

Grimmia crinitoleucophaea Card. Rev. Bryol. 17: 18-19. 1890.

Type: France, Isère, Clapier de Saint-Christophe-en-Oisans, leg. Sebille, lectotype, designated by Muñoz (1999), PC!; syntype (pont de Longe près de Clermont, Auvergne, 3 Avril 1888. frère Gasilien) PC.

Synonyms: *Gasterogrimmia poecilostoma* Cardot & Sebille, *Grimmia poecilostoma* Card. & Seb., *Grimmia gymnostoma* Culm., *G. tergestina* var. *poecilostoma* (Card. & Seb.) Loeske.

Distribution: Am.1, As.1.5, Eur.

Description

Grimmia crinitoleucophaea grows in olive-green to blackish, readily disinter-grating tufts, leaves appressed and straight when dry, erecto-patent when moist, ovate- to oblong-lanceolate, from mid-leaf tapering to rather broad apex, concave-keeled above, costa weak at base, narrowed and obscure above, not projecting dorsally, hair-point are short to long, flattened below, ± decurrent, smooth to denticulate, margins plane below, slightly incurved above. The distal areolation is bistratose and opaque, mid-leaf cells are irregularly rounded with incrassate straight walls, basal marginal cells are short-rectangular with slightly thickened transverse walls, basal juxtacostal cells are rectangular with thin, straight walls. The sexuality is dioicous, seta is very short and curved, excentrically attached to the capsule, capsules are usually present, immersed, globose to ovoid, ventricose, smooth, with obliquely rostrate operculum. Peristome teeth are usually present, but they are frequently imperfect, and sometimes absent.

Discussion:

Grimmia crinitoleucophaea, described and discussed as *Grimmia poecilostoma* in Greven (2003), was collected by frère Gasilien in 1888 in the French Puy-de-Dôme area. The material was sent to Cardot, who described it as a hybrid between *Grimmia crinita* and *G. leucophaea* (= *G. laevigata*) (Cardot 1890). In August 1900, Sebille found in the vallée du Vénéon "une curieuse Gasterogrimmia" that he could not identify. He sent the material to Cardot, who replied that he had seen such plants ten years earlier, at that time by him considered as a hybrid, but that he was convinced now that it was a new species, upon which it was published as *Gasterogrimmia poecilostoma* Card. & Seb. (Sebille 1901). Since that time, the species was widely known as *Grimmia poecilostoma* Card. & Seb. However, the first legally published name is *Grimmia crinitoleucophaea*, so *Grimmia poecilostoma* is an invalid name. Muñoz (2000) proposed to conserve the name

Grimmia poecilostoma but this proposal was rejected (Zijlstra 2002). *G. crinitoleucophaea* is related to *G. tergestina*, having a comparable leaf form and cell pattern. However, in *G. tergestina*, capsules on straight setae are occasionally present, the perichaetial leaves are greatly enlarged, with broad filmy apices, while in *G. crinitoleucophaea*, capsules are usually present, the seta is arcuate, excentrally attached, and the perichaetial leaves are enlarged also, but with a narrow apex. Just like in *G. tergestina*, male patches are clearly different, being much smaller, blackish, having nearly muticous to short hair-pointed leaves. In 1994, *G. crinitoleucophaea* was found growing abundantly on schistose slanting rock at an altitude of 2250 m, above the Grosz Glockner glacier in the Hohe Tauern in Austria, in 2008, the species was there still present in quantity. In 2006, *G. crinitoleucophaea* appeared to occur richly in the French Alpes-de-Haut-Provence, in the surroundings of Colmars, Allos and Clignon-Haut. Outside Europe, *G. crinitoleucophaea* is known from temperate Asia, from southern states of the U.S.A. and South America. *G. crinitoleucophaea* is the only *Grimmia* species with a rich variety in peristome characters. The peristome teeth are frequently imperfect, and sometimes completely absent. Plants with gymnostomous capsules have been described as *Grimmia gymnostoma* Culm., *G. tergestina* var. *gymnostoma* (Culm.) G. Roth, and *G. tergestina* f. *gymnostoma* (Culm.) Loeske. However, because I found within one vegetation, urns with and without peristome teeth, I do not attach any value to these taxa. Maier (2002) synonymized, without any proof or motivation, *G. crinitoleucophaea* (as *G. poecilostoma*) with *G. tergestina*. In the Flora of North America (Hastings & Greven 2007), the name *Grimmia crinitoleucophaea* Cardot has been published for the first time, since its description in 1890. In 2007, *G. crinitoleucophaea* was found in Tibet, along the road from Lhasa to the airport, growing on grainy granite boulders. The stems and leaves were somewhat smaller than European material and peristome teeth were absent. The plants are presented here as:

***Grimmia crinitoleucophaea* var. *gymnostoma* H.C. Greven var. nov.**

Planta caespitosa, ferruginea, theca immersa, elliptico-conica, gymnostoma.

Type: Tibet, Chusnul, between Lhasa city and airport, alt. 3650 m, leg. H.C. Greven nr. Tibet 8. (holotype herbarium H.C. Greven).

Specimens examined

Andorra. d' Els Orris, alt. 1600 m, leg. A. Sotiaux, nr. 8089; **Austria.** Virgental, alt. 1400 m, leg. Richner; Hohe Tauern, Heiligenblut, Grosz Glockner, Fr. Jozefs

Höhe, alt. 2250 m, leg. H.C. Greven, nr. 3049/3051; **France.** Hautes Alpes, Vallée du Rabious, alt. 1200 m, leg. P.F. Culman; Hautes Alpes, Chateauroux, Clot Jaunier, alt. 1300 m, leg. P.F. Culman; **Spain.** Toledo, Valle del rio Algador, Finca el Quemadillo, leg. C. Casas; **Switzerland.** Rätische Alps, Samnaun-Gruppe, Serfaus, alt. 1400 m, leg. J. Poelt; **U.S.A.** New Mexico, Scandia Mts. leg. E.B. Bartram; Utah, Valley of Gods, Cedar Mesa, Cave Towers, alt. 2000 m, leg. Huyink & Willemse, 04-08-1998; California, Lake Co., Butte Rock, head of Bosch Canyon, alt. 3000', leg. Toren nr. 8609; **Tibet:**

Lhasa, road to airport, Chusnul, grainy granite, alt. 3650 m, leg. H.C. Greven nr. Tibet nr. 8, 9, 10, 11, 14.

References

- Cardot, J. 1890. Un *Grimmia* hybride. Rev. Bryol. 17: 18-19.
- Greven, H.C. 2003. *Grimmias of the World*. Backhuys Publishers, Leiden, The Netherlands.
- Hastings, R.I. & H.C. Greven, 2007. *Grimmia* Hedw. in: *Flora of North America*, Vol. 27, Bryophyta, p. 225-258. New York, Oxford University Press.
- Maier, E. 2002. The genus *Grimmia* (Musci, Grimmiaceae) in the Himalaya. *Candollea* 57 : 143-238.
- Muñoz, J. 2000. Proposal to conserve the name *Grimmia poecilostoma* Cardot & Seville (Musci, Grimmiaceae). *Taxon* 49 : 287-288.
- Seville, R. 1901. Note sur une nouvelle *Grimmia* de la section *Gasterogrimmia*, la *Gasterogrimmia poecilostoma* Cardot et Seville. *Revue Bryologique* 28: 118-123.
- Zijlstra, G. 2002. Report of the Committee for Bryophyta : 7. *Taxon* 51 : 793-794.