

## MNIODENDRON

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*Mniodendron* Lindb. ex Kindb., *Bot. Centralbl.* 77: 393 (1899); from the Greek *mnion* (moss), and *dendron* (a tree), in reference to the tree-like habit of the plants.

Lecto: *Hypnum divaricatum* Reinw. [= *M. dendroides* (Brid.) Wijk & Margad.]

Plants small to tall, erect. Distal innovations frequently present, these often strong and forming several tiers. Stipe covered with tomentum. Frond umbellate; branches not or weakly complanate; branches at best weakly complanate. Stipe leaves widely spreading to squarrose-recurved, often longitudinally plicate or striate; base often shortly decurrent; apex acuminate; margin serrulate to serrate above; costa mostly percurrent to aristate. Laminal cells smooth or prorate; margin cells often shorter than the inner ones; alar cells enlarged, mostly forming a conspicuous group. Branch leaves uniform and symmetrical or nearly so, often secund, often longitudinally plicate to striate, mostly triangular ovate-lanceolate to very narrowly triangular; apex often very narrow, usually gradually acuminate; margin serrate; costa ending in the apex to excurrent; areolation as in the stipe leaves, but alar cells less distinct.

Male gametoecea often grouped together in a flat or somewhat convex disc. Capsule theca sulcate, inclined to cernuous; operculum sharply rostrate. Spores 12–20 µm diam.

### Reference

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

### Key

- 1 Epidermal cells of the basal part of the costa containing colourless crystals ..... **1. M. colensoi**  
1: Costal cells lacking crystals ..... 2  
2 Stipe leaves triangular-ovate; costa usually thin, ending in the apex ..... **2. M. comatulum**  
2: Stipe leaves narrowly triangular-ovate to triangular-ovate-lanceolate; costa strong, excurrent .....  
..... **3. M. comosum**

**1. *Mniodendron colensoi*** (Hook.f. & Wilson) Besch., *Ann. Sci. Nat., Bot.*, sér. 5, 18: 244 (1873)

*Isoetecium colensoi* Hook.f. & Wilson, in J.D.Hooker, *Fl. Tasman.* 2: 206 (1859). *Hypnodendron colensoi* (Hook.f. & Wilson) Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 90 (1882). T: *s. loc.*, Tas., *R.C.Gunn s.n.*; holo: BM; iso: H.

[*Isoetecium comatum auct. non* (Müll.Hal.) Hook.f.: J.D.Hooker, *Handb. New Zealand Fl.* 2: 467 (1867), *p.p.*] Illustration: A.Touw, *op. cit.* 312, fig. 34.

Plants erect, somewhat glossy. Fronds umbellate, to 3.5 cm diam. Distal innovations often present. Stipe to 5.5 cm long, covered with tomentum. Pseudoparaphyllia spreading. Stipe leaves narrowly triangular, 2.7–3.9 mm long, widely spreading to squarrose-recurved; apex gradually long-acuminate; margin serrate above; alar cells enlarged, forming a large group. Branch leaves triangular-lanceolate, 2.2–3.0 mm long; apex gradually long-acuminate, shortly aristate; costa strong; epidermis of costa base containing numerous colourless crystals; margin serrate, the teeth simple; mid-leaf cells 40–100 µm long.

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Sporophytes up to 3 (rarely to 6). Seta 3.5–4.5 cm long. Capsules mostly cylindrical, deeply sulcate, 3.5–5.5 mm long; operculum rostrate. Spores 12–20 µm diam.

Known from south-eastern N.S.W., Vic. and from an unknown locality in Tas.; widespread in rainforest in New Zealand where it grows on moist soil and decaying logs, occasionally on rock.

N.S.W.: Mt Tomah, *Cunningham s.n.* (NY). Vic.: Mt Disappointment, *coll. unknown* (MEL 34591).

The only known Australian collections are the three cited here. The hyaline crystals in the epidermal cells of the costa have not been seen in any other moss species.

## **2. Mniodendron comatulum** Geh. ex Broth., in V.F.Brotherus & W.W.Watts, *Proc. Linn. Soc. New South Wales* 43: 567 (1918)

*Hypnodendron comatulum* (Broth.) Touw, *Blumea* 19: 307 (1971). T: Charmellans Ck, on Gordons Track from Ravenshoe to Tully Falls, Qld, Aug. 1913, W.W.Watts 676 p.p.; lecto: H, *fide* A.Touw, *loc. cit.*; isolecto: BM, MEL; Mt Armit, Qld, 1888, *T.Pentzke s.n.*; syn: H.

Illustration: A.Touw, *op. cit.* 308, fig. 32a–i.

Plants erect, dull or somewhat glossy. Fronds umbellate, to 3 cm diam. Distal innovations unknown. Stipe up to 4 cm long, covered with tomentum. Pseudoparaphyllia spreading. Stipe leaves triangular-ovate, 1.6–1.9 mm long, widely spreading to squarrose-recurved; apex weakly acuminate; margin upwards serrate; alar cells inflated, forming an ill-defined group. Branch leaves ovate, 1.7–2.6 mm long; apex acute to short-acuminate; costa ending in the leaf apex, rarely short-excurrent; margin serrate; teeth simple; mid-leaf cells 25–75 µm long.

Sporophytes up to 4. Seta 2.0–4.5 cm long. Capsules short-cylindrical, sulcate, 2.5–4.0 mm long; operculum rostrate. Spores 14–20 µm diam.

Endemic to north-eastern Qld; grows on moist rocks (mostly in stream beds) in rainforest, at altitudes to c. 1550 m.

