# Grimmia grevenii Feng, Kou & Bai –

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**Type:** China. Heilongjiang, Wudalianchi volcanos, Longmenshizhai, 48°41.585′ N, 126°19.536′ E, on volcanic rock, alt. 341 m, 21 July 2013, *Xue-Liang Bai 2013072712* (HIMC, herbarium H.C. Greven), *paratype:* Heilongjiang, Wudalianchi volcanos, Huoshao Mt., 48°44.241′N, 126°09.306′E, on volcanic rock, 391 m, 1 Aug. 2011, *Jin Kou 2011071717* (HIMC).
**Distribution:** As 2

## Description

*Grimmia grevenii* grows in low, hoary, dark green to blackish-green mats. Stems sparsely branched, 0.8–1.2 cm long, in transverse section rounded with1–2-stratose epidermis of smaller, slightly thickened, orange-colored cells, separated from large, thin-walled, hyaline medullary cells, central strand well developed. Leaves 1.0-1.5 mm long, lamina smooth, in mid-leaf for the majority in two cell layers, with some tristratose and unistratose ridges, the latter lighting up under the microscope basal part of leaf entirely unistratose with light-colored quadrate cells, the alar cells not much different from the basal juxtacostal cells, forming a rather uniform areolation; distal laminal cells slightly thick-walled, quadrate to irregular, straight or slightly sinuose, medial laminal cells thick-walled, rounded to quadrate (6–9 µm), straight or slightly sinuose; transitional and lower laminal cells rectangular, walls slightly thickened and nodulose; basal marginal cells quadrate to short-rectangular, with straight walls, transverse walls slightly thicker than lateral walls, basal juxtacostal cells short-rectangular with thin walls, straight to slightly sinuose; costa, seen on dorsal side, broad in leaf base, from above broadest part of leaf to apex indistinct, costa percurrent, on dorsal side at insertion and in leaf base laminal part flat, in lower laminal and in mid-leaf nearly rounded, in upper part indistinct, on ventral side in leaf base widely channelled, from mid-leaf to upper part channelled, at insertion and in leaf base 6–11 ventral cells, most of them guide cells, in lower laminal part guide cells 6–7, in upper laminal part 4–5 guide cells, in apical part 2–3 guide cells, hydroids present. Sporophytes unknown. Habitat: on block lava. Distribution: Wudalianchi volcanos, Heilongjiang province, China.
Dioicous. Sporophytes not found.

## Discussion

*Grimmia grevenii* belongs to the subg. *Litoneuron* I. Hagen, a group of *Grimmia* species, characterized by: stems with central strand; leaves broadly oblong-ovate to narrowly ovate-lanceolate or ligulate from an ovate base, concave, margins plane or incurved, costa immersed, basal marginal cells hyaline or not, distal lamina 2-3 stratose. Dioicous.

Other species, belonging to this group are e.g. *Grimmia ovalis*, *G. laevigata*, *G. unicolor* and *G. maido*. From these species, only *G. maido* occurs in the same habitat and has more or less the same habitus e.g. leaves with monostratose ridges within a bi- to tristratose lamina. However, *Grimmia maido* differs from *G. grevenii* in various characters. It is a larger species with short hair-points, the leaves are oblong-ovate-lanceolate, with a much broader attachment to the stem, the juxtacostal cells are hyaline and rectangular, differing greatly from the basal marginal cell with extremely thickened transverse walls, finally, *G. maido* has lamina cells with bulging walls, while in *G. grevenii*, the lamina cells are smooth.

## References

Chao Feng, Xue-Liang Bai & Jin Kou. 2014. *Grimmia grevenii* (Grimmiaceae), a new species from the Wudalianchi volcanoes in northeast China and its comparison with *G. maido* and *G. longirostris*.
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