

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 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.

Comment [A1]: record

Comment [A2]: for

Comment [A3]: was

Comment [A4]: you have to put some morphological characteristics of the species in addition to its general distribution

Comment [A5]: and its morphological properties

Comment [A6]: the diagnostic characters are also needed. Taxonomic description and diagnostic description must be added to the manuscript.

Comment [A7]: italic

Comment [A8]: a new record for the genus *Dioscorea* was added to the flora of Jharkhand

Comment [A9]: put a before critical

Comment [A10]: it is better to add seed micromorphological characters or pollen micromorphology to confirm the species.

Comment [A11]: A comparison between this new record with the images of the type specimen is also needed

Comment [A12]: it's not obvious.

Comment [A13]: In

Comment [A14]: below



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



Comment [A15]: this picture seems not to be necessary



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 purple-dotted 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., *Helicteres isora* L., *Smilax zeylanica* L. etc.

Distribution in world: Nigeria, Gabon, Ubangi-Shari, Zimbabwe, Mozambique, South Africa, Ethiopia, Senegal, Cameroon (Wilkin 2009; Siadjeu et al. 2015; Obidiegwa et al. 2020)

Distribution in India: Odisha and Jharkhand

Note: In Jamtara 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

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- Obidiegwa JE, Lyons JB and Chilaka CA. (2020). The *Dioscorea* genus (Yam)- an appraisal of nutritional and therapeutic potential. Foods. DOI: 10.3390/foods9091304.

Comment [A16]: where is the origin of holotype specimen????

Comment [A17]: The type specimen is the species that is introduced and a taxonomic description is written based on that specimen. We do not use the word TYPE for a new record!!!!

Comment [A18]: Associated

Comment [A19]: the word

Comment [A20]: general distribution is better

Comment [A21]: you have to compare the new record with the existing species in the Odisha region. Moreover, the distribution map must be added for the new record.

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