

Fissidens dealbatus Hook.f. & Wilson, *Fl. Nov.-Zel.* 2: 63, 84, fig. 2 (1854)

Type: Bay of Islands, New Zealand, *J.D.Hooker W.318*; holotype: BM.

Fissidens splachnoides Broth., *Öfvers. Förh. Finska Vetensk.-Soc.* 35: 37, (1893); *Conomitrium splachnoides* (Broth.) Müll.Hal., *Gen. Musc. Frond.* 74 (1901). Type: Brisbane, Qld, *F.M.Bailey 256*; iso: NY 01025936.

Conomitrium amplirete Müll.Hal., *Gen. Musc. Frond.* 73 (1901); *Fissidens ampliretis* (Müll.Hal.) Broth., *Nat. Pflanzenfam.* 1(3): 353 (1901). Type: Balls Head Bay, N shore of Sydney, N.S.W., Sept. 1914, *T.Whitelegge*; holotype: H-BR; iso: NSW.

Illustrations: I.G.Stone, *J. Bryol.* 14: 321, fig. 2 (as *F. splachnoides*), 322, fig. 3 (1985); J.Beever, B.Malcolm & N.Malcolm, *The Moss Genus Fissidens in New Zealand: an illustrated key* 28 (2002); D.Meagher & B.Fuhrer, *A Field Guide to the Mosses and Allied Plants of Southern Australia* 39 (2003).

Plants 4–8 mm long, pale grey-green to dark green, delicate, loosely gregarious or scattered. **Stems** simple, pale, fleshy, with basal rhizoids only; in section all cells thin-walled, outer layers not differentiated; central strand lacking. **Leaves** in 2–8 pairs, upper leaves much larger than lower leaves, not overlapping in mid-stem; when moist \pm falcate, erect-spreading, loosely crisped when dry; lanceolate to ovate-lanceolate, 1.5–2.5 mm long, 0.4–0.6 mm wide; apex acute; laminae unistratose, limbate; **limbidium** 1–2 (–3) cells wide, 2–5 cells thick, the cells very narrow, elongate, thick-walled, forming a well-defined border on all laminae; **vaginant lamina** 1/2–2/3 leaf length, almost closed to closed, apex acute; **dorsal lamina** reaching the leaf base; **margins** entire, occasionally weakly crenulate or weakly dentate near the leaf apex; **laminal cells** irregularly hexagonal, lax, thin-walled, (30–) 40–80 (–90) \times 20–30 (–45) μ m; **costa** absent, but junction of laminae several cells thick in section.

Autoicous or **dioicous**. **Perigonia** terminal on male branches at base of female plants or on separate smaller male plants; leaves in 4–7 pairs. **Perichaetia** terminal; **perichaetial leaves** not differentiated from vegetative leaves. **Setae** colourless to pale yellow, 1.5–5.0 mm long, fleshy, \pm fragile. **Capsules** erect, symmetrical, 0.5–0.8 mm long, 0.3–0.6 mm wide; **exothecial cells** 20–40 \times 10–13 μ m, in c. 50–60 columns around the periphery, thin-walled, collenchymatous. **Operculum** rostellate to rostrate, 0.2–0.5 mm long. **Peristome** of *scariosus*-type, c. 250 μ m long, 30–55 μ m wide at the base. **Calyptra** 0.2–0.5 mm long, narrowly conical, covering the capsule, mitriform, flared at the base. **Spores** 10–13 (–17) μ m diam., greenish, very finely papillose.

[Images](#)

Occurs in W.A., Qld, N.S.W., Vic. and Tas. Grows on soil, usually in wet fern gullies.

Also in New Caledonia, Vanuatu, Fiji, Samoa and New Zealand.

Selected specimens examined: W.A.: 30 km from Port Gregory on Yeringa Springs road, *E.B.Best 2884* (PERTH; sterile). Vic.: Otway Ra., *M.Davis* (MEL 56883); Cement Ck, Warburton, *I.G.Stone 487* (MEL); Tarra Valley, South Gippsland, *I.G.Stone 9974* (MEL). Tas.: Stackhouse Falls, *W.Archer* (NY); West End Rivulet, *W.Archer* (HO 69009; fertile); Upper Browns R., *A.V.Ratkowsky H.210* (CANB, HO).

Stone (1985b) included three taxa of similar morphology, but which she considered to be distinct, in the former subgenus *Aneurion*: *F. splachnoides* Broth., from New South Wales and southern Queensland; *F. nymanii* (M.Fleisch.) Paris, from India, South-East Asia and north-eastern Queensland; and *F. dealbatus* from Victoria, Tasmania, New Zealand, Fiji and New Caledonia. *Fissidens splachnoides* was first reported from Australia as a collection made by F.M.Bailey near Brisbane (Brotherus, 1893). Without making formal judgement, Willis (1955) regarded the species as being probably synonymous with *F. dealbatus*, a conclusion with which we agree, formalisation of the synonymy being made by Seppelt (2014a).

Sexuality can be difficult to confirm, and many collections are either sterile or lack sporophytes. Most Australian specimens are sterile or lack sporophytes, but in an early collection of *F. dealbatus* from Tasmania ('West End Rivulet', *W.Archer*, HO 69009), the plants are autoicous. A careful dissection of a single plant revealed the presence of two dehiscid antheridia among about 10 archegonia in a single perichaetium.

Fissidens nymanii was first reported from Australia by Stone (1985a), having been collected from Tully Falls, near Ravenshoe, Queensland. Eddy (1988) suggested that *F. nymanii* was “closely related (possibly conspecific) with *F. hyalinus* of more temperate regions.” Iwatsuki & Haji Mohamed (1987) reduced *F. nymanii* to synonymy with *F. hyalinus*, a species originally described from eastern North America. Pursell (pers. comm., 2 Aug. 2013) indicated that, while he had not seen specimens, it was possible that *F. dealbatus* might be close to *F. hyalinus*. While there is considerable overlap in morphological features, in the absence of sporophytes *F. hyalinus* (including *F. nymanii*) is distinguished from *F. dealbatus* by its narrower and unistratose (occasionally bistratose) limbidium. The limbidium of *F. dealbatus* is narrow, but when viewed with a microscope, transverse sections clearly show it is more than 1 or 2 cells thick.

[Bibliography](#)