

GROUTIELLA

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Groutiella Steere, *Bryologist* 53: 145 (1950); named after Abel Joel Grout (1867–1947) who helped segregate the genus from *Macromitrium*.

Type: *G. schlumbergeri* (Schimp. ex Besch.) Wijk & Margad.

Dioicous (in Australia). Plants medium-sized to robust, forming irregular spreading mats, olive-green above, darker below. Stems creeping, with slender dense erect flexuose branches, the branches simple or sparsely branched and with a rufous tomentum. Stem leaves erect-flexuose when dry, wide-spreading and flexuose when moist, partly hidden by tomentum, ovate-lanceolate; apex subulate; costa ending in the subula. Branch leaves spirally twisted around the stem, oblong-lanceolate to ligulate-lanceolate; apex acute, reflexed outwards when dry, wide-spreading and straight when moist, with a rigid fragile subula; proximal leaf border of 2–5 rows of elongate flat hyaline cells extending to mid-leaf; costa conspicuous, ending in the subula; base narrowly ovate-oblong. Gemmae absent.

Perichaetial leaves \pm undifferentiated. Sporophyte not known in Australian material. Chromosome number not known.

A pantropical genus of 17 species, found in tropical America, Sri Lanka, Java, Australia, New Guinea and the Philippines; mainly epiphytic, but also on rock. Represented in Australia by a single species.

References

Vitt, D.H. & Crum, H.A. (1970), *Groutiella tomentosa* new to the United States, *Bryologist* 73: 145–149.

Vitt, D.H. & Ramsay, H.P. (1985), The *Macromitrium* complex in Australasia (Orthotrichaceae: Bryopsida). Part I. Taxonomy and phylogenetic relationships, *J. Hattori Bot. Lab.* 59: 325–451.

Groutiella tomentosa (Hornsch.) Wijk & Margad., *Taxon* 9: 51 (1960)

Macromitrium tomentosum Hornsch., in C.F.P.Martius, *Fl. Bras.* 1(2): 21 (1840). T: Uruguay; *n.v.*

Illustrations: H.A.Crum & L.E.Anderson, *Mosses of Eastern North America* 2: 740, fig. 352 (1981); D.H.Vitt & H.P.Ramsay, *op. cit.* 432, figs 328–329; 433, figs 333–340.

Stems 10 (–20) mm long, simple or once-branched below perichaetia. Stem leaves 0.9–1.2 mm long; apex sharply acuminate, subulate. Branch leaves irregularly flexuose from a narrowly obovate base, keeled, 1.6–2.7 mm long, with an acute apex, the upper third gradually extended to form a broad fragile green subula; subula partly bistratose, with cells rounded-quadrate, flat, smooth, 5–9 μ m wide; margin broadly reflexed, entire; costa conspicuous; upper and mid-laminal cells unistratose, subelliptical to rounded, 6–8 μ m wide, thick-walled, smooth; basal laminal cells \pm similar, hexagonal-rhomboidal, 9–12 μ m wide, thick-walled, strongly bulging, a few cells at insertion clear, broad, thin-walled and 12–14 μ m wide, forming a border proximally.

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Perichaetial leaves similar to vegetative leaves but with a more elongate and robust subula.

A pantropical species known in Australia from only a few collections in north-eastern Qld; usually epiphytic on trees, rarely on rock.

Qld: near Carrington Falls, S of Atherton, *D.H.Norris 43540* (NSW); Mt Windsor Rd, near Mt Carbine, *D.H.Norris 43108* (NSW); Hugh Nelson Ra., *H.Streimann 29398* (CANB); Danbulla State Forest, 23 km SE of Mareeba, *H.Streimann 57730* (CANB); Cardwell Ra., 45 km NW of Cardwell, *H.Streimann 36934* (CANB).

Australian plants are much smaller than those from New Guinea and the Philippines. At present, only female plants are known in Australia, and while these possess archegonia, none have been found to be fertilised. It is likely that the Australian plants represent a recent, long-distance dispersal from the north by vegetative diaspores (leaf fragments or fragile apices).

Groutiella tomentosa is distinguished from *Macromitrium* in Australia by the fragile branch leaf subulae that are green and partly bistratose, and branch leaves that are wound spirally around the branch. The proximal border of 2–5 rows of elongate, flat cells is also distinctive.