

CALOMNIACEAE

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Calomniaceae Kindb., *Bot. Centralbl.* 77: 394 (1899).

Type: *Calomnion* Hook.f. & Wilson

Dioicous. Very slender mosses forming mats on trunks of tree ferns, yellowish green to orange-green. Stems short, erect, filiform, usually less than 10 mm tall, simple, arising from a persistent creeping protonema. Protonema a robust caulonema with pinnate to bipinnate filamentous yellowish green prostrate branches; cells verrucose. Leaves rudimentary, distant, fragile and caducous below, larger and more crowded above, in 3 rows (2 lateral and 1 dorsal), dimorphic; lateral leaves inserted transversely, patent, little-altered when dry, oblong to oblong-lanceolate, acute; dorsal leaves smaller, appressed, apiculate; laminal cells small, isodiametric, 4–6-sided, pellucid, smooth.

Perichaetia and perigonia terminal. Perigonia gemmiform. Perichaetial leaves longer, erect, narrowly oblong or linear-spathulate. Calyptra narrow, cucullate, papillose apically. Setae short, slender. Capsules ovate-cylindrical, erect, symmetrical, brown; mouth reddish; operculum with a long beak, inclined, more than half the length of the theca. Peristome absent.

This family contains a single genus and nine species: one in New Zealand and south-eastern Australia; one endemic to the southern South Island of New Zealand; and one each in Lord Howe Island, Samoa, French Polynesia, Vanuatu, New Caledonia, Ceram (Indonesia) and Norfolk Island, all closely similar, and almost always growing on the trunks of tree ferns.

This family is probably most closely related to the Mitteniaceae and Rhizogoniaceae. *Calomnion* is included in the Rhizogoniaceae by Goffinet *et al.* (2012).

References

- Brotherus, V.F. (1924), Calomniaceae, *Nat. Pflanzenfam.*, 2nd edn, 10: 422–424.
- Goffinet, B., Shaw, A.J. & Buck, W.R. (2012), *Classification of the Bryophyta*. [<http://www.eeb.uconn.edu/people/goffinet/Classificationmosses.html>]
- Sainsbury, G.O.K. (1955), A handbook of New Zealand mosses, *Bull. Roy. Soc. New Zealand* 5: 292–293.
- Stone, I.G. (1990), Nomenclatural changes and new moss species in Australia; including a description of the protonema of *Calomnion*, *J. Bryol.* 16: 261–273.
- Vitt, D.H. (1991), A new species of *Calomnion* (Bryopsida) from Lord Howe Island, *Novon* 1: 53–55.
- Vitt, D.H. (1995), The genus *Calomnion* (Bryopsida): taxonomy, phylogeny, and biogeography, *Bryologist* 98: 338–358.

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CALOMNION

Calomnion Hook.f. & Wilson, in J.D.Hooker, *Fl. Nov.-Zel.* 2: 97 ('1855') [1854]; from the Greek *kalos* (beautiful) and *mnion* (a moss).

Type: *C. laetum* Hook.f. & Wilson [= *C. complanatum* (Hook.f. & Wilson) Lindb.]

Gymnostomum sect. *Eucladon* Hook.f. & Wilson, *London J. Bot.* 3: 538 (1844). T: *G. complanatum* Hook.f. & Wilson [= *C. complanatum* (Hook.f. & Wilson) Lindb.]

Description as for the family.

***Calomnion complanatum* (Hook.f. & Wilson) Lindb., *Acta Soc. Sci. Fenn.* 10: 240 (1872)**

Gymnostomum complanatum Hook.f. & Wilson, *London J. Bot.* 3: 538 (1844). T: Bay of Islands, North Island, New Zealand, [1841], *J.D.Hooker*; lecto: BM, *vide* D.H.Vitt, *Bryologist* 98: 340 (1995); isolecto: BM, FH.

Calomnion laetum Hook.f. & Wilson, in J.D.Hooker, *Fl. Nov.-Zel.* 2: 97 ('1855') [1854], *nom. illeg., incl. spec. prior.* T: "Northern Island", Bay of Islands, New Zealand, [1841], *J.D.Hooker*; syn: BM-Wilson *n.v.*; Waikehi, *Sinclair*; syn: BM-Wilson *n.v.*

Illustrations: G.O.K.Sainsbury, *Bull. Roy. Soc. New Zealand* 5: 291, fig. 3 (1955), as *C. laetum*; I.G.Stone, *J. Bryol.* 16: 271, fig. 1 (1990); D.H.Vitt, *Bryologist* 98: 341, figs 8–14 (1995).

Plants to 10 mm tall. Leaves often caducous; lateral leaves elliptic to oblanceolate, often curling inwards dorsally when dry, 0.75–1.25 mm long; dorsal leaves broadly ovate to orbicular, c. half the length of the lateral leaves; in both types margin unistratose, plane, minutely and regularly crenulate; costa ending a little below the apex; laminal cells 7–10 µm diam.

Perichaetial leaves crowded and overlapping, linear-spathulate, 2.5–3.0 mm long. Setae 2–3 mm long. Capsules ovate-cylindrical, exserted, c. 1 mm long. Spores c. 14 µm diam., brown.

Very rare on the trunks of trees ferns in humid gullies in N.S.W., Vic and Tas. Also in New Zealand.

N.S.W.: Cambewarra Mtn, *W.W.Watts 6568* (NSW); Waterfall Track, Mt Wilson, 25 Sept. 2001, *E.A.Brown* (AD, NSW). Vic.: Ferny Glade, on track to Sealers Cove, 6 Apr. 1994, *D.A.Meagher* (MEL). Tas.: Dip Falls, S of Stanley, *I.G.Stone 25273* (HO, MEL).

Sporophytes are apparently rare in Australian material, only one fertile specimen having been observed. This species is readily confused with other small mosses (e.g. *Rhizogonium* spp. and *Hymenodon pilifer*) that project horizontally from tree fern trunks, so it has possibly been overlooked. Listed as endangered in Australia (G.A.M.Scott *et al.*, *A Conservation Overview of Australian Non-marine Lichens, Bryophytes, Algae and Fungi* 100, 1997) and, in Victoria, as a Threatened taxon under the Flora and Fauna Guarantee Act 1988 (Vic.).