

ON *BRYUM DICHOTOMUM* FROM BRYOFLORA OF ROMANIA

Gheorghe Constantin DIHORU*, Iulian COSTACHE**

*Institute of Biology, Romanian Academy, Bucharest, Romania

**University of Craiova, Faculty of Horticulture, Department of Biology, Craiova, Romania

Corresponding author: Gheorghe Constantin Dihoru, Institute of Biology, Romanian Academy, 296 Splaiul Independentei, District 6, 060031 Bucharest, Romania, tel.: 00212202947, e-mail: iuliuscostache@yahoo.com or icostache3@gmail.com

Abstract. The confusion of microspecies belonging to the variability group of *Bryum bicolor* species, separated mainly according to the length of the leaf arista, is solved through their synonymizing with *Bryum dichotomum*. The analysis of our material collected from Oltenia, initially lead us to *Bryum versicolor* microspecies.

Keywords: *Bryum dichotomum* Hedw., morphology, chorology, Romania

INTRODUCTION

Following the examination of a bryophyte material from Oltenia (Butoiesti, Mehedinti District, leg. Costache I. 2003), the presence of axilar bulbs at a *Bryum* specimen caught our attention. The respective sample, sufficiently abundant, presents sporogons too, which offered us the possibility of a micro-morphological microanalysis. The identity of the species was hard to specify, though the best framing was at *Bryum versicolor* A. Braun ex Bruch et Schimp. After its synonymization with the priority species *B. dichotomum* Hedw. [3], we consulted the Romanian literature to globally characterize this aggregate species. In some works the binom *B. dichotomum* is mentioned uncertainly as a synonym of *B. dichotomum* [24], in others it is missing [4].

MATERIALS AND METHODS

Bryum identification is not easy especially when the capsules are missing. In this case we had material with capsules and, besides, with axilar bulbs which delimited the number of species that were to be determined. The sprout, leaves, tubers and capsule have been analyzed and drawn. It has been consulted the specialty literature, large enough for the chorology of this species.

RESULTS

Bryum dichotomum Hedw. 1801, Pl. Sp. Musc. Frond.: 183. Syn.: *Bryum bicolor* Dicks. 1801, Fasc. Pl. Crypt. Brit. 4: 16; - *B. versicolor* A. Braun ex Bruch et Schimp. 1839, Bryol. Europ., 4: 145; - *B. atropurpureum* Bruch et Schimp. 1839, Bryol. Europ. 4: 73; - *B. barnesii* J.B. Wood ex Schimp. 1876, Syn. Musc. Europ., Ed. Secunda: 471. - *B. excurrentes* Lindb. 1886, Bot. Not.: 99; - *B. dunense* A.J.E. Sm. et H. Whitehouse 1978, Journ. Bryol. 10: 41; - *B. balticum* Nyholm et Hedenäs 1993, Illustr. Fl. Nord. Mosses, 3: 218.

Description. The tuft is bushy, green-olive, high of 1-1.5 cm. The stalks are relatively thin, evidently sectioned pentagonal. The leaves along the stalk are flaccid and more narrow, therefore we didn't appeal to them, but to the ones from the apical zone, which are wide-ovoid-triangular or oblong, of 2.5 / 1 mm, acuminate, no decurrent, in dry state being uncurved,

with wide-curved borders and divergent apex, more obvious at the top of the sprout (Fig. 1-3); in humid state it distances from the axle and straightens the borders. The costa is robust, at the base of about 51 μm , long-excurrent (aristed leaf, the arista is flat or distanced dentata, long of 344-382 μm , 25-30% of the index ring length). The leaves are bordered with 3 lines of long and narrow cells (Fig. 1), but the border is rigorously differentiated. In the leaf axile there are 1(2) elongated bulbs, many almost cylindrical and slightly apical dilated, of 268/135-357/ 128 μm [2.2/1 - 2.8/1] (Fig. 2). In the respective tufts there are nutant capsules too, with thick pedicel of 0.15 mm. Pedicel long of 15 mm and thick of 0.11-0.15 mm. The nutant capsule, of 2.2-2.7 : 0.65-0.85 mm (Fig. 3). The endostome, adhesive to the exostome just at the base, has wide-perforated teeth and cilia 2-3, appendiculate and papillose. Flat spores, of 12.7-15.3 μm .

