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Barbula amplexifolia from the Altai Mountains of Russia

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Abstract. *Barbula amplexifolia* (Mitt.) Jaeg. is reported from the Altai Mountains of southern Siberia as new to Russia and the Commonwealth of Independent States, and is found to be distinguishable from the very similar *Barbula coreensis* (Card.) Saito of eastern Asia.

The senior author collected a gemmiferous *Barbula* during recent bryological exploration of the Altai Mountains of the Oirod Autonomous Region, eastern Altai Territory, Russia, CIS. It was similar to the well-known *Barbula coreensis* (Card.) Saito of Japan and Korea (Saito 1975) in having leaves crispate when dry, oblong-lanceolate, with plane margins and acuminate apices, but differed in important respects. Specimens of *B. coreensis* from Japan seen by us consistently had fewer gemmae per plant, usually 5–7(–20); the gemmae were larger, 110–150 μm in length; the axillary stalks bearing the gemmae were longer, consisting of several cells; and the abaxial surface of the costa was papillose. Noguchi (1988) described *B. coreensis* as having “numerous” gemmae, but this we found to be an inappropriate description, at least in comparison with the present collections.

We identified the Altai collections as belonging to *Barbula amplexifolia* (Mitt.) Jaeg. (Fig. 1–12), previously known from India (Gangulee 1972) and from western North America (U.S.A. Arizona and Alaska; Canada. Northwest Territories) (Zander 1979). The Altai collections are described as follows: plants in moderately dense tufts, dull dark brownish-green; stem to 1.0 cm in length, with a well-developed central strand and enlarged cortical cells; leaves crispate when dry, 1.3–1.9 mm in length, oblong-lanceolate, abaxial surface of costa smooth or nearly so, apex broadly acuminate, leaf base often broadened and squared; upper laminar cells quadrate, rather small, 5.5–6.5 μm diam. (occasionally ca. 7.0 μm in young innovations), marginal cells usually somewhat transversely elongate; upper laminar papillae 2–4 per cell, rather high; axillary hairs of 7–8 uniseriate cells. Gemmae abundant, globose, elliptic, or pyriform, (30–)55–65(–90) μm in length, ca. 5 μm in width, rather transparent, borne on short axillary stalks 2–3(–5) cells in length.

As described by Saito (1975) and Gangulee (1972), *B. amplexifolia* is a robust plant having leaves with

strongly widened bases (Fig. 3–5). This character is, however, not immediately obvious. Differences are minor among the Altaian, Indian, and North American populations and are summarized as follows: stem length is ca. 20 mm in Indian plants but ca. 10 mm in the others; leaf length is 1.5–2.0 in Indian plants, 1.3–1.9 in Altai plants, and 1.2–1.7 mm in North American plants; gemma median size (range) is ca. 70 (60–90) μm in Indian plants, ca. 60 (30–90) μm in Altai plants, and ca. 50 (45–75) μm in Canadian plants.

Specimens of Barbula amplexifolia from the Altai Mountains of the Turochak District, Altai Republic, Altai Territory, Russia, CIS: 51°50'N, 87°48'E, Kamga River basin, Bolshoy Shaltan Creek, Ignatov, 7 May 1989 (BUF, MHA), Zolotukhin, 7 May 1989 (MHA); 51°46'N, 87°39'E, near Teletzkoye (Telezkoje) Lake, Ok-Porok Creek, Ignatov 2/19, 23 June 1991 (BUF, MHA).

