

***Dumortiera hirsuta* (Sw.) Nees subsp. *hirsuta* - a new addition to Bryoflora of Bihar**

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Received : 26th July, 2023 ; Accepted : 26th August, 2023

ABSTRACT

Dumortiera hirsuta (Sw.) Nees subsp. *hirsuta* is reported here for the first time from Mandar Hill, Bihar. The detailed taxonomic descriptions and photos plate of the species is provided for the first time in Bihar from Mandar Hills.

Key Words - *Dumortiera hirsuta*, new records, Bihar, India

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INTRODUCTION

The state of Bihar situated in the eastern part of India and it has a geographical area of ca. 94163² km. Mandar Parvat, also known as Mandar Hill is a small mountain, and ca. 213.36 m altitude. It is situated in nearby to the village Bounsi, district Banka (Bihar).

Dumortiera hirsuta (Sw.) Nees is a member of Dumortieraceae and it is a highly distinct complex thalloid liverwort, (Long 2006). As it is monotypic family and widespread species in the tropics and subtropics region, extending locally into oceanic temperate zones (Schuster 1992; Hill and Preston 1998). It is widely distributed species throughout the world. This species is also most commonly distributed in India viz., Andhra Pradesh, Arunachal Pradesh, Assam, Goa, Himachal Pradesh, Jammu & Kashmir, Kerala, Meghalaya, Manipur, Madhya Pradesh, Nagaland, Odisha, Sikkim, Tamil Nadu, Uttarakhand and West Bengal.

The genus is characterized by Plants occur in large patches and thallus overlapping, plants medium to

large, deep-green or translucent-green; thallus sparsely dichotomously branched, apex notched, margins hirsute, entire – undulate or wavy; midrib prominent below; epidermal pores and air chambers absent; male and female receptacles bristly on margins. The genus *Dumortiera* Nees is represented by three species and infraspecific taxa in the world (Söderström *et al.*, 2016). In India, the genus is represented by two taxa (D.K. Singh *et al.*, 2016).

It is medium size thalloid plants growing on the hilly rocky soils in shady and moist places near water bodies. During field explorations in Mandar Hill (Bihar), in 2021, one of us (S. Kumar) collected some bryophyte specimens. Later, careful study of these specimens reveals that one of them belongs to *Dumortiera hirsuta* (Sw.) Nees, which is not earlier reported in Bihar. The specimens are deposited in the herbarium of P.G. Department of Botany, S.K.M. University, Dumka, Jharkhand. This has been described with photo plate here in details to facilitate its easy identification.

TAXONOMIC DESCRIPTION:

Dumortiera hirsuta (Sw.) Nees, Nova Acta Phys. - Med. Acad. Caes. Leop. -Carol. Nat. Cur. 12: 410. 1824; Kashyap, Liverw. W. Himal. 1: 42. 1929; S.C.

Srivast. & Sharma, Yushania 4(2): 3. 1987; Sushil K.Singh & D.K. Singh, Hep. Anth. Great Himal. Nat. Park H. P. 377. 2009; *Marchantia hirsuta* Sw., Prodr. 145. 1788. subsp. *hirsute* [Figure: 1]

