

**Fissidens oblongifolius** Hook.f. & Wilson, *London J. Bot.* 3: 547 (1844)

T: Bay of Islands, New Zealand, 1839–43, *J.D.Hooker 321b*; lecto: BM, *fide* M.A.Bruggeman-Nannenga, R.A.Pursell & Z.Iwatsuki, *J. Hattori Bot. Lab.* 77: 263 (1994).

Usually autoicous (the very rare var. *palmerstonensis* is dioicous). Plants dark green, simple or sparingly branched, 5–15 mm tall. Leaves multijugate, oblong-lanceolate; leaf apices acute to obtuse and apiculate, curving towards or away from the substratum when dry. Vaginant laminae 1/2–3/4 the leaf length, ending obliquely, closed or almost so; margin  $\pm$ crenulate. Laminal cells small, obscure or clear, smooth or mammillose.

Perigonia axillary on fertile stems. Setae terminal, 2–10 mm long. Theca 0.75–1.40 mm long, gibbous on the back. Peristome *similiretis*-type; trabeculae closely spaced on outside of basal part, with low vertical ribs or striae, the forks slightly nodulose and papillose.

Occurs in southern, south-eastern and eastern Australia and in Lord Howe Island and Norfolk Island; grows on rock in moist habitats, on clay banks, or epiphytic on tree-trunks, exposed roots or twigs. A pantropical moss with four varieties in Australia, two of them apparently endemic.

- 1 Growing on rock or on soil; leaf apices curved towards the substratum when dry; setae 5–10 mm long ..... var. **oblongifolius**
- 1: Growing on bark; leaf apices curved away from the substratum when dry; setae 5–10 mm long .....2
- 2 Plants unbranched, dioicous ..... var. **palmerstonensis**
- 2: Plants usually branched, autoicous .....3
- 3 Costa pale, 40–60  $\mu$ m wide at the base; leaves c. 5–7 times longer than wide ..... var. **hyophilus**
- 3: Costa deep reddish gold, to 80  $\mu$ m wide at the base; leaves c. 10 times longer than wide ..... var. **longiligulatus**

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

*Fissidens woollisianus* Müll.Hal., *Gen. Musc. Fr.* 66 (1901), *nom. nud.*

Illustrations: G.A.M.Scott & I.G.Stone, *Mosses of Southern Australia* 85, pl. 7; 87, pl. 8; 89, pl. 9 (1976); D.G.Catcheside, *Mosses of South Australia* 84, fig. 23 (1980); J.Beever, B.Malcolm & N.Malcolm, *The Moss Genus Fissidens in New Zealand[:] an illustrated key* 50 (2002); H.Streimann, *Mosses of Norfolk Island* 85, fig. 37 (2002).

Autoicous. Plants 10–15 mm tall, simple to sparingly branched. Leaves 2.0–3.5 mm long, 0.65–0.75 mm wide; leaf apices acute to obtuse, curved towards the substratum when dry. Vaginant laminae c. 3/4 the leaf length, ending obliquely, closed; margin  $\pm$ crenulate. Laminal cells small, c. 8  $\mu$ m wide, obscure, mammillose. Perigonia axillary on fruiting stems. Setae terminal, 5–10 mm long. Theca at least 1 mm long, gibbous on the back.

Occurs in S.A., Qld, N.S.W., Vic. and Tas.; usually on rock or on clay banks in moist habitats. Also in Central and South America, West Africa, Malesia, China, Japan, New Caledonia, northern New Zealand and the South Pacific Ocean (including Norfolk Island).

S.A.: Botanic Garden Annex, Mount Lofty Ra., *R.H.Kuchel 1189* (AD). Qld: Mt Haig, *I.G.Stone 19742* (MEL). N.S.W.: Bay View, near Mona Vale, *M.Tindale M11011* (MEL, NSW). Vic.: East Gippsland, *C.Walter s.n.* (MEL 29188). Tas.: Guy Fawkes Rivulet, near Hobart, 2 Jan. 1893, *W.A.Weymouth* (HO, as *F. ligulatus*).

**Fissidens oblongifolius** var. **hyophilus** (Mitt.) Beever & I.G.Stone, *New Zealand J. Bot.* 36: 84 (1998)

*Fissidens hyophilus* Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 92 (1882). T: between Burnett and Brisbane Rivers, *F.Mueller*; holotype: NY.

*Fissidens arboreus* Broth., *Öfvers. Förh. Finska Vetensk.-Soc.* 33: 95 (1891). T: Pimpana, Qld, Aug. 1887, *C.Wild* 5; holotype: H-BR (?); isotype: BRI, MEL, NSW, NY.

Illustrations: J.Beever, B.Malcolm & N.Malcolm, *The Moss Genus Fissidens in New Zealand[:] an illustrated key* 48 (2002); H.Streimann, *Mosses of Norfolk Island* 87, fig. 38 (2002).

Autoicous. Plants 5–10 mm tall, usually branching by innovations. Upper leaves c. 2.5 mm long and 0.4 mm wide, c. 5–7 times longer than wide; leaf apices obtuse to shortly and bluntly apiculate, curved away from the substratum when dry. Costa pale, 40–60 µm wide at the base. Vaginant laminae to c. mid-leaf, almost closed; dorsal lamina reaching insertion. Laminal cells 7–10 µm wide, clear, smooth. Perigonia axillary. Setae terminal on main stem or on innovations, to c. 3 mm long. Capsules ±erect; theca c. 0.75 mm long.

Known from eastern Qld and N.S.W., Lord Howe Island and Norfolk Island; usually on the bark of tree trunks or exposed roots. Also in China, Japan and New Zealand.

Qld: Barron S.F., Herberton Ra., *H.Streimann* 27236 (AD, CANB); Lamington Natl Park, *I.G.Stone* 4323 (MEL). N.S.W.: Richmond Ra., S.F., 30 km NW of Kyogle, *H.Streimann* 7050 (AD, CANB).

**Fissidens oblongifolius** var. **longiligulatus** (Broth. & Watts) Brugg.-Nann., Pursell & Z.Iwats., *J. Hattori Bot. Lab.* 77: 265 (1994)

*Fissidens longiligulatus* Broth. & Watts, *Proc. Linn. Soc. New South Wales* 40: 367 (1915); *F. hyophilus* var. *longiligulatus* (Broth. & Watts) I.G.Stone, *J. Bryol.* 16: 245 (1990). T: Mt Gower, Lord Howe I., *W.W.Watts* 525; lectotype: H-BR, *vide* I.G.Stone, *loc. cit.*; isotype: NSW.

Autoicous. Leaves ligulate, to 3.75 mm long, comparatively narrow, c. 10 times longer than wide; leaf apices obtuse to shortly and bluntly apiculate, curved away from the substratum when dry. Costa broad and strong, deep reddish gold, to 80 µm wide at the base. Perigonia axillary on fruiting stems. Spores c. 12 µm diam.

Known only from the type collection from Mt Gower, Lord Howe Island; grew on twigs.

**Fissidens oblongifolius** var. **palmerstonensis** (I.G.Stone) Beever & I.G.Stone, *New Zealand J. Bot.* 36: 87 (1998)

*Fissidens hyophilus* var. *palmerstonensis* I.G.Stone, *J. Bryol.* 18: 159 (1994). T: K-tree Rd, Palmerson [Wooroonooran] Natl Park, Qld, on bark of tree buttress, *I.G.Stone* 24487; holotype: MEL.

Resembles var. *hyophilus*, but the plants are dioicous and unbranched. Male plants separate, with a terminal perigonium.

Known only from the type collection from north-eastern Qld.