

Grimmia alpestris (Web. & Mohr) Schleicher - Cat. Pl. Helv. 2: 29. 1808.

Type: Switzerland, monte Sylvio, lectotype, designated by Muñoz (1997), BM!

Synonyms: *Campylopus pulvinatus* var. *alpestre* (Web. & Mohr) Brid., *Dryptodon pulvinatus* var. *alpestre* (Web. & Mohr) Brid., *Guembelia alpestris* (Web. & Mohr) Hampe, *G. lamellosa* C. Müll., *Grimmia donniana* var. *alpestris* (Web. & Mohr) Hampe, *G. lamellosa* (C. Müll.) Jaeg. *Trichostomum pulvinatum* var. *alpestre* Web. & Mohr.

Distribution: Afr.1. Am.1. As. 1,5. Eur.

Description

Grimmia alpestris grows in greyish-green, to glaucous-green cushions or mats, the leaves are appressed and slightly contorted when dry, patent to spreading when moist, ovate-lanceolate, slightly keeled above, the costa projects on dorsal side, hair-points are short to rather long, smooth to denticulate, the margins are plane, incurved above. The distal areolation is bistratose, the mid-leaf cells are quadrate to short rectangular with thin walls, the basal marginal cells are quadrate with thickened transverse walls, the basal juxtacostal cells are quadrate to short-rectangular with thin walls. The sexuality is dioicous, the seta is straight, capsules are occasionally present, they are exserted, oblong-ovoid, smooth, brown with thick-walled exothecial cells without stomata at the base of the urn, the operculum is convex-conical.

Discussion:

G. alpestris is a commonly occurring alpine species. It is closely related to *G. sessitana*, *G. montana*, and *G. caespiticia*. *G. sessitana* is autoicous, the capsules are yellowish with stomata at the base of the urn usually but these may be absent, and the basal marginal cells are short- to long-rectangular. *G. caespiticia* is dioicous but usually has longitudinal plicae in the distal part of the leaf, a cucullate apex, and mammillose upper cells. *G. montana* is also dioicous but it is rarely alpine, the operculum is obliquely rostrate, and the basal juxtacostal cells are elongate. Although fruiting material usually does not form identification problems, the separately growing patches of male *G. alpestris* can easily be confused with male patches of *G. montana* and sterile mats of *G. sessitana*.

Specimens examined

Austria: Frosznitztal bei Gruben, Katalalpe, alt. 1700 m, leg. G. Schwab; Hohe Tauern, Sandersee, alt. 2020 m, leg. H.C. Greven, nr. 3005; Carinthia,

Kreutzeckgruppe, Hochtristen, leg. H.C. Greven, alt. 2260 m, nr. 3006, alt. 2350 m, nr. 3008; Carinthia, Kreutzeckgruppe, track to Zweisee, alt. 1935 m, leg. H.C. Greven, nr. 3007; Pitztal, Braunschweiger Hütte, alt. 2950 m, leg. H. Kutzelnigg; Hohe Tauern, Heiligenblut, Kl. Fleischtal, Zirmsee, alt. 2360 m, leg. H.C. Greven, nr. 3009, 3032; Hohe Tauern, Leiteral, alt. 2020 m, leg. H.C. Greven, nr. 3010; Carinthia, Kreutzeckgruppe, Radlberger alm, Hoher Stand, alt. 2087 m, leg. H.C. Greven, nr. 3011; Oetzal, Obergurgl, alt. 2056 m, leg. H.C. Greven, nr. 1964, 1965; Oetzal, Kühtai, alt. 1754 m, leg. H.C. Greven, nr. 1966; **Corsica**: Lac de Melo, alt. 1450 m, leg. H.C. greven, nr. 2904; Col de Vergio, alt. 1800 m, leg. H.C. Greven, nr. 2905; Mte. Cinto, alt. 1500 m, leg. H.C. Greven, nr. 2906; **France**: Pyrenees, Bigorre, Gavarnie, alt. 1350 m, leg. H.C. Greven, nr. 1967, 1968; **Greece**: Epirus, Ioannina, Katara pass, alt. 1720 m, leg. T.L. Blockeel; **Italy**: Val di Fassa, Passo di Pellegrino, alt. 1887 m, leg. H.C. Greven, nr. 1962; Val di Fassa, Campitello, alt. 1696 m, leg. H.C. Greven, nr. 1963; South Tirol, Sulden am Ortler, alt. 2600 m, leg. C.C. Townsend; **Norway**: Bükke, Johunheimen, alt. 1250 m, leg. Bryhn; Opdal, Hakar, alt. 550 m, leg. I.Hagen; **Spain**: Lérida, Val d'Arau, alt. 1880 m, nr. 1961; **Slovakia**: Tatra, Sliesky dom, alt. 1800 m, leg. H.C. Greven, nr. 1960; **Switzerland**: Susch, alt. 2800 m, leg. H.C. Greven, nr. 1955; Wallis, Arolla, alt. 2590 m, leg. H.C. Greven, nr. 1957; Wallis, Ferpècle, alt. 1950 m, leg. H.C. Greven, nr. 1958; Wallis, Les Haudères, alt. 1470 m, leg. H.C. Greven, nr. 1959; Pontresina, Morteratsch, Isla Persa, alt. 2720, leg. H.C. Greven, nr. 2643; **Turkey**: Prov. Sivas, Sebinkarahisar-Giresun, alt. 1400 m, leg. Stainton & Henderson; Prov. Trabzon, Soganli dag, alt. 2400 m, leg. Davis & Hedge.