

## **Grimmia ungeri Jur. - Ins. Cypern: 169. 1865.**

**Type:** Cyprus, Troodos Mountains., Mt. Olympus, leg. F. Unger, lectotype, designated by Muñoz (1998), BM!; isolectotypes, BM! 2 replicates, Goet, H-SOL, S.

**Synonyms:** *Grimmia alpestris* ssp. *ungeri* (Jur.) Kindb., *G. alpestris* var. *ungeri* (Jur.) Husn.

**Distribution:** Eur.

### **Description**

*Grimmia ungeri* grows in small, dense, rounded, olive-green to greyish-black patches, leaves are appressed when dry, erecto-patent when moist, costa is weak below, channeled above, projecting on dorsal side, hair-points are short to rather long, smooth to slightly denticulate, margins are plane, very thick and sometimes incurved in upper part. Distal areolation is opaque, 2-3-stratose, mid-leaf cells are rounded-quadrate with slightly sinuose walls, basal areolation is rather homogeneus, marginal cells are short-rectangular with slightly thickened transverse walls, basal juxtacostal cells are (short) rectangular with slightly incrassate straight walls. Sexuality is cladautoicous, more rarely gonioautoicous, and capsules on a straight seta are usually present, they are exerted, oblong-ovoid, striolate when dry, the operculum is short and straight with an obtuse beak.

### **Discussion**

Loeske (1930) avoided a discussion on *Grimmia ungeri* because it was known only from the summit of Mt. Olympus, the highest point in the Troodos mts. In his opinion, the number of specific characters was too small for treatment at specific level. Therefore, *G. ungeri* became a "forgotten" taxon, synonymized by most authors with *G. alpestris* (Greven 1994). However, without any doubt, it is a distinct taxon, differing from *G. alpestris* and *G. montana* by growing on basic aphanitic rock, autoicous gametangia, and from *G. sessitana* by shape and structure of the leaves. The perigonia are small and sometimes hidden between the lower stem leaves of capsule bearing-plants (gonioautoicous), however, more frequently borne on separate shoots (cladautoicous). The exothecium with thin-walled cells differs from *G. alpestris* as well as from *G. montana*, as these two species have thick-walled exothecial cells, and from *G. sessitana*, also with thin-walled exothecial cells, it differs in leaf form and in areolation. In 1993, I visited the Troodos mountains in Cyprus and could ascertain that *G. ungeri* is still there, in good condition, commonly occurring around the summit of Mt. Olympus, at

altitudes from 1600 to 1950 m. The autoicous character was shown by the abundant occurrence of sporophytes, even in small cushions, growing on boulders, spread over the floor of the *Pinus nigra* ssp. *pallasiana* forest, that covers the slopes from 1000 m up to the top. Muñoz and Pando (2000) considered *G. ungeri* as a taxon with a nearly worldwide distribution, giving seven synonyms. However, all of these can be reduced to forms of *G. montana* or *G. alpestris*.

### **Specimens examined**

**Cyprus.** Troodos Mts., Mt. Olympus, leg. F. Unger & Th. Kotschy; Troodos Mts., Mt. Olympus, alt. 1850 m, leg. F. Koppe; Troodos, Mts., Mt. Olympus, alt. ± 1900 m, leg. H.C. Greven, nr. 2624-2634, 2861.

### **References**

Greven, H.C. 1994. The identities of *Grimmia nutans* Bruch, *Grimmia ungeri* Jur. and remarks about other *Grimmiaceae* on the island of Cyprus. *Journal of Bryology* 18: 303-309.

Loeske, L. 1930. Monographie der Europäischen Grimmiaceen. E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart.

Muñoz, J. & F. Pando. 2000. A world synopsis of the genus *Grimmia* (Musci, Grimmiaceae). Monogr. in Syst. Bot. from the Missouri Bot. Gard. Vol. 83.