

Fissidens tenellus Hook.f. & Wilson, *Fl. Nov.-Zel.* 2: 62 (1854)

Type: Bay of Islands, New Zealand, 1839–43, *J.D.Hooker & A.Wilson 320*; lecto: BM, *fide* I.G.Stone, *J.Bryol.* 16: 263 (1990); Thompson's Sound, North Island, New Zealand, 1850, *Dr Lyall 220*; syn: BM; Auckland, New Zealand, *Sinclair*; syn: BM.

Plants yellow-green to dark green, loose to densely gregarious, flabellate, 1–3 (–5) mm long. **Stems** simple, occasionally branched; in section with a narrow central strand of few thin-walled cells; hyaline axillary nodules present; rhizoids arising from stem bases and branches. **Leaves** in 3–6 pairs, linear-lanceolate, overlapping in mid-stem, slightly falcate when moist, little altered when dry, patent, 0.75–1.25 mm long, 0.15–0.20 mm wide; **apex** broadly to sharply acute or acuminate; **laminae** unistratose; **vaginant laminae** 2/5–1/2 leaf length, usually partly open; **dorsal lamina** tapered to the base, failing above or reaching the insertion; **lamina cells** pellucid, variably convex, irregularly quadrate to hexagonal, 8–12 µm diam., sharply unipapillose or strongly mammillose; cells of the vaginant laminae usually longer, rectangular, basally to 30 µm long; **costa** of *bryoides*-type, subpercurrent to percurrent, occasionally excurrent.

Autoicous, rhizautoicous or **dioicous**. **Perigonia** terminal, on short shoots at the base of female shoots or on separate bulbiform or taller plants. **Perichaetia** terminal; **perichaetial leaves** 1.3–2.5 mm long, longer than vegetative leaves; vaginant laminae with proximal cells elongate-rectangular, occasionally intramarginally prosenchymatous; margins irregularly toothed. **Setae** light brown, 2–5 (–10) mm long. **Capsules** erect, symmetrical, narrowly oblong, 0.4–0.7 mm long; **exothecial cells** quadrate to short-rectangular, collenchymatous, in 32–40 columns around the circumference. **Operculum** rostrate, ±equal in length to the theca. **Peristome** of *scariosus*-type. **Calyptra** mitriform, usually papillose. **Spores** 7.5–14.0 µm diam.

Occurs in south-western, south-eastern and eastern Australia, Lord Howe Island and Norfolk Island; grows on rock, soil, peat, humus, or as an epiphyte.

Two varieties are recognised in Australia.

Usually growing on rock, occasionally on soil; leaves usually more than 5 times longer than wide; costa percurrent, occasionally excurrent; setae 2–5 (–10) mm long var. **tenellus**

Usually growing on bark, occasionally on peat or humus; leaves usually less than 5 times as long as wide; costa ending 2–4 cells below the apex; setae 2–3 mm long var. **australiensis**

Fissidens tenellus Hook.f. & Wilson var. **tenellus**

Fissidens subtenellus Broth. & Watts, *Proc. Linn. Soc. New South Wales* 40: 367 (1915). Type: track behind Paton's, Lord Howe Island, July 1911, *W.W.Watts 56[-209]*; lecto: H-BR, *fide* I.G.Stone, *J.Bryol.* 16: 263 (1990); back of Gower Wilson's, Lord Howe Island, *W.W.Watts 60*; syn: H-BR.

Fissidens tenelliformis Broth. & Watts, *Proc. Linn. Soc. New South Wales* 40: 367 (1915). Type: Lord Howe Island, *W.W.Watts 209, 223*; syn: H-BR, NSW.

Illustrations: G.A.M.Scott & I.G.Stone, *The Mosses of Southern Australia* 85, pl. 7; 87, pl. 8; 89, pl. 9 (1976); D.G.Catcheside, *Mosses of South Australia* 81, fig. 20 (1980); I.G.Stone, *J. Bryol.* 18: 171, fig. 1; 172, fig. 2i–m (1994b); J.E.Beever & I.G.Stone, *New Zealand J. Bot.* 37: 655, fig. 6a–m (1999a); J.E.Beever, B.Malcolm & N.Malcolm, *The Moss Genus Fissidens in New Zealand: an illustrated key* 72 (2002); H.Streimann, *The Mosses of Norfolk Island* 90, fig. 40 (2002); D.Meagher & B.Fuhrer, *A Field Guide to the Mosses and Allied Plants of Southern Australia* 43 (2003).