Distribution in Romania:

- Alba: Vidra [19, 9] under *B. bicolor*.
- Bihor: Stâna de Vale [19, 9] under *B. bicolor*.
- Bistrita-Nasaud: Muncel Peak, Secu River, Tomnatic Peak, Magura Ilvei, Strajii Valley [10].
- Botosani: Rauseni [21, 22] under *B. versicolor* and under *B. bicolor*; [9] under *B. bicolor*.
- Hunedoara: Parâng Mountains [17] under *B. versicolor*; Deva, Branica [17, 9] under *B. bicolor*.
- Iasi: Iasi [11, 14, 22, 9] under *B. bicolor*; Larga Jijia [21, 22] under *B. versicolor*; Bârnova [12, 22] under *B. versicolor*; [9] under *B. bicolor*; Repedea-Bârnova [16, 22, 9] under *B. bicolor*.
- Mehedinti: Butoiesti (leg. Costache, 2003).
- Prahova: Paulesti forest [7, 8, 9] under *B. bicolor* (?).
- Suceava: Superior Valley of the Dorna River [5, 23, 9] under *B. bicolor*.

DISCUSSIONS

In the latest synthesis work [6] both microspecies, considered now synonyms, are quoted, *B. versicolor* from Moldavia and Transylvania and *B. bicolor* from Bucovina, Moldavia and Transylvania.

We consulted the principal literature regarding Romanian bryoflore and we noticed that *Bryum versicolor* misses in some works [15, 9], but appears in others [2, 1, 6]. It was quoted for the first time as *B. versicolor* [17, 18] and far later as *B. bicolor* [11].

There are authors that mentioned both species from the same station too [21].

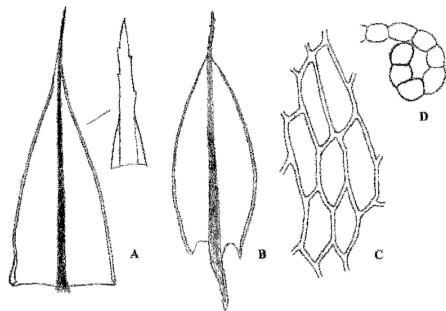


Figure 1. *Bryum dichotomum* leaves: A- Middle leaf (50 X); B- Apical leaf (50 X); C-Central areolar of the leaf (400 X); D- The leaf border (400 X). Original.

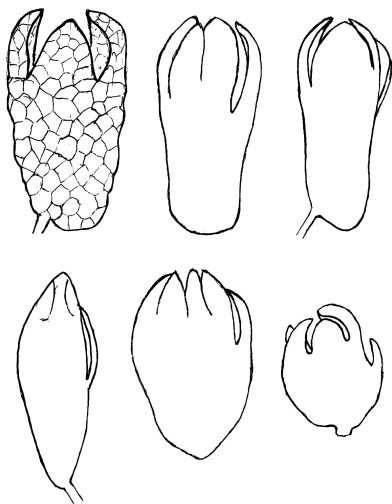


Figure 2. Diverse forms of axillar tubers of *Bryum dichotomum*. Original.

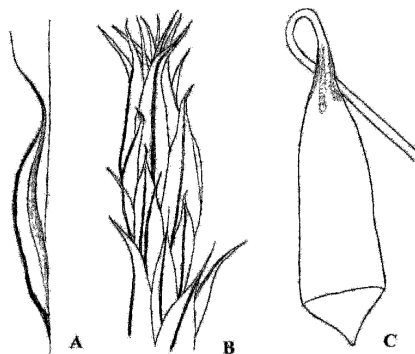


Figure 3. *Bryum dichotomum* organs, in dry state: A - Position of median leaf (50 X); B -Angle of vegetative sprout (30 X); C - capsule. Original.

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