

POHLIA TUNDRAE SHAW (MUSCI) IN RUSSIA
ПОHLIA TUNDRAE SHAW (MUSCI) В РОССИИ

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Abstract

Pohlia tundrae was described from North America, and in the 1990s was found also in Central Europe. More recently, we discovered this species also on the Yamal Peninsula, northern West Siberia, and on the Kamchatka Peninsula, Russian Far East. The addition of the Asian collections reveals a circumboreal distribution for this species.

Резюме

Pohlia tundrae была описана из Северной Америки, в 1990-е гг. ее нашли также в Центральной Европе. Мы выявили этот вид в недавних сборах с Ямала, север Западной Сибири и с Камчатки, Дальний Восток. Таким образом, ареал данного вида имеет, вероятно, циркумбореальный характер.

Pohlia tundrae A. J. Shaw was described by Shaw (1981) from the states of Colorado, Washington and Oregon in the United States. Subsequently, it was found in additional western states, including Arizona, California, Montana, Nevada, Idaho, Colorado, Oregon, Utah, Washington, and Wyoming, with solitary localities in British Columbia, Canada and southern Alaska (Shaw, 1982). Shaw (l. c.) considered this species to be a North American endemic, although he suggested it might be discovered in Asia. Few years later, *Pohlia tundrae* has been found in Austria (Düll, 1991, 1992, Suanjak & Köckinger, 1993) and Germany (Biedermann & Müller, 2001).

The first author recently revised the propaguliferous species of *Pohlia* in Russia (Czernyadjeva, 1997, 1999), using collections from most of the Russian herbaria, but failed to find any specimens of *Pohlia tundrae*. However, in 2002-2003, this species was collected by the first author in Kamchatka in the Russian Far East and also was discovered by the second author in collections made in 2000 on the Yamal Peninsula in northern West Siberia. These findings expand the species range considerably, making it almost circumboreal.

Pohlia tundrae A. J. Shaw, Bryologist 84: 65.1981. Fig. 1, 2.

Plants glossy, in dense or loose tufts. Stem 5-8 mm long. Leaves erect to erecto-patent, 1.4-1.7×0.35-0.45 mm, lanceolate, narrowly acute; margin serrate above, subentire below; laminal cells 70-110×8-11 µm. Sporophytes unknown in Russian populations. Propagulae several in leaf axils of sterile shoots, cylindrical-vermicular, 350-750(-820) µm long, (35-)40-60(-100) µm wide (in upper leaf axils propagulae are smaller, less developed), with spiral arrangement of surface cells, with primordial leaves clustered at the top and also scattered along the propagula body, being more frequent and larger distally; primordial leaves up to 3-6 cells/20-40(-80) µm wide and 4-7(-10) cells/120-200(-360) µm long.

There are small differences between Asian and American plants. Primordial leaves are restricted to the top of the gemmae in the latter, while they are commonly present at least in the upper half of the gemma body in Asian plants. Also leaves and laminal cells are smaller in American plants, (0.6-)0.8-1.1(-1.4)×(0.2-)0.3-0.4(-0.5) mm and (45-)55-75(-100) µm long respectively (Shaw, 1981). Further differences may exist and a more detailed comparative

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Fig. 1. *Pohlia tundrae* A. J. Shaw (Kamchatka, Czernyadjeva, 109, LE): 1 – habit; 2 – median laminal cells; 3-5 – leaves; 6-13 – axillary gemmae. Scale bars: 2 mm for 1; 1 mm for 3-5; 100 μm – for 2; 200 μm – for 6-13.

