

BRAITHWAITEACEAE

Andries Touw¹

Braithwaiteaceae N.E.Bell, A.E.Newton & D.Quandt, *in* N.E.Bell, D.Quandt, T.J.O'Brien & A.E.Newton, *Bryologist* 110: 554 (2007).

Type: *Braithwaitea* Lindb.

Dioicous. Plants medium-sized to tall, dendroid. Stems ascending from a very short creeping basal part; innovations basal. Pseudoparaphyllia foliose, spreading. Fronds pinnate to bipinnate or irregular, projecting horizontally; branches often bearing clustered filiform gemmae. Stem leaves triangular-ovate-oblong; costa percurrent to short-excurrent; margin almost entire; mid-leaf cells linear, smooth or weakly prorate; alar cells weakly differentiated. Branch leaves ovate to ovate-oblong; apex \pm obtuse, cymbiform; costa abaxially protruding, almost smooth to scabrous.

Perichaetia scattered along main branches and the distal part of the stem. Calyptra cucullate, smooth. Seta long, smooth. Capsules cylindrical, almost straight, sulcate; annulus present; stomata phaneroporous. Operculum narrowly conical, blunt. Peristome double; exostome teeth 16, yellowish to colourless, papillose throughout, the ventral lamella very low; basal membrane of endostome very low; processes 16, linear, unequal in length, occasionally appendiculate; cilia absent.

This monotypic family occurs in eastern and south-eastern Australia, Lord Howe Island, New Zealand and New Caledonia. Touw (1971) did not consider *Braithwaitea* to be closely related to *Hypnodendron*, but he retained the genus in the Hypnodendraceae for lack of a better solution. Bell *et al.* (2007) accommodated *Braithwaitea* in a family of its own, based on molecular data and cladistics.

References

Bell, N.E., Quandt, D., O'Brien, T.J. & Newton, A.E. (2007), Taxonomy and phylogeny in the earliest diverging pleurocarps: square holes and bifurcating pegs, *Bryologist* 110: 533–560.

Touw, A. (1971), A taxonomic revision of the Hypnodendraceae (Musci), *Blumea* 19: 211–354.

BRAITHWAITEA

Braithwaitea Lindb., *Acta Soc. Sci. Fenn.* 10: 250 (1872); named in honour of the British bryologist Robert Braithwaite (1824–1917).

Pterobryon Hornsch. [sect.] *Braithwaitea* Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 82 (1882).

Type: *B. sulcata* (Hook.) A.Jaeger

Description as for the family.

¹ Nationaal Herbarium Nederland, Leiden University branch, P.O. Box 9514, 2300 RA Leiden, Netherlands.

Braithwaitea sulcata (Hook.) A.Jaeger, in A.Jaeger & F.W.Sauerbeck, *Ber. Thätigk. St. Gallischen Naturwiss. Ges.* 1876–77: 299 (1878)

Leskea sulcata Hook., *Musci Exot.* t. 164 (1819); *Hypnum sulcatum* (Hook.) G.A.W.Arnott, *Disp. Méth. Mousses* 59 (1825); *Climacium sulcatum* (Hook.) Brid., *Bryol. Univ.* 2: 274 (1827); *Neckera sulcata* (Hook.) Müll.Hal., *Syn. Musc. Frond.* 2: 122 (1850); *Isothecium sulcatum* (Hook.) Wilson, in J.D. Hooker, *Fl. Nov.-Zel.* 2: 104 (1854); *Dendro-Leskea sulcata* (Hook.) Hampe, in F.Mueller, *Fragm.* 11, Suppl. 50 (1881); *Pterobryon sulcatum* (Hook.) Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 82 (1882). T: Port Jackson, N.S.W., *R.Brown s.n.*; holotype: BM.

Pilotrichum nematosum Müll.Hal., *Bot. Zeitung (Berlin)* 22: 373 (1864); *Braithwaitea nematosa* (Müll.Hal.) A.Jaeger, in A.Jaeger & F.W.Sauerbeck, *Ber. Thätigk. St. Gallischen Naturwiss. Ges.* 1876–77: 299 (1878). T: Ash Island, [Newcastle,] N.S.W., *H.Scott s.n.*; holotype: ?B *n.v.* (destroyed); lectotype: NY, *fide* A.Touw, *op. cit.* 339.

Pterobryopsis filigera Broth. & Watts, *Proc. Linn. Soc. New South Wales* 43: 558 (1918). T: Malanda, Qld, *W.W.Watts 549*; lectotype: H, *fide* A.Touw, *op. cit.* 341; Ravenshoe, Qld, *W.W.Watts 605a*; synonym: *n.v.*

Illustration: A.Touw, *op. cit.* 340, fig. 42.

Plants glossy. Fronds ovate-oblong, to c. 8 cm long; branch apices rounded. Stems to c. 6.5 cm long, defoliate below. Stem leaves 2.5–4.5 mm long, loosely appressed; apex acute to long-acuminate; alar cells quadrate to rectangular, forming a small group. Branch leaves imbricate when dry, erecto-patent when moist, 1.5–2.0 mm long; apex obtuse to truncate or emarginate, short-mucronate; margin serrate to dentate near the leaf apex; mid-leaf cells 25–85 µm long. Gemmae to 0.6 mm long, consisting of a single row of quadrate cells.

Seta 8–18 mm long. Capsules almost smooth to sulcate, 3.0–5.5 mm long. *n* = 10, *fide* H.P.Ramsay, *Mem. New York Bot. Gard.* 45: 143 (1987).

Occurs in eastern Qld, N.S.W., and Vic., but has been collected most frequently in south-eastern Qld and north-eastern N.S.W. Usually in rainforest, where it grows on tree trunks, branches and, occasionally, on rocks. Widespread in New Zealand (but almost restricted to North Island); probably rare in Lord Howe Island and New Caledonia.

Qld: crest of ridge to Mt Dryander, 15 km N of Proserpine, *R.J.Henderson et al. H2200* (L, MO). N.S.W.: Richmond Range S.F., 30 km NW of Kyogle, *H.Streimann 7035* (L). Vic.: Tarwin, Jan. 1883, *Manton s.n.* (MEL).

Sporophytes have often been collected in Australia, but they appear to be rare elsewhere. On the other hand, gemmae are abundant in New Zealand, but are absent or very scarce among Australian plants.