

MACROHYMENIUM

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Macrohymenium Müll.Hal., *Bot. Zeitung (Berlin)* 5: 825 (1847); from the Greek *macro* (large) and *hymen* (a membrane), in reference to the membranaceous and comparatively long endostome.

Type: *M. rufum* Müll.Hal.

Autoicous. Plants slender, medium-sized, glossy, yellowish to brownish green, loose to densely tufted. Stems creeping, densely pinnate; branches short, erect, often curved, thick, with terete leaves. Rhizoids in tufts along the stems, red, thick-walled. Branch leaves ±densely appressed when dry, erect to ascending, concave, ovate to ovate-lanceolate or elongate and lanceolate, abruptly acuminate, with a broad apex; margins entire; costa very short, double, indistinct or absent. Laminal cells narrowly and upwardly recurved, rhomboid-hexagonal, with ±thickened walls, elongate towards the base; alar region with 2 or 3 rows of quadrate, loose, pigmented cells, not excavate (as in *Acroporium*); basal row of alar cells larger.

Perichaetia on stems; perigonia on branches. Calyptra mitrate or cucullate, smooth. Seta short, ±rugulose. Capsule smooth, erect, ovoid-cylindrical. Peristome double; exostome teeth 16, short, yellowish, papillose, broadly lanceolate, perforate in the midline, abruptly or gradually subulate-pointed, thickly cross-striate; endostome of 16 elongate segments, 2–3 times longer than the exostome teeth; cilium 1; operculum large, rostrate from a conical base. Spores medium-sized. Chromosome numbers not known.

A genus of about four species in East Africa, Madagascar, Sri Lanka, Malesia and SE Asia. In Australia, one species, *M. mitratum*, occurs only in north-eastern Queensland.

Diagnostic characters include capsules with a large rostrate operculum, and endostome segments that are considerably longer than the exostome teeth. In sterile collections, the ovate to ovate-lanceolate leaf outline abruptly narrowed to an acuminate apex is also distinctive. The rhomboidal or shortly oblong laminal cells and the scarcely differentiated alar region distinguishes this from most other genera. However, white it could be mistaken for *Meiothecium*, the leaves of the latter are blunt to acute (not acuminate), and the operculum has a short-curved, hook-like rostrum.

References

Eakin, D.A. (1976), *A Taxonomic Revision of the Moss Genera Rhegmatodon and Macrohymenium*. Ph.D.thesis, University of Florida, Gainesville.

Ramsay, H.P., Schofield, W.B. & Tan, B.C. (2004), The family Sematophyllaceae (Bryopsida) in Australia. Part 2. *Acroporium*, *Clastobryum*, *Macrohymenium*, *Meiotheciella*, *Meiothecium*, *Papillidiopsis*, *Radulina*, *Rhaphidorrhynchium*, *Trichosteleum*, *Warburgiella*, *J. Hattori Bot. Lab.* 95: 1–69.

Macrohymenium mitratum (Dozy & Molke.) Broth., *Nat. Pflanzenfam.* I, 3: 1103 (1908)

Leskea mitrata Dozy & Molke., *Ann. Sci. Nat., Bot.*, sér. 3, 2: 311 (1844). T: Indonesia, Sumatra, *Korthals*; holo: L.

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Cite as: H.P.Ramsay, *Australian Mosses Online. 1. Sematophyllaceae: Macrohymenium*. http://www.anbg.gov.au/abrs/Mosses_Online/Semat_Macrohymenium.pdf (2012)

Illustrations: E.B.Bartram, *Philipp. J. Sci.* 68: pl. 25, fig. 424 (1939); H.P.Ramsay, *J. Hattori Bot. Lab.* 64: 182, fig. 3f (1988), as *M. rufum*; W.R.Buck, D.H.Vitt & W.M.Malcolm, *Key to the Genera of Australian Mosses* 34 (2002); H.P.Ramsay, W.B.Schofield & B.C.Tan, *J. Hattori Bot. Lab.* 95: 9, fig. 8 (2004).

Stems short, to 10 mm long; branches 7–8 mm long. Stem leaves somewhat smaller than branch leaves, the latter ovate, c. 1.3 mm long and 0.4 mm wide, concave, abruptly short-acuminate. Laminal cells short-rhomboidal, 30–45 × 4–6 µm, mainly non-porose apart from some cells near the base; lower cells more rectangular; alar region with a basal row of slightly enlarged oblong [L:W 2–3:1] thin-walled pigmented cells; supra-alar cells subquadrate, in 2 or 3 rows.

Perigonia towards the base of branches; perigonial leaves ovate, short-acuminate; perichaetial leaves ovate-lanceolate, short-acuminate. Calyptra cucullate, smooth. Seta 6–8 mm long, smooth to slightly rugulose. Capsule erect; urn c. 1 mm long; exothecial cells semi-collenchymatous to collenchymatous; operculum large, conical, straight-rostrate. Peristome with the apices of the exostome teeth incurved between the long upright endostome segments when dry; endostome segments folded lengthwise; cilium bent back behind the basal membrane of the endostome. Spores 15–20 µm diam., papillose.

Occurs in Malesia, SE Asia and north-eastern Australia; epiphytic on trees, shrubs and climbers in montane rainforest.

Qld: Malanda, *W.W.Watts Q623, Q664* (NSW); Ravenshoe, *W.W.Watts Q657, Q660, Q662* (NSW); Mt Baldy, SW of Atherton, *D.H.Vitt 28054 & H.P.Ramsay* (NSW); Mt Bellenden Ker, *I.G.Stone 16796* (MEL); Windsor Tableland, *H.Streimann 29648* (CANB); Millaa Millaa, *Mrs Sparvell s.n. (Dixon 5964)* (BM).

The nomenclatural confusion involving the supposed conspecificity of *Leskea rufa* Hornsch. & Reinw. and *Macrohymenium rufum* Müll.Hal. has been outlined by Ramsay *et al.* (2004). As explained by Eakin (1976), *L. rufa* and *M. rufum* were based on two different Reinwardt specimens from Java.