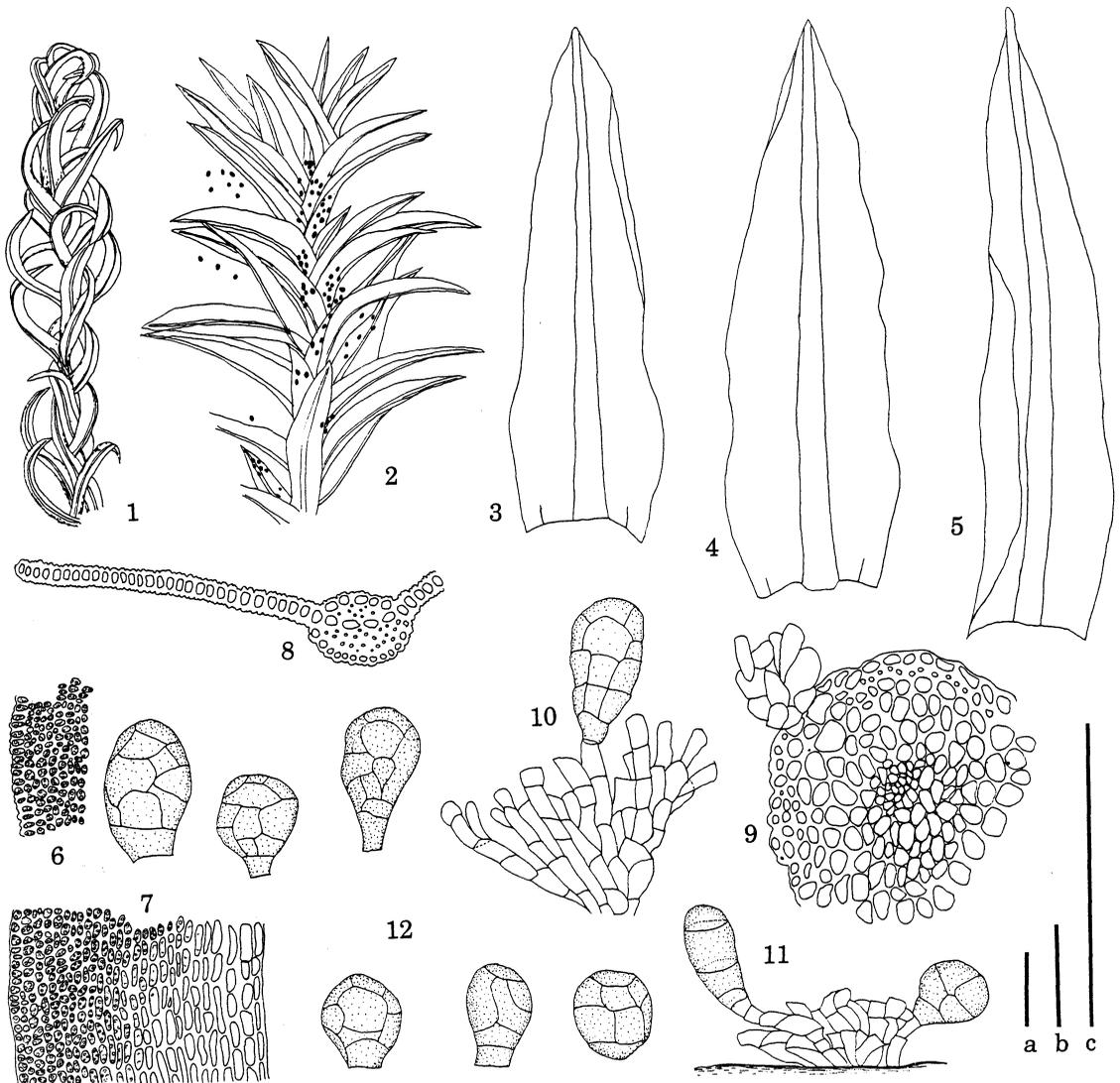
Plants of the Russian population grew near streams on permanently wet rocks and below overhanging rocks. Associated species include: *Blindia acuta* (Hedw.) Bruch & Schimp. in B.S.G., *Cyrtomnium hymenophylloides* (Hueb.) Nyh. ex T. Kop., *Didymodon icmadophilus* (Schimp. ex C. Müll.) Saito, *Ditrichum flexicaule* (Schwaegr.) Hampe, *Myurella sibirica* (C. Müll.) Reim., *Plagiobryum zieri* (Hedw.) Lindb., and *Plagiopus oederiana* (Sw.) Crum & Anderson.

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LITERATURE CITED

GANGULEE, H. C. 1972. Mosses of Eastern India and Adjacent Regions: A Monograph. Fascicle 3 (Syrhropodontales, Pottiales & Dicranales). Calcutta.



FIGURES 1-12. *Barbula amplexifolia* (Mitt.) Jaeg. from Altaian collection, Ignatov, 1989. — 1. Plant when dry. — 2. Plant when moist. — 3-5. Leaves. — 6. Marginal cells near midleaf. — 7. Cells at leaf base. — 8. Transverse section at midleaf. — 9. Stem transverse section with proximal portion of gemma stalk cluster. — 10-11. Cluster of stalks with gemmae. — 12. Six gemmae. Scale bars: a = 50 μ m (Fig. 6-12); b = 1 mm (Fig. 3-5); c = 1 mm (Fig. 1-2).

NOGUCHI, A. 1988. Illustrated Moss Flora of Japan. Part 2. Supplemented by Zennoske Iwatsuki. Calymperaceae to Bryaceae. Nichinan.

SAITO, K. 1975. A monograph of Japanese Pottiaceae (Musci). Journal of the Hattori Botanical Laboratory 39: 373-537.

ZANDER, R. H. 1979. Notes on *Barbula* and *Pseudocrossidium* (Bryopsida) in North America and an annotated key to the taxa. Phytologia 44: 177-214.