

FLORIBUNDARIA

Heinar Streimann†

Floribundaria M.Fleisch., *Hedwigia* 44: 301 (1905); from the Latin *floribundus* (profusely fruiting), apparently alluding to the plant often being found fertile.

Lecto: *F. floribunda* (Dozy & Molk.) M.Fleisch.

Plants slender and delicate, small to medium-sized, pale green to yellow-green, usually dull. Stems complanately leaved, loosely or pinnately branched; branches short, simple, complanately leaved, widely spreading when moist. Branch leaves ovate or oblong-ovate, gradually tapering to an elongate linear-lanceolate or flexuose-capillaceous apex; base cordate; margin denticulate or serrulate; costa extending to mid-leaf, often weak. Laminal cells hyaline or obscure, sublinear to rhomboidal, unipapillose or multipapillose, thin-walled, ±sinuose; basal cells lax, epapillose; alar cells only slightly differentiated.

Calyptra cucullate or mitrate, the base lobed, with or without hairs. Seta short, ±smooth, often curved. Capsules generally oblong; operculum conical to rostrate, with a curved beak. Peristome: exostome teeth densely papillose in the upper half, densely striolate below; endostome segments as long as the teeth, perforated along the keel; cilia absent.

This tropical genus of c. 21 species is most diverse in Central Africa, also extending from India to the Pacific. Three mainly SE Asian species occur in north-eastern Australia.

These mosses always have a fine wispy appearance, even when they develop into moderately large, matted colonies. The stem leaves are larger than the branch leaves, but they are otherwise similar.

References

Streimann, H. (1991), Taxonomic studies on Australian Meteoriaceae (Musci). 2: The genera *Aerobyopsis*, *Barbella*, *Floribundaria*, *Meteoriopsis*, *Meteorium* and *Weymouthia*, *J. Hattori Bot. Lab.* 69: 277–312.

Wu, S.-H. & Lin, S.-H. (1985), A taxonomic study of the genera of *Chrysocladium* and *Floribundaria* (Meteoriaceae, Musci) of Taiwan, *Yushania* 2(4): 1–24.

Key

- | | | |
|----|---|-------------------------------|
| 1 | Laminal cells with 1–3 papillae | 2. F. pseudofloribunda |
| 1: | Laminal cells with 3–8 papillae | 2 |
| 2 | Papillae of laminal cells in a single row; leaf apex smooth | 1. F. floribunda |
| 2: | Papillae of laminal cells in 2 rows; leaf apex papillose | 3. F. walkeri |

1. *Floribundaria floribunda* (Dozy & Molk.) M.Fleisch., *Hedwigia* 44: 302 (1905)

Leskea floribunda Dozy & Molk., *Ann. Sci. Nat., Bot.*, sér. 3, 2: 310 (1844). T: Java and Sumatra, [Indonesia]; holo: L n.v.

Illustrations: A.Noguchi, *J. Hattori Bot. Lab.* 41: 272 (1976); H.Streimann, *J. Hattori Bot. Lab.* 69: 294 (1991).

Plants with stems to 20 cm long; apices often filiform. Leaves appressed to erecto-patent, linear-lanceolate, 0.9–1.5 mm long, 0.3–0.4 mm wide, acuminate; margin weakly denticulate, the teeth strongest at the apex; costa very faint. Laminal cells obscure, with 3–8 papillae in

Cite as: H.Streimann, *Australian Mosses Online. 2. Meteoriaceae: Floribundaria*.
http://www.anbg.gov.au/abrs/Mosses_Online/Floribundaria.pdf (2012)

regular rows over each cell from the acumen almost to the base, sublinear to hexagonal; acumen cells to $20\text{--}50 \times 2 \mu\text{m}$; upper and median cells \pm sigmoid, to $50 \times 5 \mu\text{m}$; a few basal corner cells thicker-walled, c. $20 \times 10 \mu\text{m}$.

Calyptra cucullate c. 1.5 mm long, sparsely hairy. Seta blackish brown, 2.0–2.5 (–4.0) mm long, often curved. Capsules ovate-oblong, c. 1.8 mm long and 0.8 mm wide; operculum c. 1 mm long, conical-rostrate, with a long beak. Peristome: exostome teeth and endostome segments c. 0.5 mm long; segments broader. Spores 15–22 (–25) μm diam.

