

CALLIERGONELLA

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Calliergonella Loeske, *Hedwigia* 50: 248 (1911); the diminutive of *Calliergon*, in reference to the resemblance of the type species to members of *Calliergon* (Sull.) Kindb.

Type: *C. cuspidata* (Hedw.) Loeske

Dioicous. Stems creeping to erect, irregularly subpinnately branched, terete-foliate to slightly complanate; stem and branch apices cuspidate or hooked; in cross section with a 1-layered hyalodermis and 3–5 layers of small thick-walled cells surrounding broader thin-walled cells; central strand present. Pseudoparaphyllia foliose, rather large. Stem and branch leaves differentiated; stem leaves longer and broader; branch leaves appressed to erecto-patent or falcate-secund, oblong-ovate to oblong-lanceolate, concave; margin entire throughout or somewhat serrulate at the apex; costa short and double. Laminal cells linear, smooth, firm-walled, not or scarcely pitted; alar cells conspicuous, hyaline, inflated, forming auricles.

Perichaetia conspicuous; perichaetial leaves linear to narrowly ovate-lanceolate, ±abruptly acute to short-acuminate, plicate. Calyptra not seen. Seta smooth. Capsules exserted, inclined, arcuate, asymmetrically cylindrical; exothecial cells short-rectangular, thick-walled, ±collenchymatous; stomata at the capsule base, phaneropore; annulus differentiated. Peristome hypnoid, with 2–4 cilia. Operculum steeply conical-apiculate. Spores spherical, finely papillose.

Calliergonella, a genus of two accepted species, occurs in temperate and boreal areas of the Northern Hemisphere as well as in temperate Australasia. Traditionally included in the Amblystegiaceae because of its resemblance to *Calliergon*, it differs from members of that family by characters such as the short and double costa and the plicate perichaetia. Hedenäs (1990) tentatively placed *Calliergonella* in the Hypnaceae.

Reference

Hedenäs, L. (1990), Taxonomic and nomenclatural notes on the genera *Calliergonella* and *Breidleria*, *Lindbergia* 16: 161–168.

Calliergonella cuspidata (Hedw.) Loeske, *Hedwigia* 50: 248 (1911)

Hypnum cuspidatum Hedw., *Sp. Musc. Frond.* 254 (1801); *Acrocladium cuspidatum* (Hedw.) Lindb., *Musci Scand.* 39 (1879); *Calliergon cuspidatum* (Hedw.) Kindb., *Canad. Rec. Sci.* 6: 72 (1894). T: not designated.

Illustrations: W.R.Buck, D.H.Vitt & W.M.Malcolm, *Key to the Genera of Australian Mosses* 24 (2002); D.Meagher & B.Fuhrer, *A Field Guide to the Mosses and Allied Plants of Southern Australia* 55 (2003); B.Malcolm, N.Malcolm, J.Shevock & D.Norris, *California Mosses* 280 (2009).

Plants rather robust, glossy green to yellowish green or brownish, growing in tufts or mats. Stems creeping to erect, irregularly pinnately branched, terete-foliate to slightly complanate, the stems and branches cuspidate. Stem leaves appressed, ovate, 1.5–2.3 mm long, 0.8–1.0 mm wide, acute to obtuse-apiculate. Branch leaves erecto-patent, narrowly ovate, 1–2 mm long, 0.4–0.6 mm wide, acute; margin entire to slightly crenulate, plane below to erect above; costa short and double, faint. Laminal cells linear, somewhat flexuose, 40–95 × 4–7 µm, firm-walled, not or scarcely pitted, smooth; alar cells conspicuously and abruptly differentiated, hyaline, inflated, forming distinct auricles.

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Perichaetial leaves linear to narrowly ovate-lanceolate, deeply plicate. Seta 35–70 mm long, reddish brown, smooth, twisted. Capsules inclined, arcuate, cylindrical, 2.5–4.0 mm long, smooth. Spores 14–22 μm diam.

Known from the Blue Mountains and Southern Tablelands in N.S.W., and in the A.C.T., Vic., and Tas.; terrestrial in wet grasslands or partially submerged in pools, from sea level to 1450 m. Widespread in the temperate and boreal Northern Hemisphere; probably introduced into Australia and New Zealand.

N.S.W.: Leura, Blue Mtns, *M.Dingley* (NSW). A.C.T.: Bimberi Ck, Bimberi Ra., *H.Streimann 4228* (CANB). Vic.: South Belgrave, *A.Thies 1013* (MEL). Tas.: Junee Cave, c. 4 km NW of Maydena, *N.Klazenga 5567* (MEL).

Calliergonella cuspidata has often been confused another Australian species with cuspidate stem and branch apices, *Acrocladium chlamydophyllum*. However, the former has leaves about twice as long as wide (c. as long as wide in *A. chlamydophyllum*). Furthermore, in *C. cuspidata* the stems and branches possess a hyalodermis, they are not turgid as they are in *A. chlamydophyllum*, and the stem and branch leaves differ.

Some specimens collected from thermal pools almost completely lack the cuspidate stem and branch apices, but these can still be recognised as *C. cuspidata* by the other features.