

# AULACOMNIACEAE

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**Aulacomniaceae** Schimp., *Syn. Musc. Eur.* 411 (1860).

Type: *Aulacomnium* Schwägr.

Dioicous or rarely autoicous. Plants small to rather robust in dull green, yellow-green or yellowish brown radiculose tufts, usually tomentose. Stems erect, simple or branched, sometimes terminating in filiform pseudopodia bearing minute leaf-like ecostate gemmae in an apical cluster. Leaves variable, crowded, erect to spreading, unchanged or contorted when dry, lanceolate to oblong-ovate, concave or keeled; margin entire or serrate above, ±revolute, unbordered; costa strong with 2 stereid bands, tapered and flexuose above, ending below apex; upper laminal cells small, isodiametric to elliptical, incrassate, smooth or papillose.

Calyptra cucullate, smooth. Setae terminal, ±elongate, erect. Capsules erect to horizontal, symmetrical to asymmetrical, oblong-ovoid to cylindrical, plicate when dry, with 8 longitudinal ribs; apophysis short; annulus broad; operculum bluntly conical to obliquely rostrate; stomata only on apophysis. Peristome double; exostome teeth lanceolate, papillose with numerous lamellae; endostome with a tall basal membrane, keeled, the processes usually perforate; cilia long, slender, nodulose, in groups of 2–4. Spores small.

As defined here, the family is monotypic, and *Leptotheca* Schwägr., formerly included in this family, is treated under the Rhizogoniaceae. According to the classification of Goffinet *et al.* (2012), the Aulacomniaceae also includes *Hymenodontopsis* Herzog and *Mesochaete* Lindb. However, both are referred to the Rhizogoniaceae here, the former being a recent addition to the Australian bryoflora for *Pyrrhobryum bifarium*.

## References

- Crum, H.A. (1994), Aulacomniaceae, *Moss Flora of Mexico* 2: 535–537.
- Goffinet, B., Buck, W.R. & Shaw, A.J. (2012), *Classification of the Bryophyta*. [<http://www.eeb.uconn.edu/people/goffinet/Classificationmosses.html>]
- Seppelt, R.D. (2004), *The Moss Flora of Macquarie Island*. Australian Antarctic Division, Kingston.
- Smith, A.J.E. (1978), Aulacomniaceae, *Moss Flora of Britain and Ireland* 447–451.

## AULACOMNIUM

*Aulacomnium* Schwägr., *Sp. Musc. Frond.*, Suppl. 3, 1: 215 (1827), *nom. cons.*, as *Aulacomnion*; from the Greek *alox* (a furrow) and *mion* (a moss), in reference to the ribbed capsules of these mosses.

Type: *A. androgynum* (Hedw.) Schwägr., *typ. cons.*

Description as for the family.

*Aulacomnium*, with up to eight species, is widespread in northern and southern temperate regions and at higher elevations in warmer latitudes. A worldwide revision should clarify the

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considerable apparent variability of species across their ranges. Currently, distinctions in the literature between species seem unreliable compared to the variation within species.

**Aulacomnium palustre** (Hedw.) Schwägr., *Sp. Musc. Frond.*, Suppl. 3, 1: 216 (1827)

*Mnium palustre* L. ex Hedw., *Sp. Musc.* 188 (1801). T: near Leipzig, [Germany]; holo?: G.

Illustrations: A.J.E.Smith, *op. cit.* 450, fig. 218; H.A.Crum, *op. cit.* 538, fig. 406; B.Malcolm, N.Malcolm, J.Shevock & D.Norris, *California Mosses 220* (2009).

Presumed dioicous. Densely tufted, pale yellowish green, 2.5–6.0 (–10.0) cm tall, densely tomentose with dark brown richly branched rhizoids. Leaves crowded; upper leaves erecto-patent, rather crisped and spirally flexuose when dry; lower leaves sometimes more imbricate and little-changed when dry, oblong to linear-lanceolate, 2–4 mm long, 0.60–0.75 mm wide; apex obtuse and cucullate, or acute and almost erect; margin recurved in lower half or more of leaf, plane above, finely and irregularly denticulate apically; costa somewhat glossy or whitish abaxially when dry. Laminal cells small,  $\pm$ isodiametric to short-rectangular but irregular, 10–15  $\mu$ m diam., with thick sinuose walls, collenchymatous, slightly longer towards base, a few basal rows (sometimes only near costa) wider, smooth, inflated, yellowish and  $\pm$ bistratose; all cells, except basal group, with a single spike-like papilla over centre of lumen on both surfaces. Axillary hairs c. 50  $\mu$ m long, with 2 short basal cells and 1 ovate-cylindrical apical cell, all dark-pigmented. Gemmae occasional on terminal pseudopodia, 1.5–5.0 mm long; gemmae soon falling. Sporophyte not seen.

Grows in scattered, sometimes large colonies in open grassy swamps amid subalpine sclerophyll woodland in N.S.W., A.C.T. and Vic. Also recorded from Macquarie Island. Very widespread and a typical moss of bogs throughout the Northern Hemisphere; apparently much less common in the Southern Hemisphere being reported from East Africa, southern South America and New Zealand.

N.S.W.: McKeahnies Ck, near Adaminaby, *M.Mueller 160B* (AD, MEL, NSW); near Round Mtn, Snowy Mtns, *D.G.Catcheside 75.3* (AD). A.C.T.: Murrays Gap, Bimberi Ra., *H.Streimann 4424* (AD, CANB). Vic.: Dargo High Plains, Alpine Natl Park, *H.Streimann 53222* (CANB).

Leaf shape and attitude seem to vary considerably between and within populations. Sporophytes have not yet been observed in Australian specimens and, according to foreign literature, are never common. A good description can be found in Crum (1994).

It has not been possible to confirm the record for Tasmania cited by W.Wilson (in J.D.Hooker, *Fl. Tasman.* 2: 192, 1859). There may be a specimen of this Gunn collection from “Formosa” (near Launceston) at BM, but no material of this or any other Tasmanian collection has been located in Australian herbaria. The only recent specimen at HO was misidentified.