

Grimmia arenaria Hampe - Linnaea 10: 405. 1836.

Type: Germany, Harz, Regenstein bei Blankenburg, leg. Hampe, lectotype, designated by Muñoz (1998), BM!; isotype FH!

Synonyms: *Grimmia donniana* ssp. *arenaria* (Hampe) Dixon, *G. donniana* var. *arenaria* (Hampe) Loeske, *G. donniana* var. *curvula* Spruce, *G. incurva* B.S.G., *G. zahlbruckneri* Garov.

Distribution: Eur.

Description

Grimmia arenaria grows in low, dense, extremely hoary tufts, the leaves are loosely appressed when dry, erecto-patent when moist, linear-lanceolate, homomallous, flat to slightly keeled above, the costa is greatly projecting on dorsal side, the hair-points are extremely long, in perichaetial leaves longer as lamina, sharply denticulate, especially at apex, margins are plane, incurved above. The distal areolation is bistratose, the mid-leaf cells are irregular-quadrate, the walls sinuosely incrassate, the basal marginal cells are long-rectangular with thin walls, the basal juxtacostal cells are long-rectangular with thin walls. The sexuality is autoicous, the seta is arcuate. Capsules are usually present, they are ovoid, hidden among the hair-points with a mammillate operculum

Discussion

Grimmia arenaria has often been considered as a variety or a subspecies of *G. donniana*. Greven (1994) noticed that in North Wales *G. arenaria* grows in irregular tufts on protected rock, capsules are only produced in springtime, the seta is arcuate and 1.5 mm long, the leaves are homomallous, narrowly lanceolate, and the hair-points are as long as the lamina and sharply denticulate. In contrast, in the same area *G. donniana* grows in rounded cushions on exposed rock, capsules are produced from spring to autumn, the seta is straight and 2-3 mm long, the leaves are erect, oblong-lanceolate, and the hair-points are half the length of the lamina and not or only slightly denticulate.

Specimens examined

United Kingdom. Wales, Merioneth, Barmouth, leg. Duncan, Sept. 1904; Wales, Merioneth, Talsarnau, leg. Jones, June 1918; Wales, Hawddamor, 2 km west of Llanelltyd, granite rock of protected stone wall, leg. H.C. Greven nr. 2001, 21-07-1993; Wales, Rhyd-wen, one mile south of Dolgellau, stone wall, leg. H.C. Greven nr. 2004, 24-07-1993; Wales, Snowdonia, stone wall along road, 2 km

south of Llyn Cwellyn, leg. H.C. Greven nr. 2006, 28-07-1993; Wales, Dolgellau, Llanelltyd, stone wall 200 m east of old bridge over Afon Mawddach, leg. H.C. Greven nr. 2002, 27-07-1993; Wales, Llanelltyd, slatey rock crevice of old bridge over the Afon Mawddach, leg. H.C. Greven nr. 2003, 21-07-1993; **France**. Vosges, Route des Crêtes, Le Hundskopf, alt. 1237 m, leg. H.C. Greven nr. 2813, 07-04-1994; Alpes Maritime, Vallon de Gordolasque, northeast of Belvédère, alt. 1270 m, leg. M.J.H. Kortselius, 27-07-2000; Alpes Maritimes, St. Martin-Vésubie, Vallon du Vernet, boulder in woodland, alt. 1015 m, leg. H.C. Greven nr. 3591, 01-08-2000; Pyrenees, Fabian, Sapinière de Couplan, Cascade de Letz, alt. 1591 m, leg. H.C. Greven nr. 3144, 03-05-1995; **Germany**. Rheinland, Kreis Bonn, Ostabhang des Oelbergs bei Ittenbach, basalt, shaded in woodland, alt. 350 m, leg. R. Düll nr. 10274, 04-04-1980; **Switzerland**. Altüre di Vezia, senkrechten Porphyrfelsen, alt. 470 m, leg. J. Albrecht, 12-07-1962; Muottas da Schlatigna, alt. 2260 m, leg. J. Albrecht, 24-07-1963; **Spain**. Pyrenees, Lleida (Pallars), Sobira Vallferrara, alt. 1300 m, leg. Muñoz, 26-09-1981; **Andorra**. Val de Ransol (riu de la Coma), UTM: CH (81) 86; leg. A. Sotiaux, 28-06-1989; La Rabassa, Riu de Caborrau, UTM: CH 70 (90), alt. 1660 m, leg. A. Sotiaux nr. 12059, 03-07-1991; Bixessari, le long de la route d'Os, UTM: CH (70) 25. alt. 1275 m, leg. A. Sotiaux nr. 12258, 09-07-1991; Cami de l' Obac, Canitto-Soldeo, alt. 1540 m, UTM: CH 81 (84), leg. A. Sotiaux nr. 12414, 12-07-1991; **The Netherlands**. Drente, erratic boulder in heathland near Emmen, leg. Van der Sande Lacoste & Suringar, 1859;

References

Greven, H.C. 1994. *Grimmia arenaria* Hampe in the Mwaddach estuary in North Wales. *Journal of Bryology* 18:196-198.