FORSSTROEMIA

Johannes Enroth


Type: F. trichomitria (Hedw.) Lindb.

Autoicous or polyoicous. Plants gregarious, mainly epiphytic, occasionally epilithic, stipitate and frondose, medium-sized, yellowish green or brownish yellow, dull or slightly glossy. Rhizoids brownish orange, smooth. Stems irregularly pinnately branched or unbranched; central strand absent. Stem leaves imbricate, concave, plicate or smooth, decurrent, (ovate-) lanceolate to ovate-acuminate; apices acute to acuminate or filiform, occasionally spreading and twisted; branch leaves similar but smaller; margins recurved from base mid-way along the leaf or above, entire throughout or faintly serrulate above; costa mostly single, reaching c. 25–75% of the leaf length, occasionally double and very short. Laminal cells smooth, thick-walled; alar cells indistinct; supra-alar cells (sub)quadrate to transverse in triangular groups extending upwards along the margins to c. one-third of the leaf length. Paraphyllia absent; pseudoparaphyllia foliose, lanceolate.

Post-fertilisation inner perichaetial leaves to c. 4 mm long, mostly oblong-lanceolate to oblong-acuminate and with a single costa of variable length, occasionally ecostate. Seta to 4.5 mm long, smooth, twisted when dry, reddish. Capsules ±exserted, erect, cylindrical; apophysal stomata absent. Peristome double; endostome very rudimentary to absent; exostome teeth c. 300 µm long, hygrocastique, narrowly lanceolate, solid or perforate to cracked above, often smooth below but papillose to somewhat granulose above, yellowish grey; operculum conico-rostrate. Calyptra cucullate, hairy. Spores globose, papillose, isomorphic.

Forsstroemia was segregated from Leptodon by Lindberg (1863) to accommodate F. trichomitria. Manuel (1974) placed the genus in the Leucodontaceae, but it was transferred to the Leptodontaceae by Buck (1980), a move accepted by Stark (1987) and Goffinet & Buck (2004). In his monograph of Forsstroemia, Stark (1987) suggested that Leptodon was the sister group of Forsstroemia within the Leptodontaceae subfam. Leptodontoideae. However, while Olsson et al. (2009) did confirm a close relationship between Leptodon and Forsstroemia, they also demonstrated the correct placement of both genera within the Neckeraceae.

Forsstroemia is a genus of 13 species, most of which are restricted to southern or eastern Asia. Two species occur in eastern and south-eastern Australia. The genus was revised by Stark (1987) on morphological grounds and, recently, by Olsson et al. (2012) using sequence data from two plastid regions and nuclear ribosomal DNA.

References


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Median laminal cells of stem leaves ±isodiametric to short-rhomboid or short-oblong; costa extending beyond mid-leaf................................................................. *F. producta*

Median laminal cells of stem leaves (sub)linear, clearly elongate; costa usually vanishing below mid-leaf, occasionally extending slightly above ..................................................... *F. trichomitria* subsp. *australis*

**Forsstroemia** sect. Microforsstroemia Nog.

Median laminal cells up to 3 times longer than wide; costa single, relatively strong, extending above mid-leaf.


Autoicous. Stems subpinnately branched. Stem leaves c. 1.5 mm long and 0.8 mm wide, ovate to ovate-acuminate; apices acute to acuminate or filiform and twisted; costa reaching beyond mid-leaf, mostly spurred. Median laminal cells c. 15–25 µm long, oval or short-rhomboid to short-oblong.

Seta c. 1.5–2.5 mm long. Capsules short-exserted.

Occurs in eastern Qld, N.S.W. and Tas.; prefers shaded habitats, mostly epiphytic on trees, less commonly epilithic. Also in North, Central and South America, eastern and southern Africa, China and Korea.


Polyoicous. Stems unbranched or sparingly and irregularly branched. Stem leaves c. 2–3 mm long, ovate-lanceolate to lanceolate; apices acuminate; costa mostly single, usually ending below mid-leaf, occasionally double and very short. Median laminal cells mostly 40–60 µm long, (sub)linear and slightly vermicular.

Seta c. 2–4 mm long. Capsules exserted.

Endemic to eastern Qld and N.S.W.; usually epiphytic, occasionally epilithic and most abundant in shaded habitats.


This subspecies is distinguishable from the extra-Australian subsp. *trichomitria* by having more infrequent branching and the polyoicous rather than consistently autoicous sexual condition.