Occurs in north-eastern Qld, where it is rare on trees and shrubs in tropical rainforest, mainly at altitudes of 400–1200 m. Also known from southern Africa, through Asia and the Pacific to Brazil.

Qld: Mt Lewis, c. 100 NW of Cairns, *B.O. van Zanten 681368A* (GRO); Topaz Rd, 13 km SE of Malanda, *H.Streimann 46686* (*Musci Austral. Exs.* 29) (CANB); Palmerston Natl Park, *I.G.Stone 15133* (MELU).

Stem leaves differ from branch leaves in having entire margins and long, often filiform apices, slightly broader median cells and more pronounced cell margins.

2. *Floribundaria pseudofloribunda* M.Fleisch., *Musc. Buitenzorg* 3: 822 (1908)

T: M.Fleischer, *Musc. Archip. Ind. et Polynes.* No. 435; holo: FH *n.v.*

Illustrations: A.Noguchi, *J. Hattori Bot. Lab.* 41: 276 (1976); D.H.Norris & T.Koponen, *Acta Bot. Fenn.* 131: 37 (1985); H.Streimann, *J. Hattori Bot. Lab.* 69: 296 (1991).

Plants slightly glossy; stems to 4 cm long; branches 1.0–1.5 mm long. Branch and stem leaves spreading when dry or moist. Branch leaves lanceolate or, rarely, ovate-oblong, usually c. $1.6 \times 0.4 \text{ mm}$, short-acuminate or narrowly acute; margin serrulate; costa faint, scarcely reaching mid-leaf, pale brown. Laminal cells obscure, with 1 (or 2) papillae per cell; apical and upper cells sigmoid, to $50 \times 7 \mu\text{m}$; median cells sigmoid, to $37 \times 4 \mu\text{m}$; base occasionally with 1 large yellowish alar cell, elliptic to ovate, $25 \times 20 \mu\text{m}$.

Calyptra cucullate, c. 1.5 mm long, hairy. Seta smooth, 1.5–1.8 mm long. Capsules oblong, 1.5–2.0 mm long, brownish. Peristome: exostome teeth and endostome segments 0.40–0.45 mm long. Spores not seen.

Rare in north-eastern Qld. Also from India to SE Asia, Taiwan, Japan, and from Malesia to Vanuatu and the Hawaiian Islands.

Qld: Mossman Gorge, *I.G.Stone 23166* (MELU); near Ravenshoe, *W.W.Watts Q624* (H, NSW); Woopen Ck, *I.G.Stone 18176A* (MELU).

3. *Floribundaria walkeri* (Renauld & Cardot) Broth., in H.G.A.Engler & K.A.E.Prantl, *Nat. Pflanzenfam.* I, 3: 822 (1906)

Papillaria walkeri Renauld & Cardot, *Bull. Soc. Roy. Bot. Belgique* 34(2): 70 (1896). T: Kurseong [Edentale Plantation], Darjeeling, [India], Nov. 1893, *Walker*; holo: PC *n.v.*

Illustrations: A.Noguchi, *J. Hattori Bot. Lab.* 41: 274 (1976); S.-H.Wu & S.-H.Lin, *Yushania* 2(4): 18 (1985); H.Streimann, *J. Hattori Bot. Lab.* 69: 298 (1991).

Plants small, sparsely leaved, to 4 cm long. Branches few, simple, their upper part slender and capillaceous. Stem leaves ovate-lanceolate, to 1.5 mm long and 0.5 mm wide, with a long-acuminate apex. Branch leaves narrowly lanceolate, 0.9–1.3 mm long, 0.2–0.6 mm wide, broadest near the base; apex narrowly attenuate; margin plane, serrulate, with projecting cells; costa faint. Apical, upper and median laminal cells with small papillae in c. 2 rows, \pm obscure, (20–) $50 \times 2\text{--}4$ (–7) μm ; median cells $37\text{--}50 \times 2\text{--}4 \mu\text{m}$; basal cells shorter and broader, hexagonal near the costa, $50\text{--}75 \times 3\text{--}5$ (–12) μm , with the papillae more prominent; alar cells absent.

Sporogones not known from Australia.

Rare in north-eastern Qld; also reported from South Africa, Madagascar, India, Sri Lanka and from SE Asia to Samoa.

Qld: track to Majors Falls, Ravenshoe, *W.W.Watts Q579* (H, NSW); Yungaburra, *W.W.Watts Q668* (H, NSW).