

***Marchantia papillata* Raddi subsp. *grossibarba* (Steph.) Bischl., an addition to the bryoflora of Bihar, India**

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ABSTRACT

The *Marchantia* L. is a well known genus from India and abroad. The *Marchantia papillata* Raddi subsp. *grossibarba* (Steph.) Bischl., has been first time reported in Bihar. This species was earlier reported in India from Arunachal Pradesh, Assam, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal. In the present communication same has been described, a photograph of the concerned species is also provided.

Key Words - : *Marchantia papillata* Raddi subsp. *grossibarba* (Steph.) Bischl., new record, Bihar, India

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INTRODUCTION

Historically, Bryophytes are divided in three groups: i.e. Marchantiophyta or Liverwort, Anthocerotophyta or Hornwort and Moss. The genus *Marchantia* L. was named by the French botanist Jean Marchant in 1713.

The genus *Marchantia* L. is widely distributed in India and abroad, mostly in subtropical, tropical or temperate regions (Bischler-Causse H., 1989; Stotler R. & Crandall-Stotler B., 2005). It is most common genus in all Bryogeographical region of India (Singh & Singh, 2013; Singh *et al.*, 2016).

It is one of the largest genera in the Liverworts Order Marchantiales. The genus *Marchantia* L. is represented by 45 taxa in worldwide (Soderstrom *et al.*, 2016; Long & Crandall-Stotler, 2020). In India the genus is represented by ten (10) taxa (Singh *et al.*, 2016). In India, the genus *Marchantia* L. was first time reported by Gottsche *et al.*, 1846 and described two species namely, *M. nitida* Lehm. and Lindend. from Nilgri hills in Western Ghats and *M. quamosa* Raddi ex Lehm. and Lindenb.

In my (S. Kumar) recent plant inventory survey and collection of plant specimens of Bihar from

Bhagalpur, Kupa Ghat near Ganga river side. I have collected some thallose specimens and identified carefully and found to be one new record to the liverwort flora from Bihar. The species *Marchantia papillata* Raddi subsp. *grossibarba* (Steph.) Bischl. is not earlier reported from the state of Bihar. *Marchantia papillata* Raddi subsp. *grossibarba* (Steph.) Bischl., was first described by Stephani in 1894 (as *Marchantia grossibarba*). This specimen was collected by Stephani in 1894 from Yunnan of China. A detailed taxonomic description, photo plate, distribution in Indian states and abroad of the species is provided here.

TAXONOMIC TREATMENT

Marchantia papillata Raddi subsp. *grossibarba* (Steph.) Bischl., Cryptog. Bryol. Lichénol. 10: 78. 1989; T.-X. Zheng & M. Shimamura Hikobia 18:94. 2020. *Marchantia grossibarba* Steph., Mém. Soc. Nat. Sci. Nat. Math. Cherbourg 29: 221. 1894. *Marchantia simlana* Steph., Bull. Herb. Boissier 7: 401. 1899 & Sp. Hepat. 1: 173. 1899. *Marchantia togashii* Amakawa in H. Hara, Fl. E. Himal. 536. 1966. [Figure: 1A-C]



Figure - 1: *Marchantia papillata* Raddi subsp. *grossibarba* (Steph.) Bischl.

A. Showing population of plant in natural habitat;

B. A portion of thallus magnified dichotomously branched and

C. A portion of thallus showing Gemma-cup with gemmae.

Plants light green - dark green in fresh plant, (8-) 11 - 42 mm long, 3 - 8 (-9) mm in wide, dichotomously branched; lobes oblong, apex emarginated, margin usually entire. Dorsal surface with a dark median band present, upper - epidermal cell subquadrate - polygonal, 17.5 - 30.0 × 12.5 - 22.5 μm; chlorophyllous, pores large, surrounded by 2 - 4 concentric rings of 5 - 6 cells each; air chamber large, single - layered 2 - 4 cells high, partition wall absent, chlorophyllous filament cells 2 - 4 cells high, storage tissues parenchymatous. Ventral surface grey - dark green; scales extending over 35 - 50 % wide. Ventral scales in 4 rows, reddish - purplish, median two rows

appendage, appendage light yellowish - reddish, ovate and apex acute or apiculate usually row of 2 - 3 cells, margin toothed, laminar scale ovate - rhomboidal; oil-bodies absent. Rhizoids both tuberculate and smooth walled. Gemma-cup present in dorsal surface, margin sub-acute; gemmae yellowish to dark green, subglobose or elliptical, 0.45 - 0.54 mm. Antheridiophore and archegoniophore not observed.

Distribution: INDIA [Arunachal Pradesh, Assam, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal]; Afghanistan;

Bangladesh; Bhutan; China; Japan; Myanmar; Nepal; Pakistan; Sri Lanka; Thailand; Vietnam (Singh *et al.*, 2016; Devi *et al.*, 2018; Zheng & Shimamura, 2020).

Specimens examined: India, Bihar, Bhagalpur, Kupa Ghat, near Ganga river side, terrestrial, 05.02.2020, S. Kumar 01, 02, 03, 04 (SKMUD).

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