

## POLYTRICHADELPHUS

Jaakko Hyvönen<sup>1</sup>

*Polytrichadelphus* (Müll.Hal.) Mitt., *J. Proc. Linn. Soc., Bot.* 4: 97 (1860); from the Greek *poly* (many), *trichos* (a hair) and the Greek *adelphos* (a brother), in reference to the close relationship to the genus *Polytrichum*.

Type: *P. magellanicus* (Hedw.) Mitt.

Dioicous. Plants loosely caespitose, dark green to brown. Stems erect, simple (rarely branched). Rhizoids restricted to subterranean part of stem. Leaves appressed when dry, recurved when moist; lamina linear-lanceolate, gradually narrowing to an acute apex, with ovate to subquadrate dorsal cells; margin serrate with unicellular teeth, distinctly upcurved, unistratose; costa slightly excurrent, reddish brown, apically sharply serrate with abaxial teeth; sheathing base ovate, gradually or abruptly narrowing to lamina, with subquadrate to rectangular cells with firm walls; lamellae almost covering the lamina.

Calyptra sparsely hairy. Setae usually solitary, terminal or pseudolateral by subperichaetial innovation. Capsules inclined, pale to dark brown; urn with 2 distinct angles (crescent-shaped in cross-section); exothecial cells subquadrate, with firm walls; stomata restricted to basal third of capsule; operculum rostellate. Peristome teeth 64, pale brown; epiphragm thin, attached to peristome teeth apices. Spores with a granulose surface.

A genus of about ten species in Australia, New Zealand, New Guinea, South America and Tristan da Cunha. Represented in Australia by the non-endemic *P. magellanicus*, a pioneer of soil in open habitats.

### ***Polytrichadelphus magellanicus* (Hedw.) Mitt., *J. Proc. Linn. Soc., Bot.* 4: 97 (1860)**

*Polytrichum magellanicum* Hedw., *Sp. Musc. Frond.* 101, pl. 20, figs 1, 2 (1801). T: Fretum Magellanicum, *P. Commerson*; lecto: PC *n.v.*

*Catharinea arnoldii* Hampe, *Linnaea* 38: 664 (1874); *Polytrichadelphus arnoldii* (Hampe) A.Jaeger, *Ber. Tätigk. St. Gallischen Naturwiss. Ges.* 1873–74: 246 (1875); *Oligotrichum arnoldii* (Hampe) Kindb., *Enum. Bryin. Exot.* 68 (1888). T: Mt Arnold, Australian Alps, *coll. unknown*; iso: H-BR.

*Catharinea innovans* Müll.Hal., *Bot. Zeitung (Berlin)* 9: 548 (1851); *Polytrichadelphus innovans* (Müll.Hal.) A.Jaeger, *Ber. Tätigk. St. Gallischen Naturwiss. Ges.* 1873–74: 245 (1875); *Oligotrichum innovans* (Müll.Hal.) Kindb., *Enum. Bryin. Exot.* 69 (1888). T: Mt Wellington, Tas., *S.Mossman* 752; iso: JE.

*Catharinea australasica* Hampe, *Linnaea* 40: 315 (1876); *Polytrichadelphus australasicus* (Hampe) A.Jaeger, *Ber. Tätigk. St. Gallischen Naturwiss. Ges.* 1877–78: 453 (1879); *Oligotrichum australasicum* (Hampe) Kindb., *Enum. Bryin. Exot.* 68 (1888). T: “subtropical eastern Australia”, *Eaves; n.v.*

*Catharinea lagenacea* Müll.Hal., *Hedwigia* 36: 338 (1897); *Polytrichadelphus lagenaceus* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 279 (1900). T: Marydale, Tas., 5 Dec. 1891, *W.A.Weymouth*; iso: H-BR.

*Catharinea profillicans* Müll.Hal., *Hedwigia* 36: 339 (1897); *Polytrichadelphus prolificans* (Müll.Hal.) Paris, *Index Bryol. Suppl.* 1: 279 (1900). T: Mt Wellington, Tas., *J. & B.Gullwer*; iso: H-BR.

Illustrations: G.O.K.Sainsbury, *Bull. Roy. Soc. New Zealand* 5: 32, pl. 2, fig. 1 (1955); J.Beever, K.W.Allison & J.Child, *Mosses of New Zealand*, 2nd edn 25, fig. 10a–h (1992); M.M.Schiavone, *Fl. Criptogámica de Tierra del Fuego* XIV (12): 19, pl. IV (1993).

Stems to 14.5 cm tall. Leaves appressed when dry, recurved when moist, 5.8–9.6 mm long; lamina 0.5–1.0 mm wide; abaxial cells with incrassate outer walls; margin flat to distinctly upcurved, unistratose, 2 or 3 cells wide; sheathing base rather abruptly widened; costa with apical abaxial teeth; lamellae 34–50, on adaxial surface of lamina, 5–9 cells high, distinctly

---

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

crenate by upper margin, with apical cells pyriform (in cross-section) with a distinctly incrassate outer wall.

Urn 4.1–6.8 mm long, 2.2–3.9 mm wide. Spores 10–15  $\mu\text{m}$  diam.  $n = 7$ , *vide* H.P.Ramsay, *J. Hattori Bot. Lab.* 82: 221 (1997).

Occurs in Vic. and Tas.; also in New Zealand and South America. This coloniser of open soil is often locally abundant.

Vic.: Acheron Way, *H.Streimann 50814* (CANB, KRAM, MAHU, NY, TBA); Bogong High Plains, *I.G.Stone 9408* (MEL); Mt Donna Buang State Forest, *A.W.Thies FN1468H* (MEL). Tas.: Fern Glade, *D.A. & A.V.Ratkowsky B339* (MEL); Lachland Rd, *A.V.Ratkowsky H356* (HO).

*Polytrichadelphus magellanicus* is distinguished from other large species of Polytrichaceae by its capsules having two distinct angles giving them a crescent shape in cross-section. Plants occurring in Australia and New Zealand have been treated as a distinct species, *P. innovans*. However, I am inclined to treat all specimens from both sides of the Pacific Ocean as belonging to *P. magellanicus*.