Plants 1–5 mm long, occasionally branched. **Leaves** linear-lanceolate, usually more than 5 times longer than wide; **apex** acute to acuminate; **vaginant laminae** half open to open; **margins** crenulate to denticulate on apical and dorsal laminae, irregularly denticulate on vaginant laminae; **costa** percurrent, occasionally excurrent, or failing just below the apex.

Rhizautoicous. **Setae** 2–5 (–10) mm long. **Peristome teeth** 33–45 µm wide at the base. **Spores** 7.5–12.0 µm diam.

[Images](#)

Occurs in W.A., S.A., Qld, N.S.W., Vic., Tas., Lord Howe Island and Norfolk Island; usually on rock, occasionally on soil.

Also in New Zealand, the Auckland Islands, Campbell Island, New Caledonia, Chile and the island of Réunion in the Indian Ocean.

Selected specimens examined: W.A.: near War Memorial, Kings Park, Perth, *N.G.Marchant* 5 (PERTH). S.A.: Callawongs Ck, Fleurieu Penin., *D.E.Symon & D.G.Catcheside* 53.298 (AD). Qld: Kirrama Ra., *I.G.Stone* 14990 (MEL). N.S.W.: Washpool, 16 June 1983, *H.S.Curtis* (MELU). Vic.: Sherbrooke Forest, 1957, *J.H.Willis* (MEL). Tas.: Sandstone Hill, *W.Archer* (BM, HO); Growling Swallet, *J.E.Beever* 110-11b (HO).

There is variability in the leaf apex, the degree of serration of the lamina margins, and in the development of the intramarginal border of the vaginant laminae.

Fissidens tenellus Hook.f. & Wilson var. **australiensis** (A.Jaeger) J.E.Beever & I.G.Stone, *New Zealand J. Bot.* 37: 651 (1999)

Fissidens australiensis A.Jaeger, *Enum. Fissident.* 24 (1869); *Conomitrium perpusillum* Müll.Hal & Hampe, *Linnaea* 28: 214 (1856); *Fissidens perpusillus* (Müll.Hal. & Hampe) Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 92 (1882), *nom. illeg., non F. perpusillus* Wilson ex Mitt., *J. Proc. Linn. Soc. Bot., Suppl.* 2: 141 (1859). Type: Sealers Cove, Vic., *F.Mueller* 113; lecto: NY, *vide* I.G.Stone, *J. Bryol.* 18: 173 (1994); isolecto: BM, MEL.

Illustrations: I.G.Stone, *J. Bryol.* 18: 172, fig. 2a–h (1994), as *F. australiensis*; J.E.Beever & I.G.Stone, *New Zealand J. Bot.* 37: 654, fig. 6n–s (1999); J.E.Beever, B.Malcolm & N.Malcolm, *The Moss Genus Fissidens in New Zealand: an illustrated key* 70 (2002).

Plants 1–3 mm long. **Stems** simple or occasionally branched; hyaline axillary nodules small. **Leaves** lanceolate, less than 5 times as long as wide; **apex** acute; **vaginant laminae** often open; **dorsal lamina** broadly tapered to the base; **lamina cells** rounded, 8–10 µm long, 6–10 µm wide, strongly mammillose, not noticeably larger in vaginant laminae; **costa** ending 2–4 cells below the leaf apex.

Dioicous or **monoicous (rhizautoicous)**. **Perichaetial leaves** with distal part of the vaginant laminae regularly denticulate. **Setae** 2–3 mm long. **Peristome teeth** 25–35 µm wide at the base. **Calyptra** smooth to slightly scabrous, cucullate. **Spores** 7.5–14.0 µm diam.

[Images](#)

Occurs in W.A., S.A., Qld, N.S.W., Vic. and Tas.; usually epiphytic, or on humus or peaty soils.

Also in New Zealand and New Caledonia.

Selected specimens examined: W.A.: forest N of Pemberton, *I.G.Stone* 23597 (MEL). S.A.: W of Mount Gambier, *I.G.Stone* 5335 *p.p.* (MEL). Qld: Yeppoon, *I.G.Stone* 5025 (MEL); Thornton Peak, *J.R.Clarkson* 5598 (BRI, MEL). N.S.W.: Dorrigo Natl Park, *W.B.Schofield* 90703 (NSW). Vic.: Avon Ra., *F.Mueller* (MEL 1034092). Tas.: Guy Fawkes Rivulet, near Hobart, 1912, *L.Rodway* (HO); SE end of Safety Cove, Port Arthur, Dec. 1988, *P.Brownsey* (HO 117034 ex WELT M26055b).

Differs from var. *tenellus* in its shorter vegetative leaves, a subpercurrent costa and more markedly mammillose laminal cells.

[Bibliography](#)