CHENIA

Helen M. Jolley[1] *& Josephine Milne*[2]

Chenia R.H.Zander, *Phytologia* 65: 424 (1989); named in honour of the Chinese bryologist Chen Pan Chieh (1907–1970).

Type: *C. subobliqua* (R.S.Williams) R.H.Zander

Diocious. Plants pale green, forming turfs. Stems usually simple, rarely branched; central strand present. Leaves contorted when dry, spreading when wet, ligulate to spathulate; margin plane; upper margins dentate or crenulate; costa percurrent or subpercurrent. Laminal cells smooth; laminal KOH colour reaction red. Asexual propagation by rhizoidal tubers.

Perichaetia terminal; inner leaves scarcely differentiated from cauline leaves. Seta c. 1–12 mm long, reddish brown, twisted clockwise. Capsules stegocarpous or cleistocarpous, short-ovate, subspherical or cylindrical, 0.7–2.0 mm long, annulus consisting of 2 or 3 layers of strongly vesiculose cells, persistent. Peristome teeth 32, filamentous, straight or weakly twisted anticlockwise. Calyptra mitriform or cucullate. Spores 10–20 µm diam., pale brown, ±smooth or finely papillose. [Sporophyte characters from Zander (1993) and Arts & Sollman (1991).]

Chenia, a genus of three species, occurs in North, Central and South America, Europe, Africa, Asia, Australasia and the Pacific. One species is known from Australia.

References

Arts, T. & Sollman, P. (1992), Remarks on *Phascum leptophyllum* Mull.Hal., an earlier name for *Tortula rhizophylla* (Sakurai) Z.Iwats. & K.Saito, *Lindbergia* 17: 20–27.

Guerra, J. & Cano, M.J. (2000), A taxonomic contribution on the European cleistocarpous species of Pottiaceae (Musci), *J. Bryol.* 22: 91–97.

Sollman, P. ('1995') [1996], Studies on some Australian pottiaceous mosses, *Lindbergia* 20: 144–146.

Stone, I.G. (1989), Revision of *Phascum* and *Acaulon* in Australia, *J. Bryol.* 15: 745–777.

Streimann, H. (2002), *The Mosses of Norfolk Island* 123–125.

Zander, R.H. (1993), Genera of the Pottiaceae: mosses of harsh environments, *Bull. Buffalo Soc. Nat. Sci.* 32: 1–378.

Zander, R.H. (2007), *Chenia*, *Fl. N. America* 27: 633–634.

Chenia leptophylla (Műll.Hal.) R.H.Zander, *Bull. Buffalo Soc. Nat. Sci.* 32: 258 (1993)

Phascum leptophyllum Műll.Hal., *Flora* 71:6 (1888). T: Germany, *n.v.*

Physcomitrium rhizophyllum Sakurai, *Bot. Mag. (Tokyo)* 52: 469 (1938); *Tortula rhizophylla* (Sakurai) Z.Iwats. & K.Saito, *Misc. Bryol. Lichenol.* 6: 59 (1972). T: Koonose, Kumamoto, Japan, 5 Oct. 1936, *H.Takahashi*; Hb.Sakurai 10046 *n.v.*

Tortula evanescens Broth., *Proc. Linn. Soc. New South Wales* 41: 582 (1916). T: Green Gully, near Young, N.S.W., Sept. 1902, *W.W.Watts 6914*; H-BR, NSW.

Illustrations: R.H.Zander, *op. cit.* 257, pl. 104, figs 9–13 (1993); H.Streimann, *op. cit.* 124, fig. 55.

Plants to 10 mm tall, pale green, turf-forming. Leaves contorted when dry, spreading when wet, ligulate to spathulate, wider above middle, 1.5–2.5 mm long, 0.50–0.75 mm wide;

[1] Royal Botanic Gardens Melbourne, Birdwood Avenue, South Yarra, Vic. 3141, Australia

[2] Royal Botanic Gardens Melbourne, Birdwood Avenue, South Yarra, Vic. 3141, Australia

Cite as: H.M.Jolley & J.Milne, *Australian Mosses Online. 57. Pottiaceae: Chenia.* http://www.anbg.gov.au/abrs/Mosses_Online/Pottiaceae_Chenia.pdf (2012)

margins plane, sharply crenulate to irregularly dentate above, with sharp mid-marginal wall projections ending in simple papillae; apex acute, short-apiculate; costa weak, percurrent to subpercurrent, apiculate. Upper laminal cells hexagonal, bulging, 18–23 µm wide, smooth on both surfaces; basal laminal cells rectangular, 20–25 × 35–40 µm, smooth. Sporophyte unknown in Australia.

