

Grimmia laevigata (Bridel) Bridel - Bryol. Univ. 1: 183. 1826.

Type: Italy, Rome, Napoli, lectotype, designated by Cao & Vitt (1986), B!

Synonyms: *Grimmia bellii* R. Brown ter, *G. calotricha* C. Müll., *G. campestris* Hook., *G. glauca* Card., *G. leiocarpa* Tayl., *G. leucophaea* Grev., *G. murina* C. Müll., *G. oertzeniana* Schultz, *G. senilis* Shaw, *G. subfusca* Wils., *G. subleucophaea* C. Müll.

Distribution: Afr. 1,3,4. Am. 1,2,4,6. As. Austr. Oc.

Description

Grimmia laevigata grows in blackish, hoary, readily disintegrating flat patches; when wetted, the colour changes rapidly into yellowish-green. The leaves are crowded, larger towards stem tips, shiny, appressed when dry, patent to spreading when moist, triangular to oblong-lanceolate with broad base, concave above, at apex abruptly narrowed into long, sharply denticulate hair-points, flattened below and decurrent down margin; the costa is weak above, not projecting on dorsal side, the margins are plane, erect to slightly incurved above. The distal areolation is bistratose, the mid-leaf cells are irregularly rounded-quadrate with incrassate straight walls. The basal marginal cells are oblate with incrassate walls and the basal juxtacostal cells are rectangular with thin walls. The sexuality is dioicous, and capsules on rather long straight setae are occasionally present, they are yellowish-green, ovoid to oblong-cylindric, smooth, with rostrate operculum.

Discussion:

Grimmia laevigata can easily be distinguished from other *Grimmia* species, although it sometimes has been confused with *G. tergestina*. Characteristic are patent to spreading, concave-triangular leaves with plane leaf apices and clearly denticulate hair-points; nearly the entire lamina is bistratose and the basal marginal cells are oblate. The leaves are with broad base, firmly attached to the stem, and removing them is much more difficult than in other *Grimmia* species. *G. tergestina* has erecto-patent, ovate-lanceolate leaves with incurved margins in the distal part and smooth to weakly denticulate hair-points, bistratose cells only in upper half of the leaves and rectangular basal marginal cells with thickened transverse walls. Although *G. laevigata* is not very variable, occasionally plants are found with erecto-patent, lanceolate leaves and short, not decurrent hair-points. Cardot (1905) described these plants as *G. glauca*. I have studied European and American herbarium material of this form and although the plants differ from the type, I have

frequently seen plants with lanceolate leaves, intermingled with plants with ovate-lanceolate leaves, so *G. glauca* should be considered as a synonym of *G. laevigata*.

Specimens examined

Austria. Oetztal, Oetz, alt. 860 m, leg. H.C. Greven, nr. 2179; **Canary Islands.** Tenerife: Santiago de Teide, alt. 1100 m, leg. H.C. Greven, nr. 2180, Anaga mountains, Las Mercedes, alt. 900 m, leg. H.C. Greven, nr. 2185, Anaga Mnts. El, Bailladero, alt. 1100 m, leg. H.C. Greven, nr. 2671, Las Canadas, alt. 1600 m, leg. H.C. Greven, nr. 2187, Valle de la Oratavia, alt. 1500 m, leg. H.C. Greven, nr. 2190, Vilaflor, alt. 1000 m, leg. H.C. Greven, nr. 2171; **Corsica:** Zicavo, alt. 850 m, leg. H.C. greven, nr. 2929; Ajaccio, alt. 200 m, leg. H.C. Greven, nr. 2930; **Cyprus.** Troodos, Pano Platres, alt. 1100 m, leg. H.C. Greven, nr. 2157; Prodhromos, alt. 1600 m, leg. H.C. Greven, nr. 2158; Yerasa, alt. 900 m, leg. H.C. Greven, nr. 2156; **France.** The Vosges, Lièpvre, alt. 531 m, leg. H.C. Greven, nr. 2772; The Vosges, Magelsberg, west of Soultzeren, alt. 762 m, leg. H.C. Greven, nr. 2773; Pyrenees, St. Engrace, alt. 675 m, leg. H.C. Greven, nr. 2188; Besse, Grottes de Jonas, alt. 848 m, leg. H.C. Greven, nr. 2182; Pyrenees, Bigorre, Gavarnie, alt. 1400 m, leg. H.C. Greven, nr. 2183, 2162; **Hungary.** Eger, Szarvaskö, leg. H.C. Greven, nr. 2165; **Madeira.** Corticeiras, alt. 400 m, leg. H.C. Greven, nr. 2184; **Portugal.** Serra da Estrela, Manteigas, alt. 900 m, leg. H.C. Greven, nr. 2173, 2177, 2178; Serra da Estrela Vale de Amoreira, alt. 500 m, leg. H.C. Greven, nr. 2174; Serra da Estrela, Penhas Douradas, alt. 1450 m, leg. H.C. Greven, nr. 2172, 2175, 2176; **Sardinia.** Monti del Gennargentu, Punta la Marmora, alt. 1450 m, leg. H.C. Greven, nr. 2190; Baunei, alt. 700 m, leg. H.C. Greven, nr. 2191; **Slovakia.** Zhiar na Rhonom, leg. H.C. Greven, nr. 2163; Stiavnické Vrchy, Krivin, leg. H.C. Greven, nr. 2189; Bzenica Sobotiste, leg. H.C. Greven, nr. 2167; Ziar valley, Kozelnik, leg. H.C. Greven, nr. 2164; **Spain.** Pic de Cortaplana, alt. 1200 m, leg. H.C. Greven, nr. 2186; **Switzerland.** Wallis, Thyon, Mt. Rouge, alt. 2290 m, leg. H.C. Greven, nr. 2168; Wallis, Sion, alt. 600 m, leg. H.C. Greven, nr. 2169; **The Netherlands.** Honswijk, leg. H.C. Greven, nr. 2181; Utrecht, Nw. Amelisweerd, leg. H.C. Greven, nr. 2166; Slijk-Ewijk, leg. H.C. Greven, nr. 2160, 2161; **Turkey.** Prov. Sivas, Pinarbasi-Gürün, alt. 1700 m, leg. Stainton & Henderson, nr. 5202E; Kars, Igdir (Aras valley), alt. 800 m, leg. Davis, nr. 43826; **Canada:** British Columbia, Stump Lake, south of Kamloops, boulder in field, leg. H.C. Greven nr. 3016, 29-06-1998; British Columbia, 5 km west of Kamloops, south-facing rock,

alt. 460 m, leg. H.C. Greven nr. 3017, 08-07-1998; British Columbia, Gold Co., 5 km past Spences Bridge, direction Vancouver, alt. 280 m, leg. H.C. Greven nr. 3018, 3019, 3020, 09-07-1998;

References:

- Cao, T. & D.H. Vitt. 1986. A taxonomic revision and phylogenetic analysis of *Grimmia* and *Schistidium* in China. Journ. Hattori Bot. Lab. No. 61: 123-247.
- Cardot, J. 1905. *Grimmia glauca* Card., Espèce nouvelle, ou forme hybride? Revue Bryologique 32: 17-19.