



# ***Dioscorea dumetorum* Pax (*Dioscoreaceae*): A New Record for the Flora of Jharkhand, India**

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

*Dioscorea dumetorum* Pax was collected from the Jamtara Forest Division, Jamtara district of Jharkhand state, India. The collected specimen has 3 spheroid shaped tubers that are whitish with numerous fibrous roots, along with velvety fruits and pubescent panicle. After a review of its distribution, the species was found to be a new entry in the flora of Jharkhand state, India. A detailed description, photographs, and the associated flora of the species facilitate identification in the field.

**Keywords:** *Dioscorea*; new record; Jamtara; Jharkhand.

## **1. INTRODUCTION**

"The genus *Dioscorea* L., belongs to the family *Dioscoreaceae*, comprising of about 600 species

of tuberous herbaceous angiospermic climbers distributed especially in tropical and subtropical regions of the world" [1,2]. In India, about 50 species of *Dioscorea* have been reported till now

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[3]. During the floristic survey (October 2023) in Jamtara Forest Division, Jamtara, Jharkhand state, India, authors collected a species from the genus *Dioscorea*. After a critical examination of their morphological characteristics and consultation of the relevant literature [2], it was identified as *Dioscorea dumetorum* Pax. This species was previously reported from the Odisha state [2,4]. The occurrence of this species in Jharkhand state was unknown before its present collection. Previously in Jharkhand state, about 11 species are reported from the genus *Dioscorea* by Hains [5] i.e., *D. anguina*, *D. oppositifolia*, *D. glabra*, *D. belophylla*, *D. wallichii*, *D. hamiltonii*, *D. alata*, *D. bulbifera*, *D. daemonia*, *D. tomentosa* and *D. pentaphylla*. Therefore, the present collection was a new record for the flora of Jharkhand state, India. Field observations are noted with the help of the field data book. A short description of the collected plant, photos, phenology, and associated flora are provided below. The herbarium of collected specimen was deposited in the Biodiversity and Conservation Lab., Ambika Prasad Research Foundation, Odisha [APRFH-78; Plate 1).

## 2. TAXONOMIC TREATMENT

*Dioscorea dumetorum* Pax, Nat. Pflanzenfam. (Engler and Prantl), 5(1887) 133. [=Synonyms: *Dioscorea buchholziana* Engl., Bot. Jahrb. Syst. 7: 333 (1886)]. Types: Ethiopia, Tigre, *Djeladjeranne*, Schimper (sect. 3) 1449 (B, isosyn.) & R. Taccaze, Schimper (sect. 2) 786 (B, isosyn.). *Helmia dumetorum* Kunth [family],

Enum. Pl. 5: 436 (1850), *Dioscorea triphylla* [family *DIOSCOREACEAE*], [sensu A. Rich., Tent. Fl. Abyss. 2: 316, t. 96/B (1851) non L.], *Dioscorea triphylla* (Kunth) R. Knuth var. *dumetorum* [family *DIOSCOREACEAE*], in E.P. IV. 43: 132, fig. 28 (1924), *Dioscorea triphylla* R. Knuth var. *abyssinica* [family *DIOSCOREACEAE*], in E.P. IV. 43: 136 (1924). Types: as *D. dumetorum*, *Dioscorea triphylla* R. Knuth var. *rotundata* [family *DIOSCOREACEAE*], in E.P. IV. 43: 136 (1924). Type: Tanzania, Tabora District, Kakoma, Boehm 11a (B, holo.).

## 3. DESCRIPTION

“It is a large woody climber. Stem twining, prickly and velvety, few spines in the apical part, stem twining is left, up to 2.50 cm in diameter; Prickles 1.0-3.5 mm long, towards gravity; Tubers spherical, consist of 3 spheroid shaped tubers, whitish with numerous fibrous roots, sometimes tubers are in cluster of 3-5; Leaves are 3 foliate, 5-6 costae, large up to 24.0 cm, green, less hairy in ventral and dorsal part, broadly ovate, caudate, acuminate, 14.5x5.5 – 22.5x14.0 cm, tapering base; petiole up to 14.6 cm, hairy and sometimes purple dotted. Flowers are in branched inflorescence, inflorescence hairy, green, sometimes whitish green, panicle pubescent; Fruits slightly velvety, 3-21 in numbers, winged and up to 6.5 cm long; seeds numerous, 1.0 x 0.3 cm, greenish brown, surface rough, attached in the centre of the fruit with a golden-brown wing, up to 3.5 cm” (Plate 1) [2].



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

**Specimen examined:** India, Jharkhand, Jamtara, Kundahit, Patharchura, 24.033266 N 87.133695 E, 198.01 m, 1st October 2023, Sanjeet Kumar and Sweta Mishra, APRFH-0078 (Herbarium of Ambika Prasad Research Foundation, Odisha).

**Flowering:** July to August & **Fruiting:** September to November

**Ecology:** Found near the bamboo species, foot hills and forest streams in Jamtara Forest Division, Jharkhand.

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

**General distribution:** "Nigeria, Gabon, Ubangi-Shari, Zimbabwe, Mozambique, South Africa, Ethiopia, Senegal, and Cameroon" [6,7,8,2].

**Distribution in India:** Odisha (Mishra and Kumar 2021) 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.

#### 4. CONCLUSION

The above reports and description of the collected specimen revealed that the collected specimen was *Dioscorea dumetorum*, a new record for the state of Jharkhand, India. The study also recommends that there is a need for more exploration of the floral diversity of Jharkhand state.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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