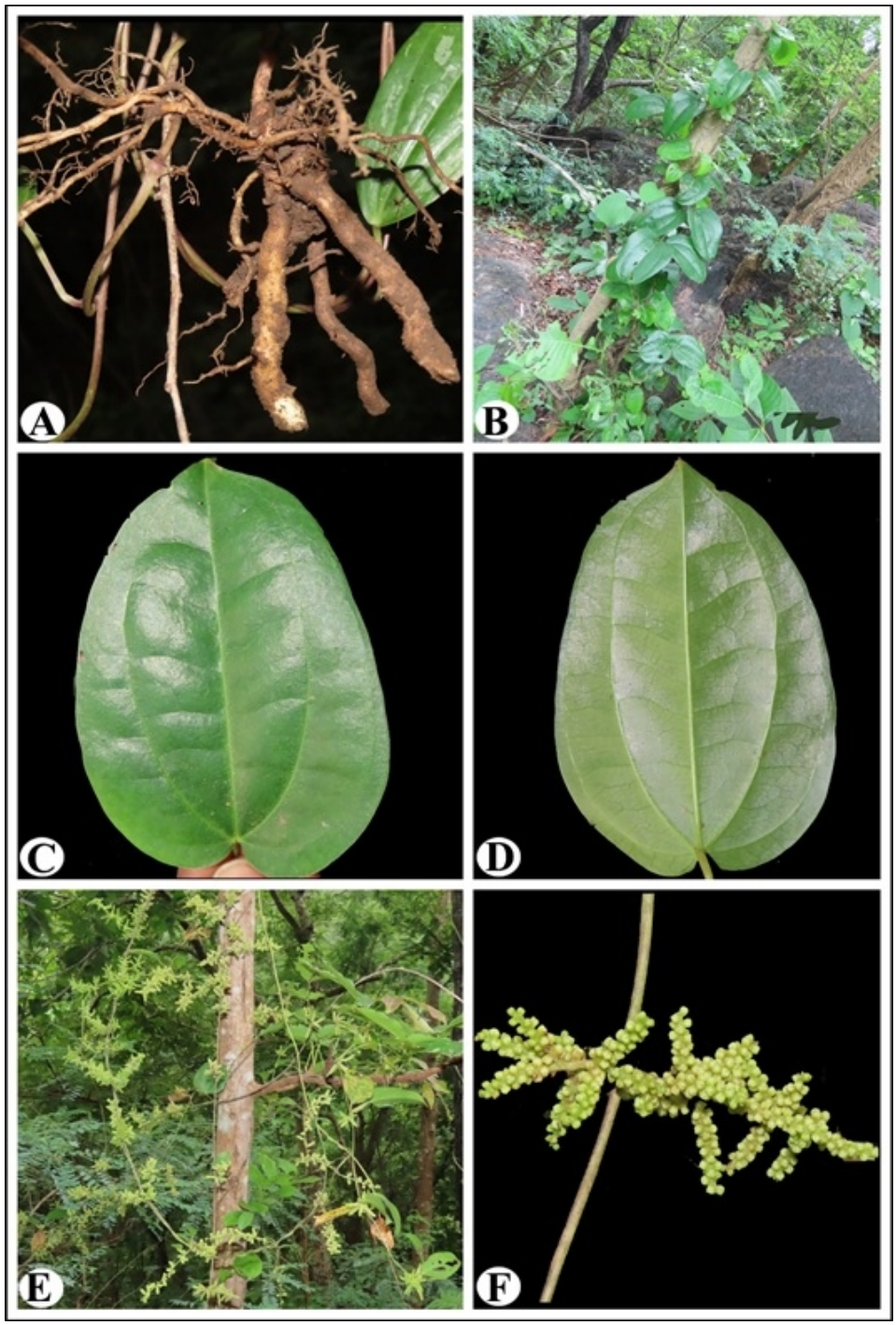


**Figure 3:** ***Dioscorea glabra*** **Roxb**. A. Tubers, B. Habitat, C. Upper surface of the leaf, D. Lower surface of the leaf, E. Inflorescence, F. Flower closeup

## Observations and results

**Taxonomic treatment**:

***Dioscorea glabra*** Roxb. Fl. Ind. 3:803. 1832; hook.f. in Hook.f. Fl. Brit. India 6:1892.; Haines, Bot. Bihar & Orissa 3: 1118 (1168). 1924; Fischer in Gamble, Fl. Madras 3:1512 (1056). 1928; Prain & Burkill, Ann. Roy. Bot. Gard. (Calcuta) 14 (2): 354.t.131. 19387; Burkill in Steenis Fl. Males. I. 4:331. 1951.

**Description**

Large climber up to 3.5 m long, Stem twining to the right, slender, glabrous, unarmed; swollen at the nodes and with swollen petiole – bases; rhizome woody superficially proceed to long, stout, fleshy fibres ending in tubers; tubers are more or less cylindric. Leaves 3-10 x 1.5-9 cm long, opposite or lower alternate, variously shaped, commonly ovate – oblong, ovate, glabrous, suborbicular, glaucous beneath, 5 – 9 ribbed, cordate at base, those towards the inflorescence with base straight, rounded, truncate or sagittate – subcordate; margin entire, apex mucronate; Petiole from half as long as to as the blade. Male spikes dense or lax, opposite or finally whorled on axillary rachises, long or in long terminal more or less leafless panicles; rachis always quite glabrous; bracts lanceolate, acuminate, about half as long as the perianth, base. Buds somewhat oblong – globose with very broad often pulvinate base. Flowers are yellowish, oblong or sub globose, 1.6 mm long. Outer perianth – lobes ovate – oblong, obtuse, gibbous at the base, inner obovate or oblanceolate, very thick. Stamen 6 perfect. Female rachis quite glabrous; Perianth quite sessile on ovary, 1.3 mm long. Capsules glabrous, subquadrate or obcordate. Seed winged all round.

**Global distribution**: Thailand, Mainland south and south-east Asia from Nepal, Northern India (lectotype) and Southern China to peninsular Malaysia, also the Andaman Islands.

**Local distribution*:*** Assam, Madhya Pradesh, Manipur, Punjab, Uttar Pradesh, Kerala and the present reports from Telangana state: Khammam district.

**Habitat and ecology**: Rare in deep forests and growing on rocky areas, in association with *Chloroxylon swietenia* DC., *Dioscorea hispida* Dennst., *Murdannia nudiflora* (L.) Brenan, *Holarrhena pubescens* Wall. ex G.Don and *Amorphophallus sylvaticus* (Roxb.) Kunth

**Flowering & fruiting**: August-October

**Specimen examined*:*** Telangana, Khammam district, Kanakagiri hills reserve forest, 17°17'27.67"N, 80°35'38.01"E, 210 m, 16th August 2022, S. Babu, 0153 (HY).

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