

Fissidens zollingeri Mont., *Ann. Sci. Nat., Bot.*, sér. 3, 4: 114 (1845)

Type: Java, Indonesia, *Zollinger 1604*; holo: PC *n.v.* Note: Li (1985) remarked “no *Fissidens* could be found among these plants”.

Fissidens xiphioides M.Fleisch., *Hedwigia* 38: 125 (1899). Type: Buitenzorg (Bogor), Java, Indonesia, *M.Fleischer*; lecto: FH *n.v.*, *fide* Z.Iwatsuki & T.Suzuki, *J. Hattori Bot. Lab.* 51: 367 (1982).

Illustrations: F.Dozy & J.H.Molkenboer, *Bryol. Javan.* 1(2): fig. 1 (1854); H.C.Gangulee, *Mosses of Eastern India* 479, fig. 220; 481, fig. 221 (1971), as *F. xiphioides*; Z.Iwatsuki & T.Suzuki, *J. Hattori Bot. Lab.* 51: 459, pl. 13 (1982); R.A.Pursell, *Fl. Neotrop. Monogr.* 101: 222, fig. 123l–u (2007).

Plants light green, small, ±flabelliform or elongate, 2–6 mm long, 1.8–2.5 mm wide with leaves. **Stems** simple; in section with or without a central strand, the cells thin-walled, cortical layer cells smaller, thicker-walled; **axillary hyaline nodules** prominent; **axillary gemmae** sometimes present, multicellular, filamentous or clavate, brown. **Leaves** in up to 12 pairs, ±oblong, 1.5–1.8 mm long, 0.35–0.45 mm wide, lanceolate to narrowly-lanceolate; **apices** acute to slightly acuminate; **margins** slightly serrulate to almost entire; **limbidium** narrow, on all laminae, of 1–3 rows of cells in apical laminae, 3–7 rows in vaginant laminae, 1 or 2 cells thick; **vaginant laminae** c. 1/2 leaf length, closed; **dorsal lamina** tapered or rounded to the base, reaching or ending above the insertion; **laminal cells** irregularly hexagonal, 12–25 µm long and 10–15 µm wide, to 50 µm long in the base of the vaginant laminae; **costa** of *bryoides*-type, short-excurrent.

Synoicus. Antheridia and archegonia mixed at top of stem. **Setae** reddish brown, smooth, 2–3 mm long. **Capsules** erect, symmetrical; theca oblong-elliptic, 0.5–1.0 mm long; **exothecial cells** quadrate, thin-walled, collenchymatous. **Operculum** conical-rostrate, 0.4–0.7 mm long. **Peristome** of *scariosus*-type; teeth 200–250 µm long, 30–35 µm wide at the base. **Calyptra** 0.5–0.6 mm long, campanulate, covering the operculum. **Spores** 13–18 µm diam., finely papillose.

[Images](#)

Occurs in northern N.T., eastern Qld, and north-eastern N.S.W.; grows on damp, shaded or semi-shaded soil, occasionally on rock.

Widespread in tropical and subtropical Asia, from India to Japan, Malesia and Oceania; also in southern North America, Central America, South America and tropical Africa.

Selected specimens examined: N.T.: Conder Pt, Melville Is., *H.Streimann 42497* (CANB, NY); Kakadu Natl Park, *L.A.Craven & G.Whitbread 6771* (CANB). Qld: Bizant, Lakefield Natl Park, *I.G.Stone 23828* (MEL); Mount Elliott Natl Park, *I.G.Stone 8425* (MEL); Cooktown Botanic Gardens, *I.G.Stone 22056* (MEL 2262670); Hinchinbrook Is., *I.G.Stone 22604* (MEL 2264583). N.S.W.: Pholis Gap, Nightcap Natl Park, 13 June 1983, *H.S.Curtis s.n.* (*I.G.Stone 26046*) (MEL 2329156).

Similar to *F. curvatus*, but differs in the occurrence of filamentous axillary propagules on the protonema and, occasionally, in the leaf axils, the synoicus inflorescence, erect capsules, and the *scariosus*-type peristome.

We follow Pursell (1988) in including *F. zollingeri* in section *Areofissidens* rather than in section *Fissidens* because of the large juxtacostal cells and the *scariosus*-type peristome.

Pursell (2007) gave a spore diameter of 10–13 µm for Neotropical collections. He stated that the species is widely distributed in Neotropical lowlands.

Plants are typically pale green with palmately arranged leaves. The species is further characterised by the presence of a strong limbidium on all laminae, smooth lamina cells and large oblong thin-walled pellucid cells in the proximal parts of the vaginant laminae.

[Bibliography](#)