

SPIRIDENTACEAE

David G. Catcheside†

Spiridentaceae Kindb., *Bot. Centralbl.* 76: 85 (1898).

Type: *Spiridens* Nees

Dioicous. Large and robust rigid glossy plants forming loose tufts. Stems round or oval in T.S., with a central strand, a hyaline inner cortex, and a multilayered outer cortex of very thick-walled cells. Primary stem short, rhizomatous, with brown rhizoids; secondary stems moderately long to very long (to 40–50 cm), horizontal or pendent from tree trunks, densely leafy all around, sparingly branched. Paraphyllia lacking. Leaves lanceolate-subulate from a sheathing or semi-sheathing base, terminating in a short to very long arista; costa thick, extending to the arista or excurrent, in T.S. with median guide cells, abaxial stereid groups and scarcely differentiated epidermal cells; lamina with a border 2 to many cells thick throughout.

Perichaetia terminal on very short branches; perichaetial leaves much smaller than vegetative leaves. Calyptra cucullate. Seta short (*Spiridens*) or long (*Franciella*). Capsules erect or weakly bent, thick-walled, with a short apophysis with superficial stomata; operculum rostrate. Peristome double; exostome and endostome \pm equally tall; exostome teeth spirally inrolled when dry, with longitudinal striations externally and dense lamellae internally; basal membrane of endostome \pm developed; processes narrow, keeled, not appendiculate. Spores small.

A family of two genera: *Spiridens* in Malesia, the Philippines, Melanesia, Polynesia and Lord Howe Island (with nine species), and the monotypic *Franciella* Thér. which is endemic to New Caledonia.

Spiridentaceae is subsumed into the Hypnodendraceae in the classification of Goffinet *et al.* (2012).

References

- Goffinet, B., Buck, W.R. & Shaw, A.J. (2012), *Classification of the Bryophyta*. [<http://www.eeb.uconn.edu/people/goffinet/Classificationmosses.html>]
- Miller, H.A., Whittier, H.O. & Whittier, B.A. (1978), *Prodromus florae muscorum Polynesiae*, with a key to genera, *Bryophytorum Biblioth.* 16: 1–334.
- Pursell, R.A. & Reese, W.D. (1982), The mosses reported from New Caledonia, *J. Hattori Bot. Lab.* 53: 449–482.
- Sherrin, W.R. (1938), Revision of the genus *Spiridens*, in H.N.Dixon, On a small collection of mosses from New Guinea, *Ann. Bryol.* 10: 16–19.
- Withey, A. (1996a), *Systematic Studies of the Spiridentaceae (Musci)*. Ph.D. thesis, Duke University.
- Withey, A. (1996b), Phylogenetic studies of the Spiridentaceae (Musci): observations of three morphological characters associated with pleurocarpy, *Anales Inst. Biol. Univ. Nac. Autón México*, Ser. Bot. 67: 5–14 (1996).

Cite as: D.G.Catcheside, *Australian Mosses Online*. 12. *Spiridentaceae*.
http://www.anbg.gov.au/abrs/Mosses_online/Spiridentaceae.pdf (2012)

SPIRIDENS

Spiridens Nees, *Nov. Actorum Acad. Caes. Leop.-Carol. German. Nat. Cur.* 9: 143 (1822); from the Greek *speira* (a coil) and *dens* (teeth), in reference to the spirally inrolled exostome teeth.

T: *S. reinwardtii* Nees.

As for the family, but having a very short seta (unlike *Franciella*).

A Palaeotropical genus of nine species; *S. vieillardii* occurs in Lord Howe Island, but the genus is not known from mainland Australia.

Spiridens vieillardii Schimp., *Nov. Actorum Acad. Caes. Leop.-Carol. German. Nat. Cur.* 32: 8 (1868)

T: New Caledonia, 1862(?), *E.Vieillard*; holo: PC?

Spiridens muelleri Hampe, *Linnaea* 38: 668 (1874). T: Mt Gower, Lord Howe Island, 1872, *J.P.Fullagar*; holo: MEL.

Illustration: V.F.Brotherus, *Nat. Pflanzenfam.*, 2nd edn, 10: 470, fig. 419A–D (1924).

Plants dark green, 15–20 cm tall, sparingly branched above. Leaves densely arranged, spreading, 8–12 mm long, including an arista 4–9 mm long; leaf margin with small teeth 9–16 μ m long, or teeth very sparse or absent; cells of the leaf sheath hyaline, elongate-rhomboid. Laminal cells elongate-rhomboid, bistratose; border thicker, 10–12 cells wide and 2–4 cells thick.

Seta 1–3 mm long. Capsules glossy, curved, c. 5 mm long and 1.5 mm wide; operculum rostrate, c. 2 mm long.

Occurs on and near the wooded summits of Mt Gower and Mt Lidgbird, Lord Howe Island in the south-western Pacific Ocean. Also in forest in Papua New Guinea and New Caledonia.

Lord Howe Island: Mt Lidgbird, 1869, *C.Moore* (MEL); *s. loc.*, *T.Whitelegge* (MEL); summit of Mt Gower, 28 Nov. 1959, *R. Le Rossignol* (MEL); *loc. id.*, June 1966, *J.W.Evans* (NSW); *loc. id.*, 23 May 1971, *J.Pickard* (MEL, NSW); *loc. id.*, *H.Streimann 15185* (NSW); *loc. id.*, *D.H.Vitt 28480* & *H.P.Ramsay* (NSW); ESE side of Mt Lidgbird, *A.C.Beauglehole 73533* (MEL, NSW).