

Grimmia macrotheca Mitt. - J. Linn. Soc. Bot. Suppl. 1: 44. 1859.

Type: India, Himalayas, Jongui, 12.000 ft, leg. J.D. Hooker No. 316, holotype NY!; isotypes (2 replicates) BM!

Synonyms: *Grimmia longicapsula* Gao & Cao.

Distribution: As.2,3

Description

Grimmia macrotheca grows in loose tufts, yellow-green above, brown to dark brown below, the leaves are imbricate, somewhat contorted or flexuose when dry, erecto-patent to patent when moist, ovate-lanceolate, carinate, the costa is firm, percurrent, projecting on dorsal side, the hair-points are short and smooth, the margins are recurved on one or both sides. The distal areolation is unistratose, at margins above bistratose, the mid-leaf cells are rectangular with incrassate and sinuose walls, the basal marginal cells are rectangular with thin straight walls, the basal juxtacostal cells are linear with thin, straight or slightly sinuose walls. The sexuality is autoicous, and capsules are usually present, the seta is up to 5-7 mm long, twisted and almost erect when dry, cygneous when moist, the urns are exserted, cylindric, yellow-brown, smooth with obliquely rostrate operculum.

Discussion

Grimmia macrotheca is a Himalayan endemic that will not give serious identification problems as it is usually provided with masses of smooth, light-brown cylindrical capsules. These are clearly visible on the cushions because they are longly exserted, the yellow setae are only curved in the uppermost part, so the capsules stand sometimes nearly horizontal. Other characters are long, lanceolate, strongly keeled leaves with unistratose areolation, margins bistratose above and an broadly rostrate operculum.

Specimens examined

Nepal. Khumbu Valley, Pheriche, boulder in glacier stream, alt. 4290 m, leg. H.C. Greven nr. N 135, 13-02-2000; Khumbu Valley, Pangboche, staplewall in village, alt. 3980 m, leg. H.C. Greven nr. N 136; **China.** Yunnan, Lijang Co., Mt. Yu-Lung, above Ma-Huang-Ba, alpine meadow, alt. 3680 m, leg. T. Koponen nr. 42581, 03-08-1985;

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.
- Gangulee, H.C. 1972. Mosses of Eastern India and Adjacent Regions. Fascicle 3 Syrrhopodontales, Pottiales & Dicranales. Calcutta, India.
- Greven, H.C. 2002b. *Grimmia* in the Nepalese Khumbu valley. Journal of Bryology 24: 157-161.
- Maier, E. 2002b. The genus *Grimmia* (Musci, Grimmiaceae) in the Himalaya. Candollea 57: 143-238.