

**Fissidens rupicola** Paris & Broth., *Öfvers. Förh. Finska Vetensk.-Soc.* 48: 7 (1906)

Type: “ad rupes praeruptorum amnis Carigou, alto 500–600 m”, New Caledonia, *Le Rat*; holotype: H-BR.

Illustrations: Z. Iwatsuki, *J. Hattori Bot. Lab.* 52: 122, fig. 5(1–15) (1982).

**Plants** small, dark green, 0.5–4.0 mm tall, 1.0–1.3 mm wide. **Stems** usually simple; in section with a small central strand and thick-walled cortical cells, the outer 2 or 3 rows coloured; rhizoids short, tufted, basal on the stems. **Leaves** in 4–15 pairs, erecto-patent, narrow and short below, lanceolate above, 0.3–1.2 mm long, 0.14–0.30 mm wide, widest proximally; **apex** obtuse or bluntly acute; **margins** crenulate-serrulate by projecting cell ends; **vaginant laminae** reaching to about mid-leaf, partly open; **limbidium** not reaching the apex, of 1–3 (–5) rows of hyaline elongate smooth cells, the outer cells  $\pm$ rectangular, the inner prosenchymatous; **dorsal lamina** joined abruptly to the base; **lamina cells** quadrate to hexagonal, isodiametric, 4–6 (–8)  $\mu$ m wide, thin-walled, markedly conical-mammillose; **costa** usually subpercurrent.

**Polyoicous.** **Male branches** similar to female branches, or the perigonia terminal within the perichaetium. **Female shoots** separate or occasionally axillary to the terminal perigonium, both of which can be deciduous. **Perichaetial leaves** to 1.3 mm long. **Setae** 2–3 mm long, scabrous. **Capsules** cylindrical, symmetrical; theca c. 0.4 mm long; **exothecial cells** quadrate to hexagonal, thin-walled, collenchymatous. **Operculum** conical-rostrate, 0.4–0.5 mm long. **Peristome teeth** 180–260  $\mu$ m long, 36–40  $\mu$ m wide at the base. **Calyptra** cucullate or campanulate, covering the operculum, slightly scabrous. **Spores** 12–16  $\mu$ m diam.

[Image 1](#)

[Image 2](#)

Rather common in north-eastern Qld; epiphytic or growing on rock.

Also known in India, Malesia, New Caledonia and Fiji.

*Selected specimens examined:* Qld: Kirrama State Forest, Cardwell, *I.G.Stone 15001 p.p.* (MEL); Downey Ck, W of Innisfail, *I.G.Stone 24725* (MEL); South Johnstone R., Palmerston [Wooroonooran] Natl Park, *I.G.Stone 19002* (MEL); Wrights Ck, Lake Eacham Natl Park, *I.G.Stone 25501 p.p.* (MEL).

Australian specimens appear to match the type, except for variation in the inflorescence due to regrowth from old plants. Iwatsuki (1982) described *F. rupicola* as being exclusively rhizautoicous, but the holotype has at least one separate male plant like the female. The plants are characteristically almost bare below, with sterile shoots that are  $\pm$ evenly foliate, the leaves are down-curved at the tips when dry, and the costa does not usually end in a large clear apical cell as in *F. crenulatus*.

Iwatsuki & Suzuki (1989) noted that New Caledonian plants lacked a central strand in the stem and that the vaginant laminae reach 1/2–2/3 the leaf length. Moreover, they also observed the species to be rhizautoicous, with the short male stems with terminal antheridia arising from the base of female stems.

Stone (1990c) reported this species as *F. consociatus* Thér. and a new record for Queensland and Australia, based on two collections, viz. *Stone 15001 p.p.* from Kirrama State Forest, and *Churchill & Kantak 12697* from rainforest on the Julatten to Mossman road (DUKE, MELU). She considered these specimens to be conspecific with the isotype of *F. consociatus* from New Caledonia (Iwatsuki, 1982a: fig. 2(1–28)). The descriptions of *F. consociatus* and *F. rupicola* given by Iwatsuki (1982) and Iwatsuki & Suzuki (1989) are very similar, differing only in the former having slightly larger plants, a weakly defined central strand in the stem section, slightly longer leaves, apparently autoicous rather than rhizautoicous sexuality, and slightly smaller spores (9–13  $\mu$ m vs 12–16  $\mu$ m). Further detailed study is needed to evaluate their possible conspecificity. If they are considered to represent a single species, *F. rupicola* (1906) would take precedence over *F. consociatus* (1910).

[Bibliography](#)