## **3. Mniodendron comosum** (Labill.) Lindb. ex Paris, *Index Bryol.*, 2nd edn, 3: 262 (1905)

*Hypnum comosum* Labill., *Nov. Holl. Pl. Spec.* 2: 107 (1807); *Isothecium comosum* (Labill.) Brid., *Bryol. Univ.* 2: 374 (1827) p.p.; *Trachyloma comosum* (Labill.) Mitt. ex Mitt., *J. Linn. Soc., Bot.* 4: 86 (1860), as *comosa*; *Hypnodendron comosum* (Labill.) Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 90 (1882). T: In Capite van Diemen, [Tas.], *J.J.H. de Labillardière s.n.*; holo: ?FI n.v.; iso: B, BM, L, US.

*Hypnum sieberi* Müll.Hal., *Syn. Musc. Frond.* 2: 504 (1851); *Isothecium sieberi* (Müll.Hal.) Wilson, in J.D.Hooker, *Fl. Tasman.* 206 (1859); *Hypnodendron sieberi* (Müll.Hal.) Mitt. ex Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 90 (1882); *Mniodendron sieberi* (Müll.Hal.) Paris, *Index Bryol.*, 2nd edn, 3: 263 (1905); *Hypnodendron comosum* var. *sieberi* (Müll.Hal.) Touw, *Blumea* 19: 319 (1971). T: Nova Hollandia [Australia], *H.Sieber (Musc. Nov. Holl.* 4); holo: ?B n.v. (destroyed); lecto: BM; isolecto: FH, H, JE, L, MEL, S-PA, W, *fide* A.Touw, *op. cit.* 319.

[*Bryum dendroides* auct. non Brid.: S.E.Bridel, *Muscol. Recent.* 2(3): 20 (1803), p.p.]

[*Mniodendron dendroides* auct. non (Brid.) Wijk & Marg.: R.Van der Wijk *et al.*, *Index Musc.* 3: 394 (1964), p.p.]

[*Mniodendron comatum* auct. non (Müll.Hal.) Paris: L.Rodway, *Ann. Rep. Roy. Soc. Tasmania* 1913: 212 (1914)]

Illustrations: A.Touw, *op. cit.* 316, fig. 35m–q; G.A.M.Scott & I.G.Stone, *The Mosses of Southern Australia* (frontispiece) (1976); D.Meagher & B.Fuhrer, *A Field Guide to the Mosses and Allied Plants of Southern Australia* 157 (2003), as *H. comosum* var. *sieberi*.

Plants erect, somewhat glossy. Fronds umbellate to pinnate, to 5 cm diam. Distal innovations often present. Stipe to 9 cm long, covered with tomentum. Pseudoparaphyllia spreading. Stipe leaves narrowly triangular-ovate to triangular-ovate-lanceolate, 3.0–5.1 mm long, widely spreading to squarrose-recurved; apex gradually acuminate; costa very strong, excurrent; margin dark-bordered, entire to serrate above; alar cells enlarged, forming a small group. Branch leaves narrowly triangular-ovate, 2.5–5.3 mm long; apex subulate or aristate;

costa very strong, excurrent; margin entire to coarsely serrate, the teeth simple; mid-leaf cells 25–130 µm long.

Sporophytes up to 12, rarely to 35. Seta c. 2–4 cm long. Capsules obconical to cylindrical, deeply sulcate, 2.0–5.5 mm long; operculum rostrate. Spores 12–18 µm diam.  $n = 4$ , *vide* H.P.Ramsay, *Mem. New York Bot. Gard.* 45: 141 (1987).

Occurs in Vic. and Tas., and perhaps N.S.W. Grows on moist humous soil, decaying logs, and wet rocks in cool-temperate rainforest. Also in southern New Zealand, the Auckland Islands and Campbell Island.

N.S.W.: *s. loc.*, *Cartwright 943* (BM). Vic.: Nayook West, near Powelltown, Dec. 1929, *J.H.Willis s.n.* (MEL 34482). Tas.: 5 miles [c. 8 km] N of Pieman R. Heads, *W.Jackson 15* (MEL); St. Crispins, Mt Wellington, *R.A.Bastow 301* (CANTY, MEL).

This species is known in N.S.W. only from a single poorly documented collection.

Two weak varieties (or even species) have been distinguished previously. These, however, intergrade, are largely sympatric, and clear ecological differences have not been found. Tall, usually loosely branched forms ('*sieberi*') have been found throughout the Australian range. Small, compact plants ('*comosum*') may be restricted to Tasmania, but some herbarium collections are simply labelled 'Australia'.

#### Excluded Names

*Mniodendron kroneanum* (Müll.Hal.) A.Jaeger ex Paris, *Index Bryol.*, 2nd edn, 3: 263 (1904)

Erroneously reported from Australia by H.Streimann & J.Curnow (*Catalogue of Mosses of Australia and its External Territories* 196, 1989). This taxonomic synonym of *M. comosum* has been used for plants from Norfolk Island only.

*Mniodendron palmaeum* (Mitt.) Broth., in H.G.A.Engler & K.A.E.Prantl, *Nat. Pflanzenfam.* I, 3(2): 1172 (1909)

*Hypnodendron palmaeum* Mitt., *Proc. Linn. Soc. New South Wales* 7: 103 (1882).

This is a heterotypic synonym of the Indo-Pacific *M. dendroides* (Brid.) Wijk & Margad., and has been reported erroneously from Australia by R.Van der Wijk *et al.* (*Index Muscorum* 2: 533, 1962), W.Schultze-Motel (*Willdenowia* 3: 445, 1963) and others.