

**Grimmia lawiana J.H. Willis - The Lichens and Mosses of Mac. Robertson
Land: 148. 1966.**

Type: Antarctica, Mac. Robertson Land, Ring Rocks, leg. R. Filson No. 4225, holotype MEL!; isotypes MEL!, NSW, WELT, K, BM, P, S, H, US, NY.

Distribution: Ant.

Description

Grimmia lawiana grows in dense, green-brown, readily disintegrating tufts, 0.2-1.0 cm high. The leaves are 0.8-1.0 mm long, imbricate when dry, erect when moist, broadly lanceolate, concave-keeled above, the costa is firm, channeled above, slightly projecting on dorsal side, the hair-points are 0.5-0.7 mm long, stout, striate, obscurely denticulate, and broadly flattened below; the margins are plane below and incurved above. The distal areolation is bistratose with unistratose ridges, the mid-leaf cells are quadrate with rounded angles and incrassate straight walls, the basal marginal cells are quadrate with slightly thickened transverse walls, and the basal juxtacostal cells are rectangular with thin walls. The sexuality is dioicous, and sporophytes are unknown.

Discussion

Grimmia lawiana is a peculiar Antarctic species. At first sight, it looks like *G. plagiopodia*, a taxon that also occurs in the Antarctic, and a paratype from Mac Robertson Land, Cape Bruce, at the foot of Hayes Peak, leg. R. Filson nr. 4378. 10-10-1962, MEL 1048476, was identified by R. Ochyra as *G. plagiopodia*. However, *G. lawiana* differs from *G. plagiopodia* by a dioicous sexuality, different leaf form, nearly smooth hair-points, and bistratose areolation in the distal part of the leaves. I have seen material from three different Antarctic localities, all samples are conspicuously uniform. Muñoz & Pando (2000) excluded *G. lawiana* because in their opinion the taxon should be referred to *Coscinodon* rather than to *Grimmia*. Ochyra et al. (2008), followed Muñoz & Pando in considering *Grimmia lawiana* a *Coscinodon*, and their Fig. 94 shows seven leaves of the species with plicae. However, sporophytes have never been found, and plicae in leaves are not characteristic for the genus *Coscinodon*, e.g., in *Coscinodon yukanensis* and in *C. calyptratus*, leaf plicae are absent, while in *Grimmia caespiticia*, the leaves are usually plicate. The only steady character for the genus *Coscinodon* is a campanulate and plicate calyptra, enveloping the capsule. Because there are also samples of *Grimmia lawiana* without leaf plicae, just like in *Grimmia caespiticia*, I

agree with the author J.H. Willis to consider the taxon a *Grimmia*, because the leaf characters correspond in all aspects with *Grimmia*.

Specimens examined

Antarctica. Mac Robertson Land, Cape Bruce, at the foot of Hayes Peak, leg. R. Filson nr. 4378, 10-10-1962, MEL 1048476; Mawson Station, 67° 36' South - 62° 53' East, leg. G.C. Bratt nr. 305, 10-06-1973, HO 110219; Rauer Island, alt. 90 m, 75° 46' South - 77° 40' East, growing on sand, leg. R.D. Seppelt, HO 304964.

References

Muñoz, J. & F. Pando. 2000. A world synopsis of the genus *Grimmia* (Musci, Grimmiaceae). Monogr. in Syst. Bot. from the Missouri Bot. Gard. Vol 83.
Ochyra, R., R.I. Lewis Smith & H. Bednarek-Ochyra. 2008. The illustrated moss flora of Antarctica. Cambridge University Press.