

Grimmia mollis Bruch & Schimper – Bryol. Eur. 3: 133. 1849.

Type: Norway, Tellemarken, Goustafield, leg. H. Holmgren, holotype, BM.

Synonyms: *Grimmia evansii* Britt., *G. orthotrichoides* Hartm., *Hydrogrimmia mollis* (B.S.G.) Loeske.

Distribution: Am.1 As.1 Eur.

Description

Grimmia mollis grows in loose, green vegetations on alpine acid rock in wet places, frequently in or around glacier streams, the leaves are 2-3 mm long, patent when moist, flexuose when dry, oblong to ovate-lanceolate, concave at dorsal side, leaf-tip rounded to cucullate, the costa is not projecting on dorsal side, ending well below the apex, hair-points are absent, discoloured leaf tips occasionally occur, the margins are plane, incurved above. The distal areolation is unistratose, the mid-leaf cells are quadrate, thin-walled, rich in chloroplasts, the basal marginal cells are quadrate, thin-walled, the basal juxtacostal cells are quadrate and thin-walled. The sexuality is dioicous, and capsules on 2-3 mm long straight seta are only sporadically present, they are exserted, ovate to oblong, smooth, yellowish with a rostellate operculum.

Discussion

Grimmia mollis, discovered by Schimper on the Stilsfer Joch in Tirol, is a characteristic boreal-alpine species frequently growing in glacier streams, sometimes over hundreds of metres. In 1994, I found some m² in Austria (Hohe Tauern, Heiligenblut, Kl. Fleischtal). Here, the plants were inundated by seepage water from a reservoir (Zirmsee) at an altitude of 2500 m. Although the species is widespread in the northern hemisphere, it is nowhere common. In the Alps, it occurs exclusively above the treeline and on account of its morphology and peculiar ecological niche, it can hardly be confused with any other species. In Europe, it is frequently associated with *Andreaea nivalis*, *Brachythecium glaciale* and hygrophilous forms of *Schistidium apocarpum*. Hagen (1909) placed it in a monospecific genus, *Hydrogrimmia*. This concept was followed by Corley *et al.* (1981) and by Greven (1995). However, because there are no significant morphological characters to separate it from *Grimmia*, I follow, in agreement with the American bryologists Crum & Anderson (1981), the concept of the Bryologia Europaea. The dioicous species grows in separate male and female cushions and capsules are extremely rare. I have seen them in Swedish plants only (Norrbotten, fjället Ripanes near Jukkasjärvi).

Specimens examined

Austria. Tirol, Stilfser Joch, alt 2300 m, leg. Albrecht; Steiermark, Krag-gau, Rotheck, alt. 2600 m, leg. J. Breidler; Hohe Tauern, Heiligenblut, Kl. Fleischtal, Zirmsee, alt. 2500 m, leg. H.C. Greven, nr. 3066, 3067; **Bulgaria.** Rila Mnts, Mus-Alla, alt. 2200 m, leg. J. Podpera; **Slovakia.** Vysoke Tatry, Slieszky dom, alt. 2200 m, leg. H.C. Greven, nr. 2681; **Sweden.** Norrbotten, Jukkasjärvi, Ripanes, leg. R.F. Fristedt; Norrbotten, Patsovare, leg. E. Jäderholm, Norrbotten, Järta, leg. E. Jäderholm, Norrbotten, Stuor, Jirta, leg. E. Jäderholm; Jämtland, Undersäkers, Sylarna, leg. E. von Krusenstjerna; Jämtland, Undersäkers, Nean, Storsola, alt. 1380 m, leg. O. Mårtensson. **Switzerland.** Wallis, Arolla, alt. 2600 m, leg. H.C. Greven, nr. 2680;

References:

- Corley, M.F.V., A.C. Crundwell, A.C. Düll, R. Hill & A.J.E. Smith. 1981. Mosses of Europe and the Azores; an annotated list of species with synonyms from the recent literature. *Journal of Bryology* 11: 609-689.
- Crum, H.A. & L.E. Anderson. 1981. Mosses of Eastern North America. Vol 1. Columbia University Press, New York.
- Hagen, I. 1909. Forarbejder til en norsk lovmosflora, IX-XII. K. Norske Vidensk. Selsk. Skrifter, Trondhjem.