

SPLACHNOBRYUM

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Splachnobryum Müll.Hal., *Verh. Zool.-Bot. Ges. Wien* 19: 503 (1869); from the generic names *Splachnum* and *Bryum*, in reference to the resemblance of *Splachnobryum* to these genera.

Type: *S. obtusum* (Brid.) Müll.Hal.

Plants small, erect, typically to 10 mm tall, green to orange below. Stems orthotropic, with a central strand surrounded by rather large parenchymatous cells with orange walls. Rhizoids smooth, sparse, at the base of the stem. Branching sparse, subapical and sympodial. Leaves ovate, lingulate, spatulate; apex rounded to acute; margin plane to slightly reflexed, entire below, crenulate to papillose above; costa single, weakly to strongly differentiated, ending in upper half of leaf to shortly below apex. Laminal cells thin-walled, flat to slightly bulging; basal cells short to rectangular, smooth; upper cells quadrate to \pm isodiametric, smooth. Gemmae multicellular, infrequent. Sporophytes not seen.

Splachnobryum and *Gymnostomiella* were included in the Splachnaceae by Brotherus (1924), although sufficiently distinct to warrant accommodating them in a subfamily of their own, the Splachnobryoideae. *Splachnobryum* was removed from the Splachnaceae by Koponen (1981) and placed in the monotypic Splachnobryaceae. Recent molecular studies have confirmed that *Splachnobryum* is only distantly related to the Splachnaceae, having haplolepidous affinities (Goffinet & Cox, 2000), a hypothesis supported by the architecture of the peristome (Allen & Pursell, 2000). Although the genus was retained in the Splachnobryaceae by Goffinet (2006), further molecular have seen the Splachnobryaceae subsumed in the Pottiaceae (Cox *et al.*, 2010; Goffinet *et al.*, 2012)

Splachnobryum is characterised by having small plants with unicostate leaves and smooth laminal cells. These mosses grow on calcareous rocks, and the genus is represented in Australia by one species; an additional species, *S. crassinervium* Arts, is endemic to Norfolk Island (Arts, 2001; Streimann, 2002), and is not treated here.

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***Splachnobryum obtusum* (Brid.) Müll.Hal., *Verh. Zool.-Bot. Ges. Wien* 19: 504 (1869)**

Weissia obtusa Brid., *Sp. Musc.* 1: 118 (1806). T: “In Hispanolia, Dominica aliisque Antillis terram habitantem primus”, *Poiteau*; iso: BM *n.v.*

Splachnobryum baileyi Broth., *Bot. Zentralbl.* 36: 85 (1888). T: “ubi ad Brisbane River”, Qld, *F.M.Bailey*; lecto: S, *fide* B.Goffinet, *Fl. Australia* 51: 410 (2006); isolecto: CHR.

Splachnobryum geheebii M.Fleisch., *Musc. Buitenzorg* 2: 472 (1904). T: Java, [Indonesia], *M.Fleischer* 136; holo: L *n.v.*

Illustrations: T.Arts, *J. Bryol.* 19: 72, fig. 4; 73, fig. 5 (1996); T.Arts, *Lindbergia* 26: 90, fig. 12; 91, figs 13 & 14; 92, fig. 15 (2001).

Plants to 10 mm tall. Rhizoids restricted to the base, pale brown, smooth. Stems with a central strand and yellowish somewhat incrassate parenchymatous cells. Branching sparse, subapical and sympodial. Leaves long-lingulate to broadly ovate, with a rounded or acute apex, somewhat keeled to concave, crisped when dry, with reflexed margins if leaves ovate, c. 1 mm long and 0.5 mm wide; margin entire, sometimes crenulate above; costa ending just below apex; basal laminal cells 15–48 × 12–18 µm; upper cells 10–15 µm long and wide, or rectangular to diamond-shaped with longest axis 15–30 µm long; marginal cells short and quadrate in upper half, elongate below. Archegonia typically single, axillary; paraphyses lacking. Perigonia not seen.

Rare in northern W.A., northern N.T. and eastern Qld; grows on shaded and semi-exposed soil and rock. A pantropical species.

W.A.: Kununurra–Timber Creek hwy, 25 km SE of Kununurra, *H.Streimann* 48369 (NY). N.T.: Fannie Bay, 4.5 km N of Darwin, *H.Streimann* 8829 (CANB, NY); Pickertaramoor, Melville Is., *H.Streimann* 42401 (CANB); East Alligator R., Kakadu Natl Park, *I.G.Stone* 23344 (MEL); Berry Springs, *I.G.Stone* 16230 (MEL).

Splachnobryum obtusum is possibly more widespread across tropical Australia, but since Australian specimens are not known to produce sporophytes, the species could be mistaken for sterile forms of various unrelated taxa such as *Bryum* spp.

The handful of known Australian collections exhibit much of the morphological variation known for this species across its global range. A specimen collected at Fannie Bay, N.T. (*Streimann* 8829) was referred erroneously by its collector to *S. weimansii* M.Fleisch., a species that is endemic to Malesia (Arts, 2001), although the similarities are indeed striking. These plants are also much taller and the leaves broader than in other Australian specimens. *Streimann* 8829 was referred to *S. obtusum* due to the absence of clearly differentiated, basal marginal cells, and the shorter axillary hairs (Arts, 2001).