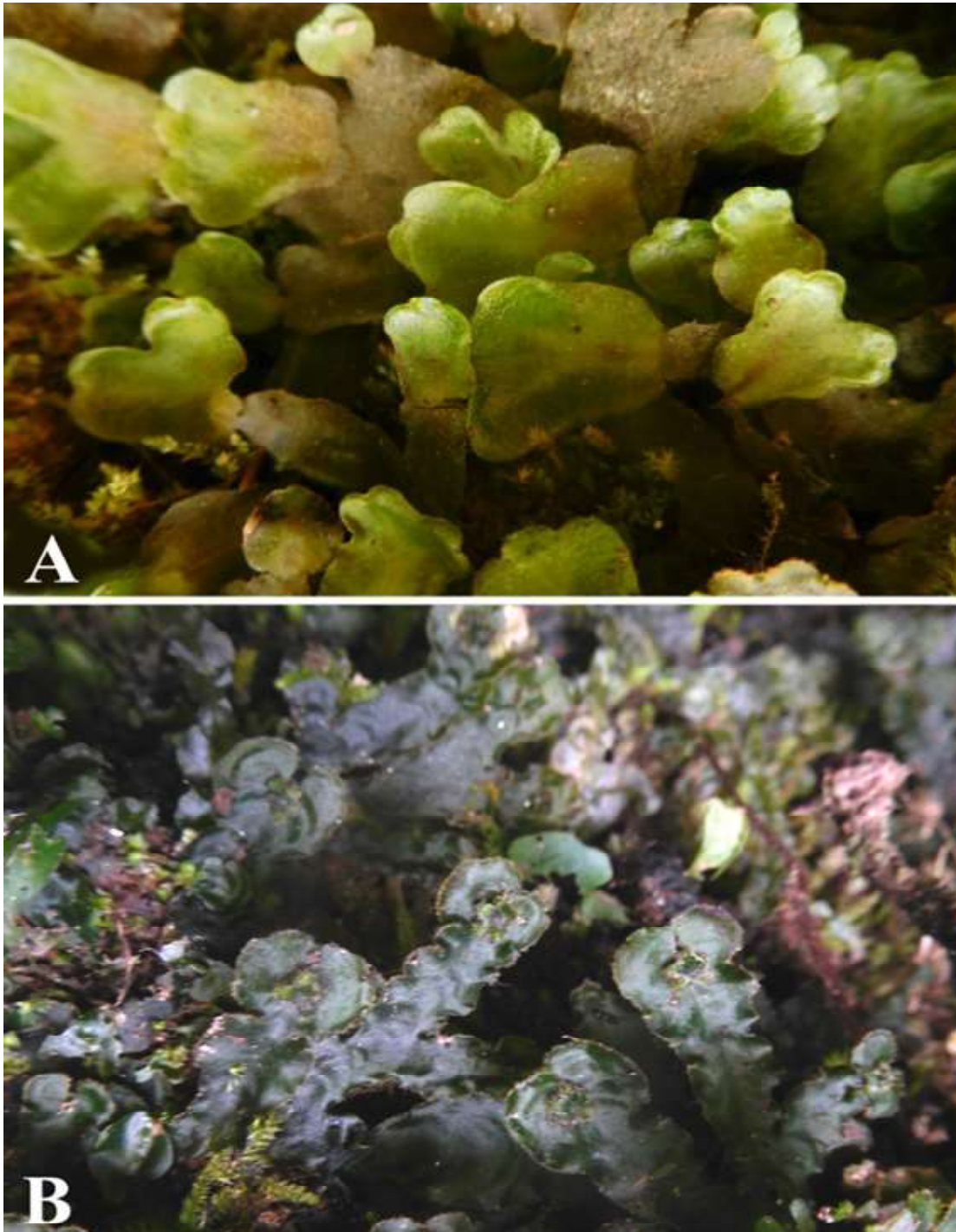


Figure 1- *Dumortiera hirsuta* (Sw.) Nees subsp. *hirsute*. A. Showing population of young plant of apical portion in natural habitat; B. A population showing young archegoniophores.

Thallus light green – dark green when fresh, semi translucent, large, 35 – 65 mm long, 6 – 10 mm wide, thallus repeatedly dichotomously branched with overlapping; oblong – obovate, lobes flat or slightly concave above, apex notched, margin hirsute, entire – wavy or undulate; epidermal cells quadrangular – hexagonal, 30.0 – 70.0 × 32.5 – 55.0 μm, thin-walled; epidermal pore reduced or occasionally present, highly reduced, present at apical portion; epidermal cells smaller, papillate. Air chambers absent, cell of outermost layer chlorophyllous. Midrib prominent below, 23 – 25 cells thick in middle. Ventral surface light – olive green; Ventral scales highly reduced or absent, simple, hyaline, attached to the thallus along their entire length on either side of midrib, appendaged; appendages rounded. Ventral rhizoids very frequent, smooth-walled and tuberculate. Gemmae absent. Antheridiophores, archegoniophores and mature saprophytes not observed.

Type: *Dumortiera hirsuta* (Sw.) Nees (= *Marchantia hirsuta* Sw.).

Ecology: Terrestrial, growing in moist shady places near water on soil covered rocks.

Distribution: INDIA (Andhra Pradesh, Arunachal Pradesh, Assam, Goa, Himachal Pradesh, Jammu & Kashmir, Kerala, Meghalaya, Manipur, Madhya Pradesh, Nagaland, Odisha, Sikkim, Tamil Nadu, Uttarakhand and West Bengal), Bangladesh, Bhutan, China, Hawaii, Indonesia, Iran, Japan, Korea, Malaysia, Nepal, New Caledonia, New

Zealand, Papua New Guinea, Sri Lanka, Taiwan, Thailand, Africa, Australia, England, Europe, Macronesia, Micronesia, North America, South America (Singh *et al.*, 2016; Callaghan, 2020).

Specimens examined: India, Bihar, district Banka, Mandar Hill, near village Bounsi, terrestrial, 24°50'42" N and 87°01'28"E, 128 m, 05.10.2021, *Shashi Kumar* BR– 01, 02, 05 (Dumka).

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