

## **Grimmia mammosa Gao & Cao - Acta Bot. Yunnan 3: 394. 1981.**

**Type:** Tibet, YadongXian, Chun-Pei river, 2900 m, May 1975, leg. Zang Mu No. 71, holotype IFSBH; isotype NY!

**Synonyms:** *Grimmia mammillaria* Li Xing-jiang

**Distribution:** Afr.2. As.2.3

### **Description**

*Grimmia mammosa* grows in dull, dense, yellowish-green to greyish-green, rigid tufts, the leaves are erect-appressed when dry, spreading when moist, broadly lanceolate to ovate-lanceolate, concave above, the costa is broad, up to 1/3 width of leaf base, not projecting at dorsal side, the hair-points are long, denticulate, flattened below, the margins are plane and crenulated. The distal areolation is bistratose, mid-leaf cells are rounded-quadrangle, with distinctly bulging (papillose) walls, basal marginal cells are oblate with firm straight walls, the basal juxtacostal cells are  $\pm$ quadrangle with thicker transverse walls. The sexuality is dioicous and capsules, exerted on straight seta, are occasionally present, they are ovoid to cylindrical with a rostrate operculum.

### **Discussion**

*Grimmia mammosa* is a peculiar *Grimmia* because it has distinctly bulging cell walls, very rare in the genus. *Grimmia papillosa*, should have been a more appropriate name but illegal (*Grimmia papillosa* Kindb. Bih. K. Svensk. Vet. Ak. Handl. 7(9): 110. 1883). In the Himalayas, it is rather common in suitable habitats and I found it frequently in the Nepalese Khumbu valley (Greven 2002). It was probably overlooked in the 19<sup>th</sup> century because it was described not earlier than in 1981. The species has a disjunct distribution because it occurs in Africa also (Sierra Leone and Malawi). *G. mammosa* can easily be distinguished from other *Grimmia* species by the papillose cell walls in middle and upper part of the leaf. A second specific character is the flattened broad costa, up to 1/3 width of the leaf base. At first glance, the plants are similar to *G. laevigata* and the sample from Sierra Leone had been stored under that name. However, as a result of papillae the leaf surface is dull, while in *G. laevigata* the leaf surface is shiny by smooth epidermis walls.

### **Specimens examined**

**Nepal.** Khumbu valley, Monzo, alt. 2880 m, slanting sunny rockwall, leg. H.C. Greven nr. N 118, 07-02-2000; Khumbu valley, Phakding, rock in village, alt. 2640 m, leg. H.C. Greven nr. N 119, 07-02-2000; Khumbu valley, Sangasar, alt. 3420 m, leg. H.C. Greven nr. N 117, 09-02-2000; Khumbu valley, 3 km north of Tengboche, alt. 3985 m, leg. H.C. Greven nr. N 121, 15-02-2000; Khumbu valley, Phakding, on top of boulder, just north of bridge, alt. 2640 m, leg. H.C. Greven nr. N 116, 16-02-2000; **Sierra Leona.** Loma Mts., Bintimane, alt. 1660 m, leg. E.W. Jones, 01-03-1971; **Malawi.** Mulanje mts., Above waterfall, alt. 1830 m, leg. Wiggington nr. M 1278, 20-06-1991; Mulanje Mts., Ruo River, above waterfall, alt. 1830 m, UTM Grid. 834371, leg. N.G. Hodgetts nr. M 1278, 20-06-1991; Mulanje Mts., Ruo River, slabs in river, alt. 1860 m, UTM Grid 833373, leg. N.G. Hodgetts nr. M 2122a, 20-06-1991; Mulanje Mts., above waterfall in Thuchila R., Thuchila Plateau, alt. 1680 m, leg. N.G. Hodgetts nr. M 2366a, 23-06-1991;

## References

- Cao, T. & D.H. Vitt. 1986. A taxonomic revision and phylogenetic analysis of *Grimmia* and *Schistidium* in China. Journ. Hattori Bot. Lab. No. 61: 123-247.
- Greven, H.C. 2002. *Grimmia* (Bryopsida, Grimmiaceae) in the Nepalese Khumbu valley. Journal of Bryology 24: 157-161.