

# SORAPILLACEAE

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**Sorapillaceae** M.Fleisch., *Musc. Buitenzorg* 3: 847 (1908).

Type: *Sorapilla* Mitt. & Spruce.

Dioicous. Moderately robust glaucous yellowish plants. Stems elongate, with basal rhizoids, very densely leafy, strongly complanate, irregularly bipinnately branched. Leaves distichous and equidistant, boat-shaped, sharply keeled, with an upturned apex, oblong-ligulate in profile, distally with an apical lamina and a narrow abaxial wing, the true leaf being the 2 vaginant laminae with a broad border; margin entire; costa thin; distal cells of lamina hexagonal to rhomboid, very thick-walled, papillose; basal cells longer, seriatly papillose; cells border very lax, hexagonal or rhomboidal, hyaline, smooth. Pseudoparaphyllia present.

Androecia terminal, with few paraphyses. Gynoecia lateral. Perichaetial leaves erect; outer leaves lanceolate-subulate, serrate above; inner leaves ±oblong; border and abaxial wing lacking. Calyptra conical, small, covering the end of the operculum, scantily hairy distally. Seta very short. Capsules immersed, erect, symmetrical, oblong, with small wrinkles when dry; annulus persistent; operculum conical, short-rostrate. Peristome diplolepidous; exostome teeth reduced to short stubs, with 2 fronting each process; processes linear from a short basal membrane, densely papillose. Spores small, green, smooth.

This family includes a single genus, *Sorapilla*, and two species, one in Ecuador and the other in Papua New Guinea, Indonesia and Queensland. Originally placed by Mitten near Fissidentaceae due to the leaf structure, Fleischer included his new family near Neckeraceae, on the grounds that the leaves of *Sorapilla* and *Phyllogonium* were more similar than either was to *Fissidens*, the similarity of habit, the hairy calyptra and the peristome, considered to be diplolepidous and reduced, as clearly shown by Allen (1981).

## References

- Allen, B.H. (1981), A reevaluation of the Sorapillaceae, *Bryologist* 84: 335–338.
- Brotherus, V.F. (1906), *Sorapilla*, *Nat. Pflanzenfam.* 1, 3: 1230.
- Brotherus, V.F. (1924), *Sorapilla*, *Nat. Pflanzenfam.*, 2nd edn, 10: 421–422.
- Norris, D.H. & Koponen, T. (1987), Bryophyte flora of the Huon Peninsula, Papua New Guinea. XX. Fissidentaceae, Mitteniaceae, Phyllo drepaniaceae, Phyllogoniaceae and Sorapillaceae (Musci), *Ann. Bot. Fenn.* 24: 177–219.

## SORAPILLA

*Sorapilla* Spruce & Mitt., in W.Mitten, *J. Linn. Soc., Bot.* 12: 603 (1869); derived from an Andean tribal name for moss.

Type: *S. sprucei* Mitt.

**Sorapilla papuana** Broth. & Geh., *Öfvers. Förh. Finska Vetensk.-Soc.* 42: 122 (1900)

T: Mt Suckling [Goropi, Owen Stanley Ra., Papua] New Guinea, 1892, *W.MacGregor*; holo: *n.v.*

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[http://www.anbg.gov.au/abrs/Mosses\\_online/Sorapillaceae.pdf](http://www.anbg.gov.au/abrs/Mosses_online/Sorapillaceae.pdf) (2012)

Illustrations: B.H.Allen, *op. cit.* 337, figs 1–3; W.R.Buck, D.H.Vitt & W.M.Malcolm, *Key to the Genera of Australian Mosses* 3 (2002).

Main stems c. 2.5 mm wide; branches to 15 mm long, attenuate. Leaves c. 1.5 mm long and 1 mm wide on the main stem, smaller on branches; base rounded; apex acuminate; costa short-excurrent to about 0.12 mm; border on vaginant laminae to c. 0.15 mm wide, the cells mostly  $50\text{--}80 \times 20\text{--}35 \mu\text{m}$ , the marginal cells narrower; cells of apical and abaxial laminae and upper inner cells of vaginant laminae  $18\text{--}22 \times c. 10 \mu\text{m}$ , thick-walled, with thick trigones; lumina oval and with minute simple papillae; basal cells of vaginant laminae  $40\text{--}60 \times 8\text{--}11 \mu\text{m}$ , scarcely thick-walled, minutely seriatly papillose. Pseudoparaphyllia triangular to rhombic,  $70\text{--}100 \mu\text{m}$  tall,  $65\text{--}130 \mu\text{m}$  wide, with jagged apices.

Capsules chestnut-brown; theca c. 1.9 mm long and 0.5 mm wide; operculum c. 0.5 mm long. Peristome: exostome segments very short, c.  $120 \mu\text{m}$  tall, divided into two, each with one row of 3 or 4 plates; endostome teeth c.  $300 \mu\text{m}$  tall, c.  $50 \mu\text{m}$  wide at the base, entire, reddish. Spores  $10\text{--}12 \mu\text{m}$  diam.

A rare epiphyte in north-eastern Qld; also in Papua New Guinea and Indonesia (Seram).

Qld: Roots Ck, 5 Jan. 1936, *H.Flecker 1283* (BRI, CANB); W ridge of Thornton Peak, NE of Daintree, 1974, *D.H.Norris* (BRI, CANB).

The Ecuadorean *S. sprucei* differs in being more slender, with narrower leaves (c. 0.5 mm), the chlorophyllous cells above being hexagonal and isodiametric, more extremely incrassate, with irregularly shaped lumina and with several coarse papillae. The costa fails well below the acute apex.