Fissidens darwinianus Catches. & I.G.Stone, *J. Adelaide Bot. Gard.* 11: 3 (1988)

Type: Rapid Ck, Darwin, N.T., Jan. 1965, *V.Pedersen*; holo: MEL 1023424.

Illustrations: D.G.Catcheside & I.G.Stone, *op. cit.* 4, fig. 1; 5, fig. 2.

Plants green, on shaded soil. **Stems** short, 1.0–2.5 mm long, arising from a persistent protonema; in section lacking a central strand, all cells thin-walled. **Leaves** small, cultriform below, lanceolate above, in up to 5 pairs, 1.0–1.4 mm long, c. 0.3 mm wide, broadest in the apical lamina; **apex** acute; **limbidium** on all laminae, of 1–3 rows of longer thicker-walled cells, outermost cells c. 20 µm long and 10 µm wide, inner cells occasionally bistratose, longer and narrower, 30–60 µm long, forming a narrow marginal limbidium; **margins** weakly crenulate; **vaginant laminae** reaching 1/2–3/5 leaf length, closed; **dorsal lamina** broad, extending to the insertion, sometimes shortly decurrent; **laminal cells** thin-walled, smooth, slightly convex in section, hexagonal, 16–20 × 12–15 µm; in proximal part of vaginant laminae, oblong, to 50 × 18 µm; **costa** of *bryoides*-type, percurrent to barely excurrent.

Dioicous. **Perigonia** terminal; antheridia clustered at the apex. **Perigonial leaves** mostly unbordered. **Perichaetia** terminal; **perichaetial leaves** similar to vegetative leaves. **Setae** 4–5 mm long, geniculate at the base. **Capsules** inclined, asymmetrical, 0.5–0.6 mm long; **exothecial cells** quadrate to rectangular, 25–30 µm long, 10–20 µm wide, walls thin, bulging, strongly collenchymatous. **Operculum** not seen. **Peristome** imperfect in type, only the basal part seen; teeth 35–40 µm wide at the base. **Calyptra** not seen.

Images

Apparently endemic to northern N.T. and north-eastern Qld. Grows on shaded soil with other minute *Fissidens* species.

Selected specimens examined: Qld: Kirrama State Forest, Cardwell, *I.G.Stone 15001 p.p.* (MEL); Helenvale, 25 km S of Cooktown, 19 June 1982, *I.G.Stone 19232 p.p.* (MEL 1624242).

This species is rather similar to *F. bogoriensis*, but the latter is autoicous. *Fissidens darwinianus* also has larger lamina cells (20–45 × 15–25 µm), those at the base of the vaginant laminae reaching 80 µm long, while the lamina cells of *F. bogoriensis* are 16–20 × 12–15 µm.

Bibliography