

# ***Dioscoreadumetorum* Pax (Dioscoreaceae): A new record for the flora of Jharkhand, India**

## **Abstract**

*Dioscoreadumetorum* Pax was collected from the Jamtara Forest Division, Jamtara district of Jharkhand state, India. The collected specimen has 3 spheroid shaped tubers and 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 the 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

## **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” (Ummalyma et al. 2018; Mishra and Kumar 2021). In India, about 50 species of *Dioscorea* have been reported till now (Paul et al. 2014). 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 (Mishra and Kumar 2021), it was identified as *Dioscoreadumetorum* Pax. This species was previously reported from the Odisha state (Mishra and Kumar 2021; Kumar et al. 2022). 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 (1925) 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).

## **Taxonomic Treatment**

*Dioscoreadumetorum* Pax, Nat. Pflanzenfam. (Engler and Prantl), 5(1887) 133. [=Synonyms: *Dioscoreabuchholziana* 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.). *Helmiadumetorum* Kunth [family], Enum. Pl. 5: 436 (1850), *Dioscoreatriphylla* [family DIOSCOREACEAE], [sensu A. Rich., Tent. Fl. Abyss. 2: 316, t. 96/B (1851) non L.], *Dioscoreatriphylla* (Kunth) R. Knuth var. *dumetorum* [family DIOSCOREACEAE], in E.P. IV. 43: 132, fig. 28 (1924), *Dioscoreatriphylla* R. Knuth var. *abyssinica* [family DIOSCOREACEAE], in E.P. IV. 43: 136 (1924). Types: as *D. dumetorum*, *Dioscoreatriphylla* R. Knuth var. *rotundata* [family DIOSCOREACEAE], in E.P. IV. 43: 136 (1924). Type: Tanzania, Tabora District, Kakoma, Boehm 11a (B, holo.).

### 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 x0.3 cm, greenish brown, surface rough, attached in the centre of the fruit with a golden-brown wing, up to 3.5 cm” (Plate 1). [9]

**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” (Wilkin 2009; Siadjeu et al. 2015; Obidiegwa et al. 2020; Mishra and Kumar 2021).



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

**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.

**Conclusion:** The above reports and description of the collected specimen revealed that the collected specimen was *Dioscoreadumetorum*, 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.

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