

## VIRIDIVELLERACEAE

*Ilma G. Stone*†

**Viridivelleraceae** I.G.Stone, *J. Bryol.* 9: 21 (1976).

Type: *Viridivellus* I.G.Stone.

Synocious. Gametophores minute, annual, reduced to bud-like inflorescences on, but obscured by, a glossy green fleecy persistent protonema. Protonema filamentous; first-phase chloronema richly branched, with ultimate cells tapered to a point; second-phase caulonema prostrate, reddish brown. Leaves few, erect, bract-like, pale green, concave, ovate; apex apiculate; margin entire below, often crenulate or irregularly denticulate above; costa weak, subpercurrent. Laminal cells smooth.

Antheridia and archegonia terminal, 1–4 of each, usually overtopped by a few uniseriate paraphyses. Calyptra conical-cucullate, smooth; vaginula comparatively large. Seta straight or slightly curved, pale, twisted when dry; foot narrow, tapered. Capsule cleistocarpous, scarcely exerted, pale brown, glossy, shortly ovoid, slightly asymmetrical, with a long oblique rostrum; exothelial cells pellucid, lacking a dehiscence line; stomata 3–5, superficial, basal. Spores pale brown, very finely papillose.

This family includes one species in north-eastern Qld and New Caledonia. Its affinities are difficult to assess because of the marked reduction of both the gametophyte and the sporophyte (Stone, 1976, 1980).

### References

Stone, I.G. (1976), A remarkable new moss from Queensland, Australia: *Viridivellus pulchellum*, new genus and species (new family Viridivelleraceae), *J. Bryol.* 9: 21–31.

Stone, I.G. (1980), *Weissia* subgenus *Astomum* in Australia, *J. Bryol.* 11: 231–243.

## VIRIDIVELLUS

*Viridivellus* I.G.Stone, *J. Bryol.* 9: 21 (1976); from the Latin *viridis* (green) and *vellus* (a fleece), in reference to the appearance of the persistent protonema.

Type: *V. pulchellum* I.G.Stone

Description as for the family.

**Viridivellus pulchellum** I.G.Stone, *J. Bryol.* 9: 21 (1976)

T: Wallaman Falls Track, W of Ingham, Qld, 16 May 1975, *I.G.Stone 8464*; holo: MEL; iso: BM, MEL, MUCV, NSW.

Illustrations: I.G.Stone, *op. cit.* pl. 1, figs 1–4.

Plants c. 0.5 mm tall, almost acaulescent, with new buds arising at the base. Leaves 3–6, pale green, ovate, 0.06–0.40 mm long; costa in cross-section with 2 large adaxial cells, 4 smaller more thick-walled abaxial cells and 1 or more internal substereids. Upper laminal cells rhombic or irregularly 4- or 5-sided, 10–20 × 5–10 µm; basal cells ±rectangular, 30–60 × 5–15 µm, often narrower and looser towards the margin.

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[http://www.anbg.gov.au/abrs/Mosses\\_Online/Viridivelleraceae.pdf](http://www.anbg.gov.au/abrs/Mosses_Online/Viridivelleraceae.pdf) (2012)

Calyptra 0.45–0.50 mm long; vaginula elliptic, c. 0.2 mm long. Seta terminal, 0.55–0.60 mm long. Capsules (including rostrum) 0.55–0.60 mm long, 0.25–0.30 mm wide. Spores oval to reniform, c. 20 µm long.

Scattered from Cairns, north-eastern Qld to Mount Tamborine in the south-east, in well-drained sites on earth banks, usually on worm casts, decaying vegetation and on exposed rootlets, often on semi-shaded tracks to waterfalls, in tropical or subtropical rainforest, at altitudes of c. 100–800 m; also in New Caledonia.

Qld: Wallaman Falls Natl Park, *I.G.Stone* 25560 (MEL); Kondalilla Falls Natl Park, *I.G.Stone* 18112 (MEL); Cascades Track, Freshwater Ck, near Cairns, *I.G.Stone* 12190 (MEL); Eungella Natl Park, W of Mackay, *I.G.Stone* 12570 (MEL).

Apparently rare but probably overlooked, this moss occurs in patches like a green fleece with only the sporophyte showing above the assimilatory protonemata.