

Grimmia crassifolia Broth. - Act. Soc. Sc. Fenn. 19(12): 84. 1892.

Type: Russia, Ossetia, Ardon valley, between Alagir and Misurtsy, July 1877, leg. V.F. Brotherus, lectotype, designated by Muñoz (1999a), H-Br!; isolectotypes H, JE, PC!

Synonyms: *Grimmia crassifolia* var. *cucullata* Hend., *G. cucullata* Hend., *Gyroweisia shansiensis* Sak.

Distribution: As.2,3,5. Eur

Description

Grimmia crassifolia grows in olive-green to brown-blackish flat patches, the leaves are succulent and loosely appressed with incurved margins when dry, erecto-patent when moist, ovate to ovate-lanceolate, concave-keeled above, the costa is weak, not projecting on dorsal side, hair-points are absent to weak and short, not decurrent down margin, the leaf margin is plane to incurved above. The distal areolation is bi- to tristratose, mid-leaf cells are rounded quadrate with incrassate smooth walls, basal marginal cells are quadrate with thickened transverse walls, basal juxtacostal cells are short-rectangular with thin smooth walls. The sexuality is dioicous, the seta is very short and straight. Capsules are occasionally present, they are immersed, oblong-ovoid with a mammillate operculum.

Discussion

Grimmia crassifolia is characterized by leaves with incurved margins and concave apices, loosely appressed when dry; in this aspect the plant differs from the closely related *G. tergestina* that is characterized by leaves with plane margins and rather flat leaf apices, the leaves are more or less imbricate when dry. Other differences with *G. tergestina* are the weak hair-points, not decurrent down the margins, and hardly differentiated perichaetial leaves; in *G. tergestina*, the hair-points are stout and decurrent down the margins and the perichaetial leaves differ greatly from the vegetative leaves by conspicuously enlarged, broad, whitish apices. Muñoz (1999) synonymized *G. crassifolia* with *G. poecilostoma* (= *G. crinitoleucophaea*), but in this latter species, the seta is excentrically attached to a ventricose capsule; in *G. crassifolia* the seta is straight and the capsule is symmetric. Baumgartner (1934) described a muticous form as *G. crassifolia* var. *cucullata*. However, in 2000, I found in Turkey (Anatolia, Bey Dagliari, 5 km north of Çobanisa) a *G. crassifolia* vegetation with a mixture of hair-pointed and muticous plants, both with sporophytes, so I do not attach value to this variety. Muticous leaved plants of *G.*

crassifolia come very close to *G. unicolor* which also has shiny, thick (crassifolius) leaves.

Specimens examined

Bulgaria: Plowdiv, Rhodopen, Valley of Tschei, leg. R. Düll, 31-07-1968; **Azerbaijan:** Gobustan, southwest of Baku, on earth in semi-desert, alt. 100 m, leg. B.O. van Zanten, 12-07-1975; **Ossetia.** Caucasus, pr. Fl. Asdon, leg. Brotherus, 01-07-1877; **China.** Chansi Nord, Hoang tsáo keou, leg. Rev. E. Licent, 30-07-1914, BM!; **Turkey:** Prov. Ankara, Karapinar, Meke Gölü, alt. 1000 m, leg. P. Wolff, 14-04-1992; Prov. Ankara, Tug Gölü, alt. 925 m, leg. D.M. Henderson, 29-07-1956; Anatolia, Bey Dagliari, 5 km north of Çobanisa, along D 635, limestone rock, leg. H.C. Greven nr. 2828, 3608, 21-11-2000; **Uzbekskaya:** Fergana district, Iordan, alt. 1900 m, leg. C.C. Townsend; **Afghanistan:** 45 miles west of Doab, Hajir valley, alt. 2000 m, leg. P.P. Furse, 06-07-1966; **Kazakhstan:** between Bjelala and Antonovka, between Tschimkent and Aulie Ata, leg. V.F. Brotherus, 18-05-1896, JE!; Kirgizya, Alatau transiliensis, Valle Almatinka minoris, leg. V.F. Brotherus, 29-06-1896, E!; **U.S.S.R.** Uzbekskaya. S.S.R., Fergana district, above Iordan, above Khamzabad, alt. 1900 m, leg. C.C. Townsend nr. 86/177, 06-05-1986;

References

- Baumgartner, J. 1934. Ann. Naturhistor. Mus. Wien 50: 534.
Greven, H.C. 1994d. *Grimmia crassifolia* New to Europe.
The Bryologist 97:180-181.
Muñoz, J. 1999. A revision of *Grimmia* in the Americas: 1: Latin America.
Ann. Missouri Bot. Gard. 86: 131-133.