

ATRICHUM

Jaakko Hyvönen¹

Atrichum P.Beauv., *Mag. Encycl.* 5: 329 (1804), *nom. cons.*; from the Greek *a-* (without) and *trichos* (a hair), in reference to the calyptra lacking the thick covering of hairs typical of many genera of Polytrichaceae.

Type: *A. undulatum* (Hedw.) P.Beauv.

Catharinea Ehrh. ex F.Weber & D.Mohr, *Index Mus. Pl. Crypt.* 2 (1803). T: *C. undulata* (Hedw.) F.Weber & D.Mohr [= *Atrichum undulatum* (Hedw.) P.Beauv.]

Dioicous or monoicous. Plants loosely caespitose, pale green to brown. Stems erect, unbranched. Rhizoids restricted to the stem base and the bases of the lowermost scale-like leaves. Leaves crisped when dry, erect-spreading when moist; lamina linear-lanceolate, gradually narrowing to a sharp apex, with ovate to subquadrate dorsal cells; margin serrate with duplicate teeth, bistratose, with differentiated elongated marginal cells; sheathing base poorly differentiated, the cells subquadrate to rectangular with firm walls, sometimes with cuticular papillae; costa percurrent to excurrent, apically sharply serrate with numerous abaxial teeth, these often also present in oblique rows on abaxial laminal surface; lamellae sparse or absent on adaxial surface of costa, to 5 cells high, ±straight or crenate by margin, with subquadrate to ovate cells.

Calyptra apically smooth to rough, with a few short hairs. Setae solitary or several in each perichaetium. Capsules erect or slightly inclined, pale to dark brown; urn cylindrical, terete; exothecial cells subquadrate to elongate, with firm walls; stomata absent; operculum rostellate. Peristome with a low or high basal membrane; teeth 32, with a darker median part; epiphragm attached to apices of peristome teeth. Spores with a granulose surface.

A genus of c. 15–20 species predominantly in temperate regions of both hemispheres. Represented in Australia by one non-endemic species, *Atrichum* is a pioneer plant of open soil and, unlike most other genera of the family, it is not xerophytic but restricted to shady and moist habitats.

Reference

E.Nyholm, Studies in the genus *Atrichum* P.Beauv., *Lindbergia* 1: 1–33 (1971).

Atrichum androgynum (Müll.Hal.) A.Jaeger, *Ber. Tätigk. St. Gallischen Naturwiss. Ges.* 1873–74: 241 (1875)

Catharinea androgyna Müll.Hal., *Syn. Musc. Frond.* 1: 193 (1848). T: Swellendam, South Africa, *Ecklon; n.v.*

Catharinea muelleri Müll.Hal. & Hampe, *Linnaea* 26: 500 (1855); *Atrichum muelleri* (Müll.Hal. & Hampe) A.Jaeger, *Ber. Tätigk. St. Gallischen Naturwiss. Ges.* 1873–74: 243 (*Gen. Sp. Musc.* 1: 705) (1875), *nom. illeg.* (later homonym). T: Bunip [Bunyip] Ck and Dandenong Ra., Vic., Jan. 1853, *F.Mueller; n.v.*

Polytrichum ligulatum Mitt., *Hooker's J. Bot. Kew Gard. Misc.* 8: 262 (1859); *Atrichum ligulatum* (Mitt.) Mitt., *J. Proc. Linn. Soc.* 4: 97 (1860); *Catharinea ligulata* (Mitt.) Müll.Hal., *Genera Musc. Frond.* 165 (1900). T: Bornip [Bunyip] Ck, Vic., *F.Mueller* 8; syn: BM, MEL; *F.Mueller* 12; syn: BM; Tarwin, Vic., *F.Mueller* 121; syn: BM.

Atrichum angustatum (Brid.) Bruch & Schimp. var. *polysetum* Wilson, in J.D.Hooker, *Fl. Tasman.* 2: 200 (1859); *Atrichum angustatum* (Brid.) Bruch & Schimp. var. *polysetum* Watts & Whitel., *Proc. Linn. Soc. New South Wales* 27 (Suppl.): 15 (1902), *nom. inval.* (basionym not cited). T: South Port Narrows, Tas., *A.F.Oldfield* 66b; syn: BM; Creek Town, Tas., *A.F.Oldfield* 68; syn: BM.

¹ Plant Biology, P.O. Box 65 & Botanical Museum, Finnish Museum of Natural History, P.O. Box 7, FIN-00014 University of Helsinki, Finland.

Catharinea minuta Müll.Hal., *Hedwigia* 36: 336 (1897); *Atrichum minutum* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 17 (1900); *Oligotrichum minutum* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 17 (1900). T: Mt Wellington, Tas., *D.Kayser*; *n.v.*

Catharinea sideroloma Müll.Hal., *Hedwigia* 36: 337 (1897); *Atrichum sideroloma* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 257 (1900). T: Moe R., Gippsland, Vic., 1881, *Luehmann*; *n.v.*

Catharinea pusilla Müll.Hal., *Hedwigia* 36: 338 (1897); *Atrichum pusillum* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 17 (1900). T: Marydale, Tas., 5 Dec. 1890, *W.A.Weymouth*; iso: H.

Catharinea leptocylindrica Müll.Hal., *Hedwigia* 36: 338 (1897); *Atrichum leptocylindricum* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 17 (1900). T: Fishen Bush, Oxford, North Canterbury, North Island, New Zealand, 1892, *T.W.Naylor Beckett*; syn: H; Genoa River, Vic., 1885, *W.Baeuerlen*; syn: Delegate, N.S.W., *W.Baeuerlen*.

Illustrations: E.Nyholm, *Lindbergia* 1: 27, fig. 15 (1971); G.A.M.Scott & I.G.Stone, *The Mosses of Southern Australia* 72, pl. 4 (1976); J.Beever, K.W.Allison & J.Child, *Mosses of New Zealand*, 2nd edn 24, fig. 9a–e; 56, pl. 4 (1992).

Stems to 6 cm tall. Leaves 5.7–9.5 mm long; lamina 0.9–1.5 mm wide, with teeth usually in oblique rows on abaxial surface; laminal cells of sheathing base sometimes with cuticular papillae; costa percurrent, with 3 or 4 lamellae on adaxial surface; lamellae \pm straight or slightly crenate by upper margin, 2–5 cells high.

Setae 1–5 in each perichaetium. Urn 3.2–7.4 mm long, 0.5–0.9 mm wide. Spores 11–17 μ m diam. $n = 14$, *vide* H.P.Ramsay, *J. Hattori Bot. Lab.* 82: 215 (1997).

Occurs in N.S.W., A.C.T., Vic. and Tas.; also in New Zealand, Lord Howe Island, Central and South America and southern Africa. Grows on shaded soil in moist habitats.

N.S.W.: Tallaganda State Forest, *H.Streimann 37840* (HO). A.C.T.: Cotter Valley, *N.T.Burbidge 6992* (CANB). Vic.: Kallista, *I.G.Stone 527* (MEL). Tas.: Marakooa Cave State Reserve, *A.Moscal 24377* (HO); Fern Glade, *A.V.Ratkowsky H98* (HO).

The species is readily distinguished from all other Australian Polytrichaceae by its long, narrow urn and leaves with only 3 or 4 low lamellae. Leaves are also typically crisped when dry.