Occurs in N.T. (one disjunct collection from Central Australia), S.A. (one record), south-eastern Qld and eastern N.S.W.; grows on soil in disturbed areas. Also in southern U.S.A., Central and South America, Europe, West Africa, southern Africa, Malesia, East Asia, New Zealand and the Pacific Islands (including Norfolk Island).

N.T.: Standley Chasm, *I.G.Stone 5163* (MEL). S.A.: parklands, city of Adelaide, *G.H.Bell 1739* (AD). Qld: Cania, *I.G.Stone 20993* (MEL); Cania Gorge Natl Park, *I.G.Stone 20941, 20978, 21028, 21031, 21035, 21056, 21059, 21082, 21086, 21091, 21092* (MEL); Colosseum Creek, Miriam Vale, *I.G.Stone 21480* (MEL); Maryborough Park, *I.G.Stone 13309* (MEL); Kingaroy, *I.G.Stone 17719* (MEL); Pistol Club, Nambour-Maroochydore, *I.G.Stone 4589* (MEL); W end of Bunya Mtns, *I.G.Stone 4570B* (MEL); Aspley, *I.G.Stone 25816* (MEL); Mount Coot-tha, *I.G.Stone 13115* (MEL); Dawson Ck, between Mt Nebo and Mt Glorious, I.G.Stone 13147 (MEL); Brisbane Botanic Gardens, *I.G.Stone 13106* (MEL); Moore Park, Indooroopilly, *I.G.Stone 22923* (MEL); Burleigh Heads, *K.Carafella* [*IGS 21725*] (MEL); Browns Falls, near Killarney, *I.G.Stone 13228* (MEL); Palm Creek, Mount Lindesay Hwy, *I.G.Stone 13105* (MEL). N.S.W.: Hume Hwy rest area, S of Mittagong, *I.G.Stone 21723* (MEL); Whian Whian S.F., *I.G.Stone 21114* (MEL); Jansens, McLeans Ridges, Richmond River, *W.W.Watts NSW 3372* (NSW); Balls Head, Sydney, *I.G.Stone 21706* (MEL); Merimbula, *H.Streimann 46925* (CANB); Royal Botanic Gardens Sydney, R.G.Coveny 14080b (NSW).

Norfolk Island: King Fern Valley, Mount Pitt Reserve, *H.Streimann 34559* (CANB); Rocky Point Reserve, *H.Streimann 53852* (CANB); 'The Cockpit', Cascade Creek Valley, *H.Streimann 34786* (CANB).

Chenia leptophylla is readily recognised by the ligulate to spathulate leaves, the crenulate or dentate upper leaf margins with cells having a simple papilla, as well as large, smooth laminal cells and the red KOH reaction of the lamina.

The correct generic placement of this species remains uncertain. Guerra & Cano (2000) transferred it to their new monospecific genus *Leptophascum* [as *L. leptophyllum* (Müll.Hal.) J.Guerra & M.J.Cano] mainly because Zander's (1993) concept of *Chenia* was deemed too broad, including species with either stegocarpic and cleistocarpic capsules. The gametophyte characters of *Leptophascum* include: "plants of middle size, with rhizoidal tubers, costa in cross-section at middle part of leaf showing a very well-developed dorsal and ventral epidermis and 2–3 guide cells in one layer and no stereids" (Guerra & Cano, 2000). Sporophyte attributes include ovoid or subspherical capsules that are immersed and cleistocarpous, without any trace of an operculum. The seta is very short, the c. 0.25 mm long beak is rostrate and phaneropore stomata occur at the base of the capsule.

While the diagnostic gametophyte characters of *C. leptophylla* (including costal anatomy) agree with those recognised by Zander (1993), sporophytes have not been observed in Australian material; consequently, sporophyte characters employed by Guerra & Cano (2000) to justify the its transfer to *Leptophascum* cannot be confirmed. Until fertile Australian material is examined, this taxon should be retained in *Chenia*.