

Fissidens biformis Mitt., *J. Linn. Soc. Bot. (Suppl.)* 1: 141 (1859)

Type: Matale, Ceylon [Sri Lanka], *Gardner 626*; holotype: NY.

Illustrations: H.C. Gangulee, *Mosses of Eastern India and Adjacent Regions* 2: 484, fig. 223 (1971); A. Eddy, *Handbook of Malesian Mosses I*. 91, fig. 85A–D (1988).

Plants minute, 0.3–1.0 mm long, flabelliform. **Fertile stems** short, simple or branching repeatedly below fertile shoot tips, with 3–6 pairs of leaves; **sterile stems** longer, with up to 10 or more leaf pairs; in section with a \pm distinct central strand of cells slightly smaller than surrounding cells, or central strand lacking. **Leaves** mostly in 4–6 pairs, erect to erecto-patent, narrow, ligulate-lanceolate, 1.3–1.6 mm long, 0.20–0.25 mm wide; **limbium** complete, the cells very thick-walled, in 2 or 3 rows; **apex** acute; **vaginant laminae** reaching mid-leaf or just beyond; **dorsal lamina** tapered to the base; **leaf margins** entire; **costa** of *bryoides*-type, narrow, excurrent in a long-pointed cell. **Lamina cells** thin-walled to slightly incrassate, with a large central papilla, \pm hexagonal, 8–10 μ m wide, broader towards the costa and in vaginant laminae where the cells are proximally smooth, rectangular, 35–55 μ m long and 15–20 μ m wide.

?**Rhizautoicous**. **Perigonia** not seen. **Perichaetia** terminal. **Perichaetial leaves** slightly longer and narrower than vegetative leaves. **Setae** terminal, 2.0–3.5 mm long, slender. **Capsules** erect, \pm symmetrical; theca c. 0.5 mm long and 0.25 mm wide; **exothecial cells** \pm quadrate, thin-walled, the corners weakly collenchymatous, 18–30 μ m long. **Operculum** not seen. **Calyptra** not seen. **Spores** smooth.

[Images](#)

Occurs on semi-shaded soil banks in rainforest in north-eastern Qld, from Cooktown south to Hinchinbrook Island, near Cardwell.

Also in India, Sri Lanka, Malaysia, Java, Sulawesi, the Philippines, Japan and New Guinea.

Selected specimens examined: Qld: Quarantine Bay, near Cooktown, *I.G. Stone 22042B* (MEL); Helenvale, *I.G. Stone 19234 p.p.* (MEL); Hinchinbrook Island, *I.G. Stone 24917 p.p.* (MEL).

The illustrations in Gangulee (1971) and Eddy (1988) show cells that lack papillae, although they are clearly present in the holotype and are very obvious in transverse sections of the leaves.

Fissidens angustifolius Sull. (syn: *F. dixonianus* Bartr.) from Oceania is very close to *F. biformis*, while *F. beckettii* has a similar leaf shape but differs in growth form and the more open, unequal, vaginant laminae.

[Bibliography](#)