

**PLEUROCARPOUS MOSSES OF BANGLADESH :
METEORIACEAE AND PTEROBRYACEAE**

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Abstract

Barbella rufifolia (Thwait & Mitt.) Broth. (Family Meteoriaceae) and *Pterobryopsis auriculata* Dix. (Family Pterobryaceae) of Isobryales are described as new records for Bangladesh.

Introduction

While studying the herbarium specimens of the University of Dhaka (DUH) for the pleurocarpous mosses of Bangladesh, the authors have come across with two species namely, *Barbella rufifolia* (Thwait & Mitt.) Broth. of the Family Meteoriaceae and *Pterobryopsis auriculata* Dix. of the Family Pterobryaceae, both belonging to the Order Isobryales. Incidentally, it may be mentioned that these two genera are also new records for Bangladesh. These two taxa are not found in the works of earlier workers, viz. Tixier 1967, Khatun and Hadiuzzaman 1994a, 1994b, 1995, 1999, 2003, 2004a and 2004b. Gangulee (1976) described many genera and species of the Family Meteoriaceae from the eastern India and adjacent regions but *B. rufifolia* was not mentioned from Bangladesh in his work. As regards *P. auriculata* Gangulee (*l.c.*) mentioned it as endemic to India, but now it is found also in Bangladesh. So far Khatun and Hadiuzzaman (*l.c.*) reported 22 species under 12 genera of pleurocarpous mosses of Bangladesh.

The illustrated description of the above mentioned two new records along with short notes on their distribution in Bangladesh are given below.

Order: Isobryales; Family: Meteoriaceae

Genus *Barbella* Fleisch. *In* Broth., *Nat. pfl.*, 1(3): 823 (1906)

Plant slender, loose, soft, long, pendant tufts. Stems creeping with numerous short or long free and irregular branches. Leaves symmetric, inserted in many rows, curved or spiraled when dry, lanceolate, acuminate, with a single vein ending in well below the tip. Leaf cells thin-walled, variously papillose, linear to elliptic, rhomboidal at base and slightly different at alar.

Barbella rufifolia (Thwait & Mitt.) Broth., *Nat. pfl.*, 1(3) : 324 (1906) **(Plate 1)**

[Syn.: *Meteorium rufifolium* Thwait. & Mitt. *In* J. Linn. Soc. Bot., 13: 316 (1873)]

Plant green to yellow-green, secondary branches flexuose. Main stem pendulous, branches short, distant, pinnate, complanate, ending in flagellate tips, c. 5 cm or more long. Leaves widely spreading, complanate, lanceolate, not ovate at base but gradually narrow, c. 3.25 mm long and 0.73 mm wide at base, apex short, pointed, margin dentate, costa single, reaching up to less than half or half of the leaf. Leaf cells elongate, linear

