

Grimmia reflexidens Müller Hal. - Syn. Musc. Frond. I: 795. 1849.

Type: Chile australis inter *Gr. consobrinam*: Pöppig. Hb. Kunzean. BM!, isotypes JE, NY, PC.

Synonyms: *Grimmia grisea* Cardot

Distribution: Am 1,6, Ant., Austr., Eur.

Description

Grimmia reflexidens grows in compact, greyish green, hoary female cushions, combined with small, black, hardly hoary male cushions, the leaves are loosely appressed when dry, erecto-patent when moist, ovate to oblong-lanceolate, keeled above, perichaetial leaves enlarged, the costa is channeled and bordered, in the upper part of the leaf projecting on dorsal side, hair-points are very long, smooth or nearly smooth, flattened below, decurrent, the margins are plane. The distal areolation is yellowish-green, unistratose with bistratose ridges, mid-leaf cells are quadrate, rounded angles and weakly sinuose and incrassate walls, basal marginal cells are pellucid in 2-4 rows, rectangular with thickened transverse walls, basal juxtacostal cells are chlorophyllose, rectangular with thin to incrassate, sometimes nodulose walls. The sexuality is dioicous, capsules on straight setae are occasionally present, they are emergent to shortly exerted, obloid, exothecial cells thin-walled, 1-2 stomata at apophysis, sometimes present, operculum is mammillate to rostellate.

Discussion:

Grimmia reflexidens is a commonly occurring species in the alpine zone in New Zealand and Australia, the antarctic islands, and southern parts of Chile and Argentina. It was confined to the southern hemisphere until it was found in Iceland, Greven (1998). Previously, it had been collected in Canada (Newfoundland, Fortune Bay, Brassard No. 10207, 1975, NY!) but not recognized. The species is characterized by small, blackish, short-leaved, separately growing male vegetations, and female vegetations with enlarged perichaetial leaves with very long nearly smooth hair-points, that are flattened below and broadly decurrent down the leaf margin. Another character is a conspicuous yellow-green mid-leaf areolation. *G. reflexidens* is close to *G. asperitricha* and both species have been confused by Sainsbury (1945) as well as by Ochyra (1993), see the discussion to this latter species. Muñoz (1998) synonymised erroneously *G. reflexidens* with *G. sessitana*, as this latter species is autoicous, does not have enlarged perichaetial leaves and no smooth, flat and decurrent awns. Maier (2002) misidentified the type of *G.*

reflexidens as a *Coscinodon*, however, Deguchi (1984), Muñoz and Greven, studying the same type, identified a *Grimmia* and not a *Coscinodon*.

Specimens examined

New Zealand. Southern Alps, Craigieburn Ra., Mt. Cockayne, alt. 1640 m, on greywacke, leg. H.C. Greven nr. NZ 22, 18-02-1997; Southern Alps, Mackenzie Basin, between Tekapo canal and Lake Pukaki, alt. 585 m, greywacke boulder in meadow, alt. 585 m, leg. H.C. Greven nr. NZ 21, 20-02-1997; Southern Alps, Mt. Cook Nat. Park, track to Hooker glacier, alt. 760 m, leg. H.C. Greven nr. NZ 18, 20-02-1997; Southern Alps, Mt. Cook Nat. Park, Red Tarns, alt. 1070 m, leg. H.C. Greven, nr. NZ 20; Southern Alps, Fiordland, Homer tunnel, boulders on a scree northeast side of tunnel, alt. 1250 m, leg. H.C. Greven nr. NZ 19; South Island, Queenstown, Remarkable Mts., ski area, alt. 1175 m, leg. H.C. Greven nr. NZ 17, 66, 27-02-1997; North Island, Tongariro Nat. Park, end of Bruce road, alt. 1670 m, leg. H.C. Greven nrs. 2812 and 2813, 20-12-2005; **Australia.** New South Wales, Kosciusko Nat. park, Charlotte Pass, alt. 1835 m, leg. H.C. Greven nr. Aus 61, 05-03-1997; New South Wales, Kosciusko Nat. Park, Dead Horse Gap track, alt. 2065 m, leg. H.C. Greven nr. Aus 59, 06-03-1997; New South Wales, Kosciusko Nat. Park, Thredbo, south of Rams Head, along Dead Horse Gap track, 1965 m, leg. H.C. Greven nrs. Aus. 56, 58 and 62, 07-03-1997; New South Wales, Kosciusko Nat. Park, Charlotte Pass, Blue Lake, alt. 1650 m, leg. H.C. Greven nr. Aus. 57, 08-03-1997; Victoria, Mt. Bogong Nat. Park, Damsite Hill, 4 km southwest of Falls Creek, alt. 1750 m, leg. H.C. Greven nr. Aus 68, 11-03-1997; Victoria, Mt. Bogong Nat. Park, Pretty valley, alt. 1695 m, leg. H.C. Greven nr. Aus 67, 11-03-1997; Victoria, Mt. Buffalo Nat. Park, The Horn, alt. 1700 m, leg. H.C. Greven nrs. Aus 32 and 33, 13-03-1997; Victoria, Mt. bogong Nat. Park, Falls Creek, Ruined Castle, alt. 1650 m, leg. H.C. Greven nr. Aus 27, 10-03-1997; Victoria, Mt. Buller, summit, alt. 1790 m, leg. H.C. Greven nr. Aus 60; **Argentina.** Santa Cruz, Parc Nacional Los Glaciares, El Chalten, above settlement, alt. 500 m, leg. C.C. Townsend nr. 97/244, 21-01-1997; **Chile.** Prov. de Cautin, Volcan Lonquimay, alt. 1700 m, leg. B. Ruthsatz, 31-12-1965, H; Reg. Canales, Parc Nacional Torres del Paine, Sendero Laguna Verde, between Hosteria Lazo and Puente Weber, alt. 450 m, leg. C.C. Townsend nr. 97/162, 15-01-1997; Regiou XII, Navarino Island, Dientis Navarino,

alt. 600 m, leg. B.O. van Zanten & J.D. Kruijer nr. 86.01.498; **South Georgia.** Cumberland bay, (isotype of *Grimmia grisea* Cardot), Leg. Skottsberg nr. 307, H-Br 1828010; various localities, leg. B.G. Bell; **Antarctica.** Cape Jones, Obruchou hills, alt. 40 m, growing on sand, leg. R. Ledingham, Febr. 1986; Transkriptskaa inlet, Bunge Hills, growing on sand, leg. R. Ledingham, Febr. 1986, HO 304960, HO 304961; *Antarctica orientalis*, Boem Eltismapula, leg. and date unknown, L 974271.132; **Canada.** Newfoundland, Fortune bay, hill east of Sugarloaf brook, 1 km southeast of Little Bay, leg. Brassard nr. 10207, 23-06-1975, NY, MICH; **Iceland.** Siglufjörður, just outside the village, sea level, leg. W. Labeij, 05-09-1992; Siglufjörður, leg. Kristbjörn Egilsson nr. 37545, 09-09-1997, ICEL 37545;

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