Grimmia ovalis (Hedwig) Lindberg - Act. Soc. Sci. Fenn. 10: 75. 1871.

Type: Germany, *Grimmia commutata* B & S, Specimina ab Hedw. Ad iconem Dicrani ovali adhibita (manu Schwägrichen), lectotype, designated by Geissler & Maier (1995), G.
Synonyms: *Dicranum ovale Hedw., Grimmia cossonii* Besch., *G. hemipolia* Stirt., *G. nigricans* Lam. & DC.
Distribution: Afr.1,2. Am.1. As.1,2,3,5. Eur.

Description
Grimmia ovalis grows in dark green to nearly black, loose tufts on neutral to basic rock, leaves are shiny, loosely appressed when dry, most upper leaves frequently with squarrose hair-points, from a sheathing base, arcuate-ascending to patent when moist, concave, ovate-lanceolate with a broad base, from mid-leaf tapering to an acute apex, concave-keeled above, costa is obscure above, not projecting at dorsal side, hair-points are stout, short to rather long, denticulate, margins are plane, erect to incurved above. The distal areolation is bistratose, mid-leaf cells are rounded with incrassate smooth walls, basal marginal cells are rectangular with thin smooth walls, basal juxtacostal cells are usually elongate with incrassate, nodulose longitudinal walls, more rarely rectangular with incrassate smooth, longitudinal walls. The sexuality is dioicous, seta is straight, capsules are occasionally present, they are exserted, ovoid to oblong-ovoid, smooth, with an obliquely rostrate operculum and cucullate calyptra.

Discussion:
Grimmia ovalis is variable in colour, stem length and leaf form. It was confused with *G. affinis* (= *G. longirostris*), until Sayre (1951) described the differences. The species is characterized by stiff, arcuate-ascending, shiny leaves with concave apex, opaque, small, rounded mid-leaf cells and elongate pellucid basal juxtacostal cells with incrassate, nodulose longitudinal walls. Although it usually occurs on dry and sunny rock, in Britain and Ireland it also occurs on rock in, or close to water. These plants have rectangular basal juxtacostal cells with smooth walls and can hardly be distinguished from *G. olneyi*, an endemic from north-eastern America, also confined to rock in or close to water. Greven (1990) described dispersion by propagules, fully developed as small plants with rhizoids, born in the upper leaf axils of older stems. *G. ovalis* is, associated with *G. laevigata*, character-species of the *Grimmietum commutato-campestris* (Giacomini 1939) v. Krusenstjerna 1945, a thermophilous association on sunny neutral rock. In the Himalaya, at high altitudes,

G. ovalis is sometimes found with muticous leaves, however the leaf characters are not deviating from the normal hair-pointed form. *Grimmia ovalis* can be confused with *Grimmia bernoullii*, described from Guatemala, and *Grimmia obtusolinealis*, described from Mt. Kilimanjaro in Tanzania, but also occurring in the Himalaya. The differences with these species are described there.