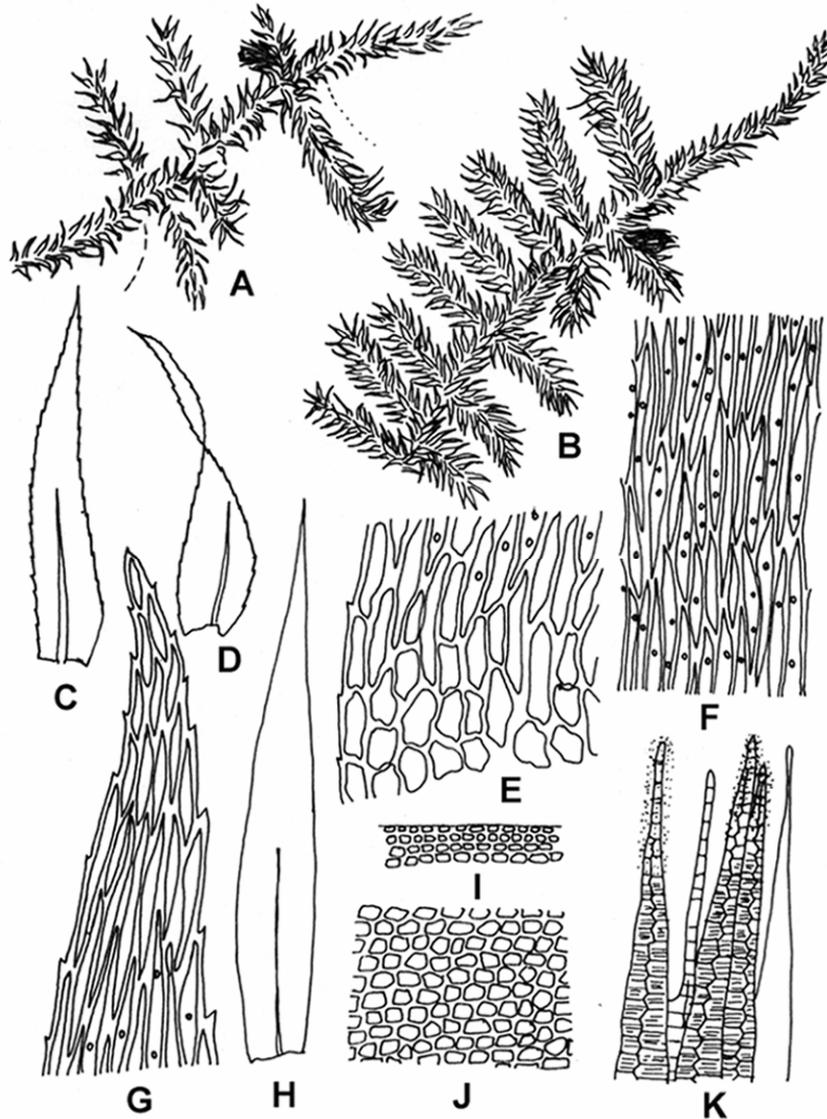


Plate 1

Figs. A-K: *Barbella rufifolia* (Thwait. & Mitt.) Broth. A. dry plant ($\times 6.67$), B. wet plant ($\times 6.67$); C, D. leaves ($\times 24$), E. basal laminal cells ($\times 180$), F. middle laminal cell ($\times 180$), G. leaf apex cells ($\times 180$), H. perichaetial leaf ($\times 24$), I. mouth cells of the capsule ($\times 200$), J. exothecial cells of the capsule ($\times 200$), K. peristome teeth ($\times 80$).

sometimes elliptic, with one or more than one papillae, extreme base and extreme tip cells lack of papillae, c. $95 \times 5 \mu\text{m}$ at tip, c. $75 \times 4 \mu\text{m}$ at middle, short at base up to c. $60 \times 5 \mu\text{m}$, alar differentiated by very few rectangular cells. Sporophyte on short, lateral shoot with ovate-cylindric capsule, shorter than perichaetial leaves. Seta short, c. 1.2 mm, capsule ovate cylindric, c. $1.3 \times 0.5 \text{ mm}$ in diameter. peristome double, exostome long with linear lanceolate teeth showing median line and dense striations below, endostome hyaline, papillose, segments showing median perforation with c. $987 \mu\text{m}$ basal membrane.

Specimen examined: Natore: Sadar, collected from the bark of the tree on 20 December, 1978 by Sakil Ahmed, 335 (DUH).

Family: Pterobryaceae; Genus: Pterobryopsis

Plant robust, shiny, stems creeping, filiform, densely rediculose, slightly woody and hard. Leaves in many rows, symmetrical, ovate-lanceolate, short acuminate, cucullate at the apex, concave. Nerve stronger, single. Leaf cells smooth, incrassate, porose and larger at the base, alar cells little differentiated.

Pterobryopsis auriculata Dix., J. Bombay Nat. Hist. Soc., **39** : 782 (1937) (Plate 2)

Plant dense or robust, branches present, more or less pinnately branched, up to 8 cm long. Leaves also dense, erect, ovate-cochliariform (rounded and concave like spoon), cucullate at acute apex. stem leaf c. 2.5 mm long and 1.5 mm wide, margin involute in upper leaf, slightly dentate at tip, auricle present at base. Costa single, length of the costa about $3/4^{\text{th}}$ or more of the leaf length. Leaf cells non papillose but porous and thick wall at basal middle, linear elongate at middle, c. $95.5 \times 8 \mu\text{m}$, c. $70.7 \times 10 \mu\text{m}$ at base, alar cells are not conspicuous, cells in auricle hyaline, shorter, c. $40.5 \times 8 \mu\text{m}$. Main stem and branch stem leaves are more or less similar but branch stem leaves are slightly wider and larger in size. Sporophyte not known. Number of filamentous gemmae found, 8-10 celled structure, c.200-260 μm long.

