

Fissidens gymnocarpus I.G.Stone, *J. Bryol.* 12: 553 (1983)

T: Cooktown, Qld, *I.G.Stone 15808* & *A.G.Stone*; holo: MEL; iso: BRI, MEL.

Illustrations: I.G.Stone, *op. cit.* 554, fig. 1; 555, fig. 2.

Cladautoicous. Plants to 20 mm tall. Leaves usually patent, distant, \pm oblong, often lunate, introrse above, to 1 mm long, c. 0.33 mm wide; apex rounded-obtuse; costa failing well below the apex. Vaginant laminae c. three-quarters of the leaf length, unequal; limbidium vague, proximal. Dorsal lamina tapering or obtuse at the base; margin serrulate; laminal cells isodiametric, irregularly hexagonal, c. 6–8 μ m wide, larger towards the costa, longer proximally in vaginant laminae, slightly convex; papilla obscure, central.

Perigonia to 0.5 mm long, axillary, numerous. Archegonia solitary, naked, lateral, several on a stem. Calyptra mitriform, \pm rough, c. 0.3 mm long. Setae c. 2.5 mm long. Capsules erect, symmetrical, oblong, c. 0.4–0.5 mm long, 0.3–0.4 mm wide; operculum low-conical-apiculate; exothecial cells very swollen, collenchymatous. Peristome often imperfect; teeth unevenly split, occasionally entire, densely papillose above. Spores 30–40 μ m diam.

Occurs in northern W.A. and N.T. and eastern Qld; on soil, termite mounds and at the bases of scarps. Endemic.

W.A.: Mitchell Plateau, *D.H.Ashton s.n. (I.G.Stone 23751A)* (MEL). N.T.: Katherine Gorge, *I.G.Stone 23301A* (MEL); Kakadu Natl Park, *I.G.Stone 23363* (MEL). Qld: Hidden Valley, W of Paluma, *I.G.Stone 25051* (MEL).

This species is characterised by the distantly spaced obtuse leaves and evidence of meristematic activity with inconspicuous, clear, axillary and internodal cells. These give rise to rhizoids, flagelliform innovations, perigonia and solitary naked archegonia, resulting in lateral sporophytes without perichaetial leaves.

Possibly related to *F. longevaginitus* Dixon, but the peristome of the latter has long columnar papillae on the inner base of the teeth and smaller spores (12.5–15.0 μ m).

Fissidens obtusoacuminatus Müll.Hal., *nom. nud.* was erroneously placed in synonymy with *F. gymnocarpus* by Stone (1990). See *F. cucullatus*.