

Fissidens brassii E.B.Bartram, *Farlowia* 1: 41 (1943)

T: Wassi Kussa R., Tarara, Western Province, [Papua] New Guinea, *L.J.Brass* 8753; holo: FH; iso: MEL.

Dioicous. Plants 2–6 mm tall. Leaves in 3–20 pairs, bract-like below, larger distally, oblong-ligulate, obtusely rounded, to c. 1 mm long; costa failing well below the apex. Vaginant laminae joining two-thirds or more up the leaf, c. half open; cells occasionally oblate, not enlarged below; margin crenulate; laminal cells convex, \pm hexagonal, 5.5–10.0 μ m wide, pluripapillose.

Perichaetial leaves 1.1–1.6 mm long. Vaginant laminae \pm open to almost closed; limbidium 1 or 2 rows of short-oblong cells, failing below the junction. Dorsal lamina terminating abruptly on the costa well above or reaching the leaf base. Setae smooth, 2.0–3.5 mm long. Capsules oblong, 0.45–0.50 mm long; operculum conical, short-beaked, to 0.3 mm long; exothecial cells thin-walled. Spores 15–18 μ m diam.

Found on soil and termite mounds in monsoonal savannah forest and desert canyons in the arid central regions and in the north and north-west of Australia. Also in New Guinea.

Two varieties are known from Australia.

Dorsal lamina failing abruptly far above the leaf insertion in perichaetial leaves and most stem leaves
..... var. **brassii**
Dorsal lamina reaching the base of perichaetial leaves and, often, to base of stem leavesvar. **hebetatus**

Fissidens brassii E.B.Bartram var. **brassii**

Illustration: E.B.Bartram, *op. cit.* 42, figs 7–12.

Plants to 2 mm tall. Leaves c. 6-jugate, mostly ligulate, 0.7–1.0 mm long, 0.15–0.25 mm wide. Vaginant laminae reaching half to two-thirds the leaf length. Dorsal lamina usually terminating abruptly on the costa one-third or more above the leaf insertion in most leaves (vegetative and perichaetial); laminal cells 5.5–8.0 μ m wide. Male shoots short or elongate, swollen at the apex, with numerous terminal antheridia. Calyptra cucullate, c. 0.4 mm long. Setae c. 3.0–3.5 mm long. Capsules c. 0.45 mm long; operculum conical-rostellate, to 0.3 mm long; exothecial cells thin-walled. Spores 15.0–17.5 μ m diam.

Occurs in Darwin and in Arnhem Land, northern N.T. Also in New Guinea.

N.T.: Kakadu Natl Park, *I.G.Stone* 23333 (MEL); Rapid Ck, Darwin, Jan. 1965, *V.Pedersen p.p.* (MEL) .

Differs from the more common *F. microcladus* and *F. brassii* var *hebetatus* in the dorsal lamina of perichaetial leaves terminating abruptly on the costa one-third or more above the leaf insertion.

Fissidens brassii E.B.Bartram var. **hebetatus** (Catches.) I.G.Stone, *J. Bryol.* 18: 161 (1994)

Fissidens hebetatus Catches., *Mosses of South Australia* 77 (1980). T: Nourlangie Camp, Alligator River, N.T., on termite mound in shade, *M.Lazarides & L.Adams* 303; holo: CANB 162836.

Illustration: D.G.Catcheside *op. cit.* 78, fig. 18, as *F. hebetatus*.

Plants gregarious, 2–5 mm long. Upper leaves 0.5–1.0 mm long, 0.15–0.30 mm wide, oblong-ligulate, 3–20-jugate; apex rounded or obtuse. Dorsal lamina usually tapering to the base, except in lower leaves; laminal cells irregularly hexagonal 8–10 μ m diam. Setae terminal, to 2 mm tall. Capsules erect, oblong, c. 0.5 mm long and 0.3 mm wide, rounded at the base; exothecial cells \pm quadrate to hexagonal, the angles and longitudinal walls thickened. Calyptra and operculum not seen. Spores 16–18 μ m diam.

Occurs in Kimberley region of northern W.A., in southern and northern N.T. and in western N.S.W. Grows on soil, sandstone and termite mounds; apparently endemic.

W.A.: Mitchell Plateau, *D.H.Ashton* (*I.G.Stone* 23750 *p.p.*) (MEL). N.T.: Kings Canyon, 30 Aug. 1966, *J.H.Willis* (MEL); *loc. id.*, *D.G.Catcheside* 76.315 (AD). N.S.W.: Mootwingee Natl Park, *I.G.Stone* 8330 (MEL).