

STEREOPHYLLACEAE

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Stereophyllaceae W.R.Buck & Ireland, *Nova Hedwigia* 41: 95 (1985).

Stereophylloideae M.Fleisch., *Musc. Buitenzorg* 4: 1158 (1923), as Stereophylleae

Type: *Stereophyllum* Mitt.

Autoicous or occasionally dioicous. Plants medium-sized, pleurocarpous, forming flat mats. Stems creeping, simple or sparingly and irregularly monopodially branched, subterete-foliate to complanate-foliate. Paraphyllia lacking; pseudoparaphyllia filamentous or foliose. Stem and branch leaves similar, narrowly ovate-lanceolate to ovate; margin usually serrulate above; costa single, ending c. 33–80% of leaf length, rarely weak or lacking in some leaves. Laminal cells rhomboidal to linear, smooth or rarely unipapillose or prorulose; alar cells differentiated, mostly forming large areas, covering the abaxial side of the costa at the leaf base.

Capsules long-exserted, erect to cernuous, ellipsoidal to cylindrical. Peristome hypnoid; cilia occasionally lacking.

The Stereophyllaceae is a rather small, mainly tropical family of eight genera (Goffinet *et al.*, 2012). Most have traditionally been classified in the Plagiotheciaceae, but they were accommodated in a separate family by Buck & Ireland (1985). These mosses are characterised by a single costa and a hypnoid peristome but, most importantly, by the alar cells that can form extensive patches that are unequally distributed at both sides of the costa, but always cover the adaxial side of the costa.

References

Buck, W.R. (1998), Pleurocarpous mosses of the West Indies, *Mem. New York Bot. Gard.* 82: 1–400.

Buck, W.R. & Ireland, R.R. (1985), A reclassification of the Plagiotheciaceae, *Nova Hedwigia* 41: 89–125.

Goffinet, B., Shaw, A.J. & Buck, W.R. (2012), *Classification of the Bryophyta*. [<http://www.eeb.uconn.edu/people/goffinet/Classificationmosses.html>]

STEREOPHYLLUM

Stereophyllum Mitt., *J. Linn. Soc., Bot.*, Suppl. 1: 117 (1859); from the Greek *stereos* (stiff, solid) and *phyllon* (a leaf), probably in reference to the rather stiff-looking leaves.

Type: *S. indicum* (Bél.) Mitt.

Autoicous. Stems creeping, simple or sparingly and irregularly monopodially branched, complanate-foliate; in cross section with small firm-walled cells surrounding broader thin-walled cells; central strand lacking. Pseudoparaphyllia filamentous. Stem and branch leaves similar, ovate-lanceolate to broadly ovate to almost lingulate, smooth; margin entire throughout or serrulate above; costa stout, bulging abaxially, reaching c. 67–80% of the leaf length. Laminal cells rhomboidal, generally unipapillose on both sides, thick-walled, not

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pitted; alar cells oblate to rectangular, forming large often asymmetrical patches that extend adaxially over the costa.

Perichaetia at bases of stems; perichaetial leaves smaller than or similar in size to vegetative leaves. Calyptra cucullate, naked, smooth. Seta smooth. Capsules exserted, cernuous or very rarely erect, ovoid to ellipsoidal, contracted below the mouth when dry; exothelial cells quadrate to rectangular, thin-walled, not collenchymatous; annulus differentiated. Peristome: exostome teeth narrowly triangular, shouldered, bordered, with a median zig-zag line outside, horizontally striate below, papillose above; endostome with a high basal membrane; processes keeled, fenestrate; cilia 1–3. Operculum short-rostrate. Spores spherical to ovoid, papillose.

Stereophyllum is distinguished from other genera in the family by the solitary papillae in the centre of the laminal cells on both sides of the leaf. While many taxa have been described in this genus, only two species are currently accepted, viz. the pantropical *S. radiculosum* and *S. linsii* Enroth & B.C.Tan which is endemic to the Philippines.

***Stereophyllum radiculosum* (Hook.) Mitt., *J. Linn. Soc., Bot.* 12: 542 (1869)**

Hookeria radiculosa Hook., *Musci Exot.* 1: 51 (1818). T: Caripe, Venezuela, *F.W.H.A. von Humboldt & A.J.A. Bonpland*; holo: BM?; iso: NY.

Illustrations: W.R.Buck, *Mem. New York Bot. Gard.* 82: 281, pl. 109 (1998); W.R.Buck, D.H.Vitt & W.M.Malcolm, *Key to the Genera of Australian Mosses* 62 (2002).

Plants medium-sized to robust, dull green, forming mats. Leaves imbricate, ±stiff, erect to spreading, 1.6–2.1 mm long, 0.95–1.15 mm wide, obtuse to broadly acute, slightly wrinkled to plicate when dry; margin entire throughout or serrulate above; costa single, stout. Laminal cells 20–40 × 8–15 µm; alar cells tapering off along the margin, ending at the broadest part of the leaf.

Occurs in eastern Qld, in dry rainforest, vine thickets and monsoonal forest and scrub, on rocks, tree bases or rotting logs, from sea level to 1000 m, but mostly at lower altitudes. Widespread throughout the tropics.

Qld: Panhandle, Brawlbank, 47 km WSW of Collinsville, *R.J.Fensham* 33 (CANB); Big Bend Reserve, 25 km NNW of Charters Towers, *R.J.Fensham* 2 (CANB).

Stereophyllum radiculosum is easily recognised in the field by the rather large, dull plants with ovate to almost lingulate leaves with a strong single costa. The stems are complanate-foliate, but this is difficult to see from above, as it is the ventral side of the creeping stems that is flattened.