

Short communication

***Dioscorea dumetorum* (Kunth) T. Durand & H. Schinz.: A new addition to the flora of Jharkhand, India**

Abstract

Dioscorea dumetorum has been collected from the Jamtara Forest Division, Jamtara district of Jharkhand state, India. After reviewing its distribution, the species was found to be new to the flora of Jharkhand. A detailed description, photos, and associated flora of the species are provided for easy identification in the field.

Keywords: *Dioscorea*, new record, Jamtara, Jharkhand

Introduction

The genus *Dioscorea* L. belongs to the family Dioscoreaceae, comprising of about 600 species of tuberous herbaceous angiospermic climbers distributed throughout the world especially in tropical and subtropical regions (Ummalyma et al. 2018; Mishra and Kumar 2021). In India, so far 50 species of *Dioscorea* have been reported (Paul et al. 2014). During the floristic survey in the month of October 2023 in Jamtara Forest Division, Jamtara, Jharkhand, authors observed a species from the genus *Dioscorea*. After critical examination of their morphological characters and consultation of relevant literature (Mishra and Kumar 2021), it was identified as *Dioscorea dumetorum* (Kunth) T. Durand & H. Schinz. This species is previously reported from the Odisha state of India in (Mishra and Kumar 2021; Kumar et al. 2022). The occurrence of this species in Jharkhand state was unknown before its present collections. In Jharkhand, about eleven species are reported from the genus *Dioscorea* by Hains (1925) i.e., *D. anguina*, *D. oppositifolia*, *D. glabra*, *D. belophylla*, *D. wallichii*, *D. hamiltonii*, *D. alata*, *D. bulbifera*, *D. daemona*, *D. tomentosa* and *D. pentaphylla*. Field observations are noted down using the Field Data Book. A brief description of the collected plant, photographs, phenology, and associated flora are provided here. The voucher specimen is deposited in the Biodiversity and Conservation Lab., Ambika Prasad Research Foundation, Odisha [APRFH-77; Plate 1)

Taxonomic Treatment

Dioscorea dumetorum (Kunth) T. Durand & H. Schinz. Synonyms: *Dioscorea buchholziana* Engl.



Plate 1: Vegetative parts of *Dioscorea dumetorum*: (A) Whole plant (B) Leaf (C) Tuber (D) Fruit



Plate 2: Collection of *Dioscorea dumetorum*

Description

Large woody climber; Stem twining, prickly and velvet, less prickly in apical part, stem twining is left, up to 2 cm indiameter; Prickles 1-3 mm long, towards gravity; Tubers are spheroid, consist of 3 spheroid shaped tubers, whitish with manyfibrous roots, sometimes tubers are cluster of 3-5; Leaves are 3 foliate, 5 to 6 costae, large up to 22 cm, green, less hairy in ventraland dorsal part, broadly ovate, caudate, acuminate, 14x5 – 22x13cm, tapering base; Petiole up to 14 cm, hairy and sometimes purpledotted structure observed. Flowers are in branched inflorescence, inflorescence hairy, green and sometimes whitish green, paniclepubescent; Fruits slightly velvet, 3-12 in numbers, winged and up to 6cm long; Seeds many, 1x0.2 cm, greenish brown in colour,surface rough, attached in the middle of the fruit with golden brown wing, up to 3 cm (Plate 1-2).

Type specimen: India, Jharkhand, Jamtara,Kundahit,Patharchura, 24.033266 N 87.133695 E, 198.01 m, 1st October 2023, Sanjeet Kumar, APRFH-0077.

Flowering: July to August; Fruiting: September to November

Ecology: Near the bamboo species and water bodies

Associate species:*Ampelocissus latifolia* (Roxb.) Planch., *Dioscorea pentaphylla* L., *Shorea robusta*C.F.Gaertn., *Helicteresisora* L., *Smilax zeylanica* L. etc.

Distribution in world: Nigeria, Gabon, Ubangi-Shari, Zimbabwe, Mozambique, South Africa, Ethiopia, Senegal, Cameroon (Wilkin2009; Siadjeu et al. 2015; Obidiegwa et al. 2020)

Distribution in India:Odisha and Jharkhand

Note: InJamtara Forest Division, it is abundantly available in Jamtara Range (Ladhna hills area) and Nala ranges. It was observed that collected specimen is associated with Sal Forest of Kundahit, Nala ranges and scrub forest on the top of Ladhna hills.

References

- Haines HH. (1925). Botany of Bihar and Orissa. Vol. 3. Adlard and Sons and West Newman Ltd., London.pp. 267–270.
- Kumar A, Mishara S and Kumar S. (2022). *Dioscorea dumetorum* (Dioscoreaceae). In book: Yam. DOI: 10.5281/zenodo.6989269.
- Mishra S and Kumar S. (2021). *Dioscorea dumetorum* (Kunth) T.Durand& H. Schinz.: A new addition to the flora ofIndia. Species. 22(69): 84-88.
- Obidiegwa JE, Lyons JB and Chilaka CA. (2020). The*Dioscorea* genus (Yam)- an appraisal of nutritional andtherapeutic potential. Foods. DOI: 10.3390/foods9091304.

- Paul C, Debnath A and Debnath B. (2014). *Dioscorea oppositifolia* Linnaeus [Dioscoreaceae] – a new distributional record for Tripura, India. East Himalayan Society for Spermatocyte Taxonomy. Pleione. 8(1):184–187.
- Siadjeu C, Toukam GMS, Bell JM and Nkwate S. (2015). Genetic diversity of sweet yam “*Dioscorea dumetorum*” (Kunth) Pax. revealed by morphological traits in two-agro-ecological zones of Cameroon. African Journal of Biotechnology. 14(9):781-793.
- Ummalyma SB, Devi RS and Kumar S. (2018). *Dioscorea hispida* Dennst. (Dioscoreaceae): a new addition to the state flora of Manipur, India. Pleione. 12(1): 147-149.
- Wilkin P. (2009). Dioscoreaceae. Flora Zambesiaca. 12(2):123-125.

UNDER PEER REVIEW