Specimens examined

Austria: Oetztal, Oetz, alt. 920 m, leg. H.C. Greven, nr. 2380; Oetztal, Tumpen, alt. 930 m, leg. H.C. Greven, nr. 2382; Oetztal, Sölden, alt. 1200 m, leg. H.C. Greven, nr. 2381; Hohe Tauern, Heiligenblut, Kl. Fleischtal, Alter Pocher, alt. 1807 m, leg. H.C. Greven, nr. 3047; Carinthia, Hermagor, Guggenberg, alt. 1090 m, leg. H.C. Greven, nr. 3048; **Corsica**: Col de Verde, alt. 1450 m, leg. H.C. Greven, nr. 2955; **Cyprus**: Troodos, Prodhromos, alt. 1600 m, leg. H.C. Greven, nr. 2364, 2661; **France**: The Vosges, Col des Croix, alt. 710 m, leg. H.C. Greven, nr. 2779; The Vosges, Willer sur Thur, alt. 716 m, leg. H.C. Greven, nr. 2780; The Vosges, Lièpvre, alt. 361 m, leg. H.C. Greven, nr. 2781; Pyrenees, Bigorre, Gavarnie, alt. 1380 m, leg. H.C. Greven, nr. 2385-2388; Pyrenees, Ste. Engrace, alt. 650 m, leg. H.C. Greven, nr. 2383, 2384; **Germany**: Oberhessen, leg. Bruch; **Greece**: Aegaeis, Thassos, Megalo Kasaviti, Tumba, alt. 750 m, leg. R. Düll; **Italy**: Merano, Moos i. P., leg. H.C. Greven, nr. 2397; Dolomites, Seisser Alp, Puflatsch, leg. H. Lauer, nr. It. 588; Sarntaler Alps, Tschöggelberg, Burgstal, alt. 1460 m, leg. H. Lauer, nr. It. 1332; **La Palma**: caldeira, alt. 2300 m, leg. H. Lauer, nr. Ka. 105; **Sardinia**: Monti del Gennargentu, Punta la Marmora, alt. 1210 m, leg. H.C. Greven, nr. 2399, 2401; Monte Arbu, alt. 1290 m, leg. H.C. Greven, nr. 2398; Passo di Caravai, alt. 1110 m, leg. H.C. Greven, nr. 2400; **Scotland**: Angis, Clova Mnts, leg. U.K. Duncan; East Lothian, Traprain Law, alt. 120 m, leg. D.G. Long, nr. 25039; **Slovakia**: Ziar n/ Hronom, Krimnica, leg. H.C. Greven, nr. 2379; Ziar, Szaboova skala, leg. H.C. Greven, nr. 2389; Banska Stiavnica, Vyhne, leg. H.C. Greven, nr. 2390; Cajkov, Horny, leg. H.C. Greven, nr. 2391; Banska Stiavnica, Bzenica, leg. H.C. Greven, nr. 2392; Zhiar n/ Rhonom, Sasovské Podhradie, leg. H.C. Greven, nr. 2393; Banska Stiavnica, leg. H.C. Greven, nr. 2394; Stiavnické Vrchy, Krivin, leg. H.C. Greven, nr. 2395;, 2396; Ziar valley, Kozelnik, leg. H.C. Greven, nr. 2454; **Switzerland**: Wallis, Les Haudères, alt. 1470 m, leg. H.C. Greven, nr. 2402; Wallis, Evolène, alt. 1350 m, leg. H.C. Greven, nr. 2403; Wallis, Thyon, Mt. Rouge, alt. 2200 m, leg. H.C. Greven, nr. 2404, 2405; **Tenerife**: Las Canadas, alt. 2010 m, leg. H.C. Greven, nr. 2406-2410; **The Netherlands**: Kedichem, leg. H.C. Greven, nr. 2370, 2375; Werkendam, nr, 2371, 2376; Utrecht, leg. H.C. Greven, nr. 2372,

2374; Naardermeer, leg. H.C. Greven, nr. 2373; De Biesbosch, leg. H.C. Greven, nr. 2377; Wijk bij Duurstede, leg. H.C. Greven, nr. 2378; **Canada:** British Columbia, Stump lake, south of Kamloops, alt. 755 m, leg. H.C. Greven nr. 3035, 29-06-1998; British Columbia, 5 km east of Cache Creek, south-facing rock, alt. 475 m, leg. H.C. Greven nr. 3036, 08-07-1998; British Columbia, Fraser Canyon Highway, between China Bar Tunnel and Hell's Gate Tunnel, alt. 250 m, leg. H.C. Greven nr. 3037, 09-07-1998;

References

Greven, H.C. 1990. *Grimmia ovalis* (Hedw.) Lindb. and *G. orbicularis* Bruch ex Wils., two epilithic moss species new for The Netherlands. Lindbergia 16: 19-21.

Sayre, G. 1951. The identity of *Grimmia ovalis* and *G. commutata*. Bryologist 54: 91-94.