

Grimmia triformis Carestia & De Not. *Comment. Soc. Crittog.*
Ital. 2: 102. 1866.

Type: Italy, in Tagliaferro, a qualche metro sotto la veta sul versante di Rima. leg. Carestia, lectotype, designated by Muñoz (1999), BM!; isoelectotypes BM! 2 replicates, BP, JE, PC.

Synonyms: *Grimmia ganderi* Limpr., *G. donniana* var. *triformis* (Carestia & De Not.) Loeske, *G. donniana* var. *brevisetata* Loeske

Distribution: Eur.

Description

Grimmia triformis grows in rounded cushions, dark green to almost black, the leaves loosely appressed when dry, erecto-patent when moist, oblong-lanceolate, tapering to acute apex, costa narrow, obscure at apex, hair-points short to half length of lamina, smooth to slightly denticulate, margins plane, slightly thickened above. The distal areolation is bistratose, mid-leaf cells short-rectangular with sinuosely incrassate walls, basal marginal cells narrowly rectangular with thin smooth walls, basal juxtacostal cells narrowly rectangular with thin smooth walls. The sexuality is autoicous, and capsules on short and straight setae are usually present, they are immersed, oblong-ovoid with a mammillate to rostellate operculum.

Discussion

Greven (1995) treated *Grimmia triformis* as a variety of *G. donniana*. Limpricht (1890) treated it as a distinct species, followed by Muñoz (1998). The species is closely related to *G. donniana*, only differing by sporophytic characters. However, since I have studied some more material, in present work, I also follow Limpricht in treating it at specific level. *G. triformis* has immersed capsules, 70-100 µm cribose peristome teeth, and thick-walled exothecial cells, as against 50-70 µm entire peristome teeth and thin-walled exothecial cells in *G. donniana*. I have seen *G. triformis* plants from Austria, Switzerland and Italy, all specimens are rather uniform and provided with capsules, so confusion with *G. donniana* was excluded.

Specimens examined

Austria. Tirol, Oetztaler Alps, Sölden, alt. 2000 m, leg. Achtelstetter, nr. Oes. 920; Stubai Alps, Ramolhausen, alt. 2800 m, leg. Muck & Esse; Oetztal, Finailspitze, leg. Jongmans; Hoho Tauern, Heiligenblut, Kl. Fleischtal, alt. 2400 m, leg. H.C. Greven nr. 3017, 17-07-1994; Innervillgraten, Tirol, Wege nach Kalchstein, leg. H. Gander, 29-03-1890; **Italy.** South Tirol, Meran, Schnalstal, alt. 3100 m, leg. R. Düll; **Switzerland.** Graubünden, southwest ridge of Pischahorn, alt. 2650 m, leg. C.C. Townsend nr. 84/229, 28-08-1984; Graubünden, Piz Grialetsch, glacier, alt. 3131 m, leg. H.C. Greven nr. 2860, 01-08-1980;

References

Greven, H.C. 1995. *Grimmia* Hedw. in Europe. Backhuys Publishers, Leiden, The Netherlands.

Limpricht, K.G. 1890. Die Laubmoose Deutschlands, Oesterreichs und der Schweiz. I.Abtheilung. Kummer, Leipzig.

Muñoz, J. 1998. A taxonomic revision of *Grimmia* subgenus *Orthogrimmia*. *Annals of the Missouri Botanical Garden* Vol. 85, Nr. 3.