

**Grimmia handelii Broth. - Sitzungsber. Ak. Wiss. Wien, Math.
Nat. Kl. 133: 567. 1924.**

Type: China, Setschwan, Mt. Tschanhungnyotscha, 4150-4300 m, leg. H. Handel-Mazetti No. 498, holotype, H-BR!; isotype PC!

Distribution: As.2,3

Description

Grimmia handelii grows in yellowish-brown cushions on exposed rock ledges, the stems are 2-3 cm long, defoliated and blackish below, scarcely branched above, the leaves sheathing, appressed when dry with incurved tips, spreading to recurved when moist, ovate-lanceolate, carinate; filiform shoots are arising from basal part of older stems, the costa projects on dorsal side, hair-points are absent, margins are recurved on one or both sides. The distal areolation is unistratose, mid-leaf cells are quadrate with rounded angles and smooth walls, basal marginal cells are rectangular with smooth walls, basal juxtacostal cells are linear with smooth walls. The sexuality is dioicous, capsules on straight setae are sporadic-cally present, they are exserted, ovoid, yellowish, the exothecial cells are thin-walled, stomata are absent, and the operculum is obliquely rostrate

Discussion:

Grimmia handelii was only known by gametophytes from southwestern China (Cao & Vitt 1986). In 2000, I found it in the Nepalese Khumbu valley, growing in luxurious cushions on exposed rock ledges along the track from Namche Bazar to Tengboche (Greven 2002). It is a characteristic Himalayan endemic that might be confused with another Himalayan endemic, *G. ochyriana*. Both species share mucous leaves with incurved tips. However, in *G. ochyriana* the lamina is bistratose in the distal half, and immersed ellipsoid capsules are usually present. In *G. handelii*, capsules are very rare, they are exserted and obloid. A specific feature of *G. handelii* are filiform young shoots, arising from the basal part of older stems, the leaves of the shoots are small and closely appressed, rounded-ovate and mucronate.

Specimens examined

Nepal. Khumbu valley, 1 km south of Tengboche, sunny rock, alt. 3520 m, leg. H.C. Greven nr. N 110, 111, 09-02-2000; Khumbu valley, 1 km north of Tengboche, exposed rock, leg. H.C. Greven nr. N 109, 10-02-2000; Khumbu valley, Shomare, outcrops, alt. 4020 m, leg. H.C. Greven nr. N 106, 107, 108, 14-02-2000;

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.
- Maier, E. 2002b. The genus *Grimmia* (Musci, Grimmiaceae) in the Himalaya. Candollea 57: 143-238.