Fissidens thorsbornei (I.G.Stone) Brugg.-Nann., *in* M.A.Bruggeman-Nannenga & W.Berendsen, *Systematic Studies on* Fissidens (*Musci*) 158 (1988)

Nanobryum thorsbornei I.G.Stone, *J. Bryol.* 12: 199 (1982). Type: Kirrama State Forest, near Cardwell, Qld, 4 Sept. 1979, *I.G.Stone 15000*; holo: BRI.

Illustrations: I.G.Stone, *op. cit.* 200, fig. 1a–w; 203, fig. 2a–d; 204, fig. 3a–t; 205, fig. 4i–p (1982), as *Nanobryum*; Z.Iwatsuki & T.Suzuki, *J. Hattori Bot. Lab.* 67: 271, fig. 1 (1989), as *Nanobryum*.

Plants minute, to c. 1.5 mm tall, widely scattered on a persistent flat protonema, glossy green, becoming golden brown. **Stems** simple, to 0.2–0.4 mm long, erect; in section lacking a central strand; outer layer of smaller thicker-walled cells. **Leaves** of female shoots mostly trilobate, horizontally inserted, distichous, the lowermost bract-like, increasing in size upwards to c. 1 mm long; base sheathing, channelled above, ecostate below, concave, oblong, slightly narrowed to the insertion, distally divided into 3 lobes; median lobe longest, in upper leaves extended into a long-acuminate to filiform, straight or flexuose subula; lateral lobes much shorter, entire to irregularly dentate or sinuate; **costa** absent in lower leaves, occasional in other leaves, often ill-defined and weak, usually starting half-way up the sheathing base, ±filling the subula, in section with 2–4 cell layers, lacking distinct deuter or stereid cells; **lamina cells** long, narrow, rectangular or rhomboid or prosenchymatous, firm-walled, 20–80 × 8–12 µm (at widest point), narrower in the subula, broader proximally.

Dioicous or possibly **rhizautoicous**. Male and female plants separate, widely scattered but probably on the same protonema. **Male plants** gemmiform, minute, to 0.2 mm tall, sessile, with 3 or 4 ovate sheathing leaves; **perigonia** gemmiform, antheridia almost subglobose. **Perichaetia** terminal. **Setae** 2.5–8.0 mm long, thin, wider towards the base and apex, pale yellow to pale greenish yellow, becoming reddish with age, often decumbent. **Capsules** pale, often coloured at the rim, horizontal to pendulous, to 1 mm long, asymmetrical, wide-mouthed; **exothecial cells** a little longer than wide, 15–20 µm wide, slightly thickened at the corners and longitudinal walls; stomata 1–3, small, phaneropore. **Operculum** conical-rostellate. **Peristome** of *bryoides*-type; teeth divided unequally distally into 2 arms that are twice the length of the basal undivided part, spreading when dry, strongly incurved when moist, filaments obliquely spirally ridged, with large scattered papillae at the junction of filaments and basal part of teeth; basal undivided part with lamellae and trabeculae densely and finely papillose in ±horizontal rows. **Calyptra** narrowly conical, campanulate, entire or with 1 or 2 short basal splits, covering only the operculum beak, occasionally ±persistent. **Spores** pale green, 10–15 µm diam., finely papillose.

Images

Occurs in eastern Qld and north-eastern N.S.W.

Also known from New Caledonia.

Additional specimens examined: Qld: Wallaman Falls track, W of Ingham, on soil in tropical woodland, 3 June 1975, *I.G.Stone 12321* (MEL); type locality, 10 Sept. 1980, *I.G.Stone 16971* (MEL); Helenvale, *I.G.Stone 22083 p.p.* (MEL); Carnarvon Gorge, *I.G.Stone 20476 p.p.* (MEL); Cania Gorge, *I.G.Stone 20989* (MEL); Tamborine Mtn, Joalah Natl Park, *I.G.Stone 20670 p.p.* (MEL). N.S.W.: Falls Rd, Nimbin, 13 Aug. 2010, *A.J.Downing, N.Osborne & K.D.Downing* (MQU, NSW).