

Grimmia abyssinica (C. Müll.) Mitt. - J. Linn. Soc. Bot. 7:152. 1863.

Type: Abyssinia, monti alpestri Silke, Febr.1840, leg. G.W. Schimper No. 435, lectotype, designated by Muñoz & Pando (2000), MO!; isoelectotypes H-BR!, FH!, GOET, JE!, NY!, PC!

Synonyms: *Guembelia abyssinica* C. Müll.

Distribution: Afr.2

Description

Grimmia abyssinica grows in large, dark green, loose tufts on volcanic rock in Afro-Alpine habitats. The leaves are 2.5-3.0 mm long, flexuose to twisted when dry, erectopatent when moist, elongate-lanceolate, tapering to a long subula, sharply keeled above, the costa projects on dorsal side, the hair-points are very short, smooth and only present in the perichaetial leaves, the leaf margins are narrowly recurved on one or both sides. The distal areolation is unistratose, the mid-leaf cells are rectangular, with incrassate and sinuose walls, the basal marginal cells are short-rectangular with thin walls, the basal juxtacostal cells are elongate with thin smooth walls. The species is autoicous, and capsules on 3.0-5.0 mm long, twisted-arcuate setae, are usually present. The urns are 3.0-5.0 mm long, ovoid, smooth, even when empty, shiny brown with a few stomata at the base, the operculum is rostellate, and the spores are 17-21 µm, brown and ornamented.

Discussion

The African endemic *Grimmia abyssinica* is characterized by tall blackish-brown stems with flexuose to twisted leaves, and brown, shiny, ovoid capsules on thick setae that, when wetted, become arcuate-twisted. Another characteristic feature is a *Racomitrium*-like mid-leaf areolation. Probably as a result of the twisted leaves, many herbarium specimens had been identified as *G. afroincurva* Broth. However, there is no relation to this species. With respect to leaf form and areolation, *G. abyssinica* shows some resemblance to *G. fuscolutea* Hook., and Muñoz & Pando (2000) treated it as a synonym of this species. However, there are significant differences. *G. fuscolutea* grows in dense cushions, the leaves are up to 2.0 mm long, appressed and slightly contorted when dry, the capsules are yellowish and ribbed when empty, the basal part of the exothecium is richly provided with stomata, the arcuate setae are 1.5-2.5 mm long, and the spores are 11-13 µm. After study of several herbarium samples, Price et al. (2003) shared my conclusion that *G. abyssinica* is a good species. In April 2010, I found *G. abyssinica* in Ethiopia, Bale Mts., Sanetti plateau, on steep walls of a gully, alt 3900 m.

Specimens examined

Ethiopia (Abyssinia). Mt. Silke, leg. Schimper nr. 435, 18-02-1840; Bale Mts. Nat. Park, Sanetti plateau, alt. 3900 m, leg. H.C. Greven nr. Eth. 15, 16, 17, 06-04-2010; **Tanganyika**. Arus, Mt. Meru, summit, alt. 4500 m, leg. K. Mägdefrau nr. 57104, 25-02-1973; Mt. Meru, western slope above Olkakola estate, alt. 4350 m, leg. O. Hedberg nr. 2337, 28-10-1948; **Uganda**. Ruwenzori mountains, Scott Elliot Pass, Bujuku valley, alt. 13.800 ft, leg. J.G.B. Newbould nr. 5189, 16-09-1959; **Cameroon**. Mt. Cameroon, near summit, alt. 4000 m, leg. D. Balasz & T. Pócz nr. 81/h, 27-11-1967, EGR!, KRAM!; **Tanzania**. Mt. Kilimanjaro, escarpment of KIBO, route Machame-Shira Huts, alt. 3600 m, leg. T. Pócz nr. 6981/AD, 06-04-1984; Arusha National Park, Mt. Meru, rim of crater, alt. 3600 m, leg. T. Pócz & J. and M. Kornas nr. 6525, 13-02-1972, EGR!, KRAM!; **Zaire**. Massif des Birunga Karisimbi, plateau de Rukumi, alt. 4250 m, leg. De Sloover nr. 13.173, 26-01-1972; **Kenya**. Aberdare mountains, Highland Castle, Burguret valley, alt. 3800 m, leg. J. Spence nr. 2544/A, 17-06-1984, KRAM 65645!;

References

- Müller, C. 1849. Synopsis Muscorum Frondosorum. Pars Prima, Berlin.
- 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.
- Price, M. E. Maier & L. Ellis, 2003. Identity of the moss *Symblepharis rhacomitrioides* Dixon, and a discussion of the status of *Grimmia abyssinica* (Müll. Hal.) Mitt. Candollea 58: 289-295.