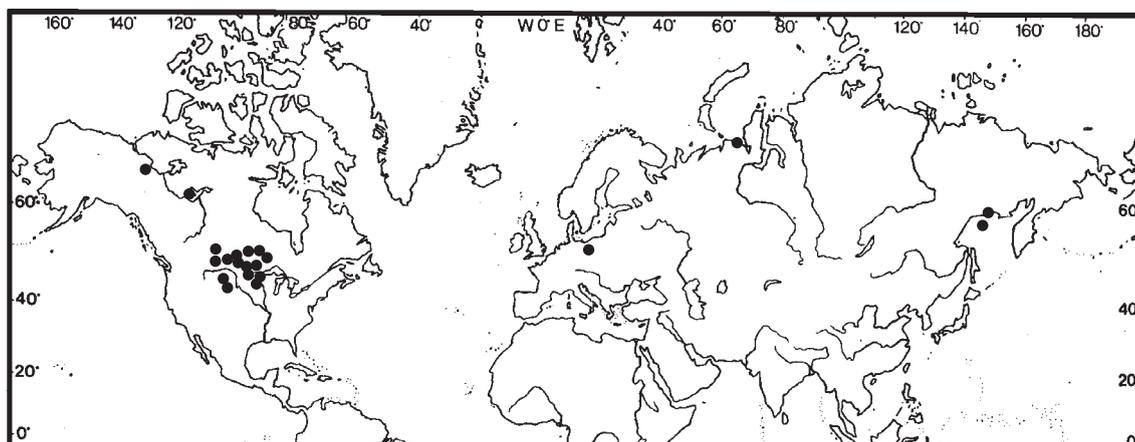


Fig. 2. Distribution of *Pohlia tundrae* A. J. Shaw (American distribution – from Shaw, 1982)

investigation of the American and Asian collections is needed.

Pohlia tundrae is most similar to *P. proligera* (Kindb. ex Breidl.) Lindb. ex H. Arnell. Both species have glossy leaves, numerous narrowly elongate gemmae, resulting in distal shoots with a “dishavelled” appearance. However, *Pohlia tundrae* differs from *P. proligera* in the size and structure of gemmae. They are 350-800 µm long (vs. 150-250 µm in *P. proligera*), have developed primordial leaves with up to 3-6 cells at base (vs. 1-3 cells at base in *P. proligera*, thus forming no blade).

In the North America, *Pohlia tundrae* occurs mainly in alpine tundra in disturbed sites, especially along roads and trails, associated with *P. drummondii* (C. Müll.) Andr., *P. camptotrachella* (Ren. et Card.) Broth., *P. ludwigii* (Schwägr.) Broth., and *Bartramia ithyphylla* Brid. (Shaw, 1981). In Kamchatka, *P. tundrae* was collected on soil under upturned roots of fallen trunks, among exserted roots of spruce in mossy spruce forests, as well as along roads. It forms pure tufts or mixed with *Leptobryum pyriforme*, *Ceratodon purpureus*, *Ditrichum cylindricum*, *Pohlia proligera*, etc. In the Yamal Peninsula, *P. tundrae* was found in *Pinus* + *Picea* forest along a creek bank.

SPECIMENS EXAMINED.

Kamchatskaya Prov.: (1) watershed of Bystraya and Nachilova Rivers, 53°05' N, 156°53' E, alt=160 m, roadside, with *Leptobryum pyriforme*, *Ditrichum cylindricum*, *Ditrichum lineare*, *Atrichum tenellum*, *Pohlia proligera*, 17.VIII.2002, № 81, Chernyadjeva (LE); (2-3) middle course of Elovka River, 56°53' N, 160°55' E, alt=150 m, roadside, with *Leptobryum pyriforme*, 26.VIII.2003, № 109, Chernyadjeva (LE) and on bare soil under upturned roots of fallen tree in spruce forest, with *Leptobryum pyriforme*, *Ceratodon purpureus*, 24.VIII.2003, № 108, Chernyadjeva (LE); (4) upper course of Elovka River, 56°55' N, 161°00' E, alt=100 m, on fine soil at roots of spruce in spruce forest, with *Leptobryum pyriforme*, *Ceratodon purpureus*, *Polytrichum longisetum*, 28.VIII.2003, № 113, Chernyadjeva (LE).

Yamalo-Nenezkij Distr., Kunovat Protected Area, 64°56' N-66°52' E, Kunovat River (right tributary of Ob River), 8.VIII.2000 coll. O. V. Smirnova & N. A. Toporova (MW).

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