Specimens examined: Barisal: Amtoli, on the bark of tree, Md. Rafiq, 2.12.95, 748 (DUH), **Cox's Bazar:** Town, on the bark of tree, Hamida Khatun, 21.02.92, 73 (DUH); St. Martin's Island, on the bark of tree, 1538, 1569 (DUH); **Maulvi Bazar** : Srimangal, on the bark of tree, Hamida Khatun, Syeda Humaira Afroze, Md. Shahabuddin, Md Belal, Abdul Karim, 3.3.92, 671 (DUH); Adampur forest, on the bark of tree, Hamida Khatun, 1.12.94, 353 (DUH); Kality Tea Estate, on the bark of tree, Shelly, Husna, Nilufer, Lovely, 12.3.82 (DUH); **Nilphamari:** Syedpur, on the bark of tree, Masuduzzaman, 30.11.88, 1393 (DUH); **Tangail** : Mirzapur, on the bark of tree, Nazmul Islam, 19.2.91, 37 (DUH).

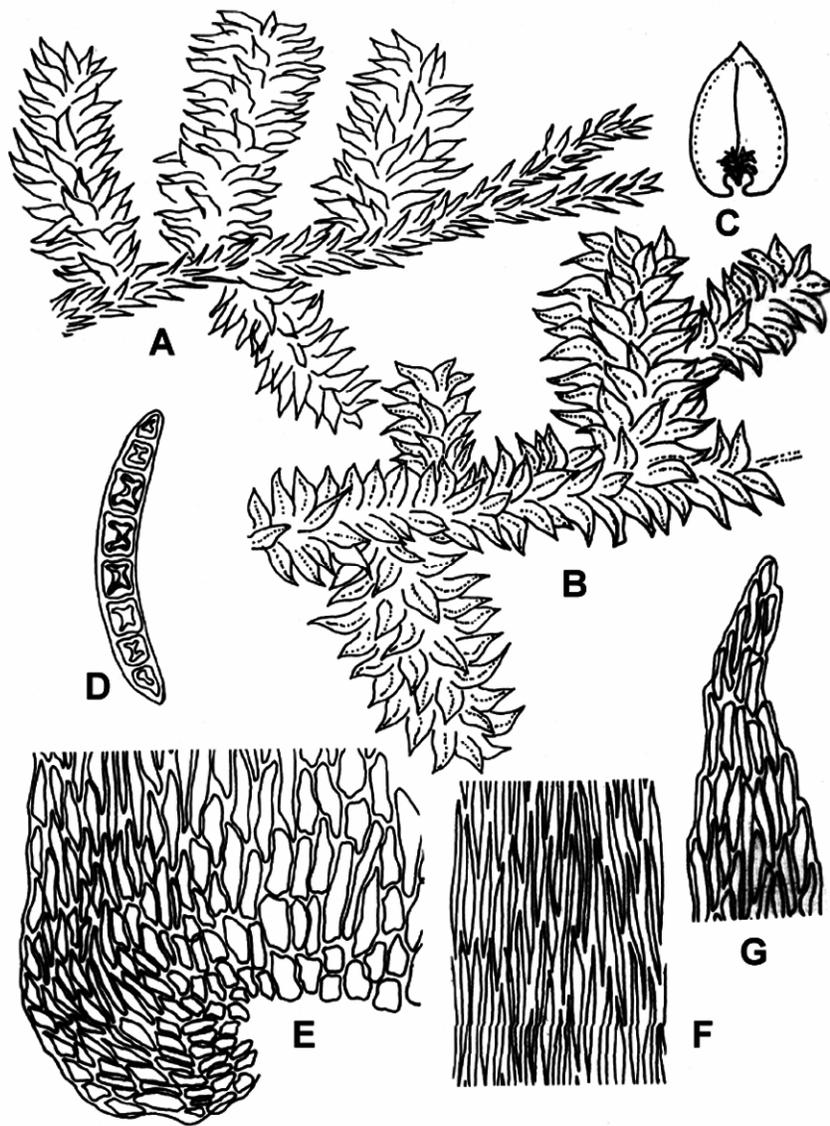


Plate 2

Fig. A-G: *Pterobryopsis auriculata* Dix. A. dry plant ($\times 6.66$), B. wet plant ($\times 6.66$), C. leaf ($\times 18$), D. gemma ($\times 133.33$), E. basal laminal cells ($\times 300$), F. middle laminal cells ($\times 300$), G. leaf apex cells ($\times 300$).

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