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

T: Bay of Islands, New Zealand, 1839–43, *J.D.Hooker, A.Wilson 320*; lecto: BM, *fide* I.G.Stone, *J. Bryol.* 16: 263 (1990); Thomson's Sound, North Island, New Zealand, 1850, *Dr Lyall 220*; syn: BM; Auckland, New Zealand, *Sinclair*; BM.

Monoicous (rhizautoicous) or dioicous. Plants flabellate, 1–3 (–5) mm tall, simple or occasionally branched; axillary hyaline nodules present. Leaves 4–6-jugate, linear-lanceolate; apex broadly to sharply acute or acuminate. Costa subpercurrent or percurrent, occasionally excurrent. Vaginant laminae to mid-leaf, usually partly open. Dorsal lamina generally tapered, failing before or reaching the insertion; margin crenulate to denticulate, toothed in the vaginant laminae. Laminal cells pellucid, variably convex, irregularly quadrate to hexagonal, 8–12 µm diam., sharply unipapillose or strongly mammillose; cells of vaginant laminae usually longer, rectangular, basally to 30 × 5 µm.

Perichaetial leaves 1.3–2.5 mm long; vaginant laminae with proximal cells elongate-rectangular, occasionally intramarginally prosenchymatous; margin irregularly toothed. Capyptra mitriform, usually papillose. Setae 2–5 (–10) mm long. Capsules erect, asymmetrical, narrowly oblong; operculum rostrate. Spores 7.5–14.0 µm long.

Occurs in south-western, south-eastern and eastern Australia; growing on rock, soil, peat, humus or as an epiphyte. Also in Lord Howe Island, Norfolk Island, New Zealand and its Subantarctic islands, La Réunion (western Indian Ocean) and Chile. Two varieties are known from 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 longer than wide; costa ending 2–4 cells below the leaf 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). T: 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); isolecto: NSW; 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). T: northern hills, Lord Howe Island, *W.W.Watts 209, 223*; syn: H-BR, NSW.

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

Monoicous (rhizautoicous). Plants 1–5 mm tall, occasionally branched. Leaves usually more than 5 times longer than wide. Costa percurrent, occasionally excurrent. Vaginant laminae partially open. Laminal cells rounded, 8–12 µm diam., sharply unipapillose. Setae 2–5 (–10) mm long. Spores 7.5–12.0 µm long.

Occurs in W.A., S.A., Qld, N.S.W., Vic. and Tas.; usually on rock, occasionally or soil. Also in Lord Howe Island, Norfolk Island, New Zealand and its Subantarctic islands, La Réunion (western Indian Ocean) and Chile.

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).

Fissidens tenellus Hook.f. & Wilson var. **australiensis** (A.Jaeger) 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). T: Sealers Cove, Vic., *F.Mueller 113*; lecto: NY, *fide* 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: 655, fig. 6n–s (1999); J.Beever, B.Malcolm & N.Malcolm, *The Moss Genus* Fissidens *in New Zealand[:] an illustrated key* 70 (2002).

Dioicous or monoicous (rhizautoicous). Plants 1–3 mm tall, simple or, occasionally, branched; hyaline axillary nodules small. Leaves less than 5 times longer than wide; apex acute. Costa ending 2–4 cells below the apex. Vaginant laminae often open; dorsal lamina broadly tapered to the base. Laminal cells rounded, 8–10 × 6–10 µm, stongly mammillose, not noticeably larger in vaginant laminae. Setae 2–3 mm long. Spores 10–14 µm long.

Occurs in W.A., S.A., Qld, N.S.W., Vic. and Tas.; usually epiphytic, or growing on humus or peaty soil. Also in New Zealand.

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, MELU). 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).

Differs from var. *tenellus* in the shorter vegetative leaves, subpercurrent costae, and more markedly mammillose laminal cells.