

Fissidens asplenioides Hedw., *Sp. Musc. Frond.* 156 (1801)

Type: Jamaica, *O. Swartz*; holo: G n.v.; iso: NY n.v.

Fissidens ligulatus Hook.f. & Wilson, *Fl. Nov.-Zel.* 2: 63 (1854); *Conomitrium ligulatum* (Hook.f. & Wilson) Hampe, *Fragm.* 11 (Suppl.): 52 (1881). Type: Bay of Islands, New Zealand, *Colenso 215*; lecto: BM, *fide* Bruggeman-Nannenga *et al.*, *J. Hattori Bot. Lab.* 77: 259 (1994); isolecto: BM.

Illustrations: G.A.M.Scott & I.G.Stone, *The Mosses of Southern Australia* 85, pl. 7; 87, pl. 8; 89, pl. 9 (1976); J.Beever, B.Malcolm & N.Malcolm, *The Moss Genus Fissidens in New Zealand: an illustrated key* 16 (2002); H.Streimann, *The Mosses of Norfolk Island* 75, fig. 31 (2002); D.Meagher & B.Fuhrer, *A Field Guide to the Mosses and Allied Plants of Southern Australia* 39 (2003).

Plants growing on soil and rock, occasionally in water, 10–30 mm tall, yellow-green to dark green, brown or blackened below, densely gregarious. **Stems** simple or occasionally branched; in section with a strong central strand of small thin-walled cells. **Leaves** in numerous pairs, crowded, imbricate at the base, patent, falcate when moist, oblong-lingulate, 2–3 mm long, strongly coiled when dry; **apex** obtuse to rounded; **margins** serrulate on the dorsal and apical laminae, irregularly so near the apex. **Vaginant laminae** c. 3/4 leaf length, open or nearly so, rounded above, joining at or near the costa; margins crenulate to weakly serrulate; **dorsal lamina** tapering at the base, mostly ending above the insertion. **Lamina cells** of the dorsal and apical laminae irregularly rounded hexagonal, mostly 7–15 µm wide, mammillose. **Costa** of *oblongifolius*-type, ending 5–12 cells below the apex.

Dioicous. **Perigonia** terminal on stems. **Perichaetia** terminal on stems. **Perichaetial leaves** longer than vegetative leaves, with acute apices. **Setae** terminal, to 5 mm long, yellow to orange-brown, stout, arcuate. **Capsules** inclined, asymmetrical, oblong, 1.0–1.5 mm long. **Operculum** rostrate, often oblique, ±equal in length to capsule. **Calyptra** smooth, cucullate. **Peristome teeth** of *fasciculatus*-type; basal part with low trabeculae on the outer face and with low vertical smooth or papillose ridges, continuing into the bases of forks; forks distally coarsely papillose. **Spores** 14–16 µm diam.

[Images](#)

Known from W.A., N.T. (doubtful), S.A., Qld, N.S.W., A.C.T., Vic. and Tas.; also in Lord Howe Is. and Norfolk Is. We have seen no authentic specimens from the Northern Territory.

Elsewhere, common in New Zealand and widespread in tropical and subtropical regions of the world.

Selected specimens examined: W.A.: Chiddarcooping Hill, 43 km N of Wistonia, *R. Wyatt & A. Stoneburner 4069* (PERTH). S.A.: Upper Sturt, Mount Lofty Ra., *D.G. Catcheside 53-255* (AD). Qld: Eungella Natl Park, *I.G. Stone 12360* (MEL). N.S.W.: Brown Mtn, near Nimmitabel, *D.G. Catcheside 65-341* (AD). A.C.T.: Tidbinbilla Valley, *D.G. Catcheside 65-55* (AD). Vic.: near Eurobin Falls, Mt Buffalo, *D.G. Catcheside 69-223* (AD). Tas.: Dip Falls, S of Stanley, *I.G. Stone 25254* (MEL).

A common species on soil and rock in a wide range of habitats, in more exposed sites the plants are more yellowish. Beever *et al.* (2002) state that the rounded apex of the vaginant lamina is a useful diagnostic character. *Fissidens asplenioides* can be confused with *F. oblongifolius*; however, the margins of the vaginant laminae of *F. asplenioides* are entire and the cells are longer than wide, while in *F. oblongifolius* the margins are crenulate by projecting cell ends, and the cells are oblong-ovate.

The taxonomic placement of *F. asplenioides* in the subgeneric classification remains unresolved. It has traditionally been placed in section *Amblyothallia* Müll.Hal. (e.g. Brotherus, 1924; Bruggeman-Nannenga & Berendsen, 1990; Pursell & Bruggeman-Nannenga, 2004; Pursell, 2007) or in section *Serridium* Müll.Hal. (Allen, 1980). The peristome is unusual in that the filaments are flat and scarcely twisted and papillose distally. This structure was named *fasciculatus*-type by Bruggeman-Nannenga & Berendsen (1990), a structural type also found in the Dicranaceae. In section, the costa of *F. asplenioides* is also deviant in that the epidermal cells have larger lumina than the stereid cells, making this a modified *oblongifolius*-type structure.

Suzuki & Iwatsuki (2007) established the subgenus *Neoamblyothallia* Tad.Suzuki & Z.Iwats. for the other members of section *Amblyothallia*.

Bibliography