

***Grimmia percarinata* (Dix. & Sak.) Deguchi - J. Sci. Hiroshima Univ. Div. 2  
(Bot.) 16: 198-01. 1978.**

**Type:** Japan, Kiushiu, Prov. Ohsumi, Ins. Yakushima, Mt. Kuromi, leg. Y. Doi, Aug. 1934, holotype, Deguchi (1978), MAK; isotype, BM!

**Synonyms:** *Didymodon percarinatus* Dix. & Sak., *Grimmia lurida* Wils.

**Distribution:** As.2,3

**Description**

*Grimmia percarinata* grows in dull, greyish, fragile, not hoary patches or tufts, leaves are appressed and contorted when dry, erecto-patent when moist, small, linear- to ovate-lanceolate, distinctly keeled, acute, costa is firm, percurrent, channeled above, projecting at dorsal side, hair-points are weak, short, denticulate, margins are narrowly recurved on one side. The distal areolation is bistratose with longitudinal striae appearing as plicae, opaque, mid-leaf cells are slightly mammillose, quadrate to short-rectangular with sinuose, incrassate walls, basal marginal cells are quadrate to short-rectangular with slightly thickened transverse walls, basal juxtacostal cells are elongate with thin straight walls. The sexuality is dioicous, seta is flexuose, capsules are occasionally present, they are exserted, obloid, brown, smooth with rostellate operculum.

**Discussion:**

*Grimmia percarinata* was described from Japan but occurs in the Himalayas also. From this latter area, it was published as *G. lurida* Wils. (nom. nud.). Hitherto sporophytes were unknown, but in the spring of 2002, I found it with capsules along the southern border of Tsongo Lake, alt. 12.400 ft (east Sikkim, India). The leaves are somewhat water-repellent, caused by a thin layer of a waxy substance, especially on the mammillose walls in the upper part of the leaf. Under high magnification this substance is visible as grains, giving the impression of small papillae. A peculiar phenomenon is that in some plants, the most upper leaves are crumpled with incurved tips. It is not impossible that these crumpled leaves, that are rather caducous, function as gemmae. There is some resemblance to *G. caespiticia*, an alpine taxon that is somewhat water-repellent also. However, this species is usually bluish-green, the leaves have longitudinal plicae on each side of the costa, and the cell pattern in the basal part of the leaf is homogeneous.

**Specimens examined**

**Japan.** Kyushu, pref. Kagoshima, Mt. Kuromi, Isl. Yakushima, alt. 1836 m, leg. T. Seki nr. 15066, 30-03-1957; **Indonesia.** Borneo, Mt. Kinabalu, summit region, alt.

13.000 ft, leg. W. Meyer nr. B 10.514, L; **India**. Sikkim, Tsongo Lake, alt. 12.400 ft, leg. J. Langbroek, 10-04-2001; Sikkim, Tsongo Lake, alt. 12.400 ft., leg. H.C. Greven nr. Sik 7,8, 11-03-2002;

### **References**

- Deguchi, H. 1978. A revision of the genera *Grimmia*, *Schistidium* and *Coscinodon* (Musci) of Japan. J. Sci. Hiroshima Univ. Ser. B., Div. 2, Bot. 16: 121-256.
- Maier, E. 2002b. The genus *Grimmia* (Musci, Grimmiaceae) in the Himalaya. *Candollea* 57: 148-238.