

PLEUROPHASCACEAE*

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Pleurophascaceae Broth., in H.G.A.Engler & K.A.E.Prantl, *Nat. Pflanzenfam.* I, 3: 774 (1906).

Type: *Pleurophascum* Lindb.

Plants medium-sized to robust, comose, terrestrial. Primary stem creeping, with pale smooth rhizoids and scattered rudimentary leaves. Secondary stems erect, crowded, densely leafy, greenish yellow, rather glossy. Leaves ecostate, loosely imbricate, plane to strongly concave. Laminal cells large, thick-walled, markedly porose, rhomboid or oval above, elongate basally, with a few short or quadrate alar cells, containing oil globules.

Dioecious or autoecious. Perigonia bud-like, lateral or terminal. Perichaetia on short lateral branches or terminal on secondary stems; paraphyses filamentous. Calyptra smooth, cucullate, soon deciduous. Seta greenish, short to long. Capsules pale green, yellow to orange-brown when mature, obovoid, globose or discoid, cleistocarpous, with a short to moderately long apiculus.

Following molecular and morphological studies that suggested placement of *Pleurophascum* in the Bryaceae or, possibly, the Pottiaceae, there is now a consensus that this quite remarkable genus belongs in its own family (Fife & Dalton, 2005; Goffinet *et al.*, 2012).

Pleurophascaceae includes a single genus, *Pleurophascum*, and three species. Two are endemic to Australia and one, *P. ovalifolium* Fife & P.J.Dalton, only occurs west of the Great Divide in South Island, New Zealand.

References

- Fife, A.J. & Dalton, P.J. (2005), A reconsideration of *Pleurophascum* (Musci: Pleurophascaceae) and specific status for a New Zealand endemic, *Pleurophascum ovalifolium* stat. et nom. nov., *New Zealand J. Bot.* 43: 871–884.
- Goffinet, B., Buck, W.R. & Shaw, A.J. (2012), *Classification of the Bryophyta*. [<http://www.eeb.uconn.edu/people/goffinet/Classificationmosses.html>]
- Scott, G.A.M. & Stone, I.G. (1976), *The Mosses of Southern Australia* 166–168.
- Wyatt, R. & Stoneburner, A. (1989), *Pleurophascum occidentale*: a new moss from Western Australia, *Bryologist* 92: 299–301.

PLEUROPHASCUM

Pleurophascum Lindb., *London J. Bot.* 13: 167 (1875); from the Greek *pleuron* (lateral) and *phascon* (an indeterminate cryptogam), in reference to the capsules of *P. grandiglobum* originating from short lateral branches.

Type: *P. grandiglobum* Lindb.

Description as for the family.

* This treatment, based primarily on a Flora account prepared by David Catcheside in the early 1990s, has been supplemented by recent information on morphology, sexuality and expanded distributional and habitat ranges (Fife & Dalton, 2005).

Key

- Leaves markedly concave, broadly ovate-oblong, spatulate, 2–4 mm long, 1.0–1.8 mm wide, with a short entire tip, this occasionally longer and twisted; seta 10–24 mm long; capsules globose, 2.6–4.9 mm diam.; Tas. **1. *P. grandiglobum***
- Leaves almost plane, elliptical, c. 6 mm long and 2.5 mm wide, with a short hoary serrate tip; seta c. 1 mm long; capsules broadly obovoid, 2–3 mm long; south-western W.A. **2. *P. occidentale***

1. *Pleurophascum grandiglobum* Lindb., *London J. Bot.* 13: 168 (1875)

T: Picton R., Tas., 1875, *R. Johnston*; holo: BM.

Leptangium tumidum Mitt., *Trans. & Proc. Roy. Soc. Victoria* 19: 66 (1882); *Gigaspermum tumidum* (Mitt.) Kindb., *Enum. Bryin. Exot.* 91 (1889). T: Tas., *W. Archer s.n.*; holo: NY, *n.v.*, *fide* I. Herrnstadt, C.C. Heyn & M.R. Crosby, *Bryologist* 83: 539, fig. 2; 540, fig. 4 (1980).

Phascum grandiglobum Lindb. ex Bastow, *Pap. & Proc. Roy. Soc. Tasmania* 1886: 46 (1887), *nom. nud.*

Illustrations: G.A.M. Scott & I.G. Stone, *op. cit.* 167, fig. 27; D. Meagher & B. Fuhrer, *A Field Guide to the Mosses and Allied Plants of Southern Australia* 103 (2003); A.J. Fife & P.J. Dalton, *op. cit.* 875, fig. 2A, F.

Plants usually dark brown below and yellow-green or bronze above, comose; secondary stems 1–3 cm tall. Leaves oblong, spatulate, markedly concave, commonly 2–3 mm long, c. 1 mm wide, occasionally to 3.5–4.0 mm long and 1.5–1.8 mm wide, smaller basally, contracted abruptly to a short point or long hair, often twisted; margin entire, revolute from base almost to the apex. Laminal cells large, thick-walled, porose, rhomboid above, mostly 60–70 × 20–24 µm, longer towards the base, reaching 120–180 × 18–22 µm; a few at the angles short and quadrate; marginal cells short-rectangular or quadrate; hairpoint ending in 3–5 elongate cells.

Perigonia lateral, gemmiform, lacking innovations. Perichaetia on short lateral branches, lacking innovations; perichaetial leaves paler than vegetative leaves, softer, 2.5–4.0 mm long, 1.0–1.5 mm wide, sheathing; apical hair shorter. Calyptra cucullate, dark brown. Seta 10–24 mm long. Capsules globose, dull orange or brown-orange, 2.6–4.9 mm diam.; rostrum apiculate, 0.20–0.35 mm long; stomata present; columella conspicuous. Spores oval, smooth, 35–57 µm diam. [with additional details from Fife & Dalton, 2005].

Endemic to Tasmania, in subalpine button-grass plains, on wet peat between tussocks or in boggy pools or flushes.

Tas.: Mt Anne, 27 Sept. 1984, *P.J. Dalton & D.G. Catcheside* (CHR); Mt Tim Shea, 13 km W of Maydena, 26 Apr. 1992, *H. Lepp & J.A. Curnow* (CANB); trail to Adamsons Peak, Huon Valley, 11 Nov. 1973, *D.H. Norris* (CANB); Scotts Peak Rd, Derwent Valley, *coll. unknown* (CANB 738618).

2. *Pleurophascum occidentale* R.E. Wyatt & A.H. Stoneb., *Bryologist* 92: 299 (1989)

T: Robinsons Gully, Two Peoples Bay Nature Reserve, 30 km E of Albany, W.A., 19 Aug. 1984, *A. Stoneburner & R. Wyatt* 4373; holo: DUKE; iso: CANB, CHR, MICH, MO, NY, PERTH, US.

Illustrations: R. Wyatt & A. Stoneburner, *op. cit.* 300, figs 1–5; A.J. Fife & P.J. Dalton, *op. cit.* 875, fig. 2G.

Plants hoary, comose, yellow-green and glossy above, bronze-green below; secondary stems 2–3 cm tall. Leaves imbricate, usually c. 5–6 mm long, 2.5–3.0 mm wide, elliptical, contracted to a hyaline hoary apex bearing a short point; margin revolute, coarsely dentate near the apex. Cells laxer than in *P. grandiglobum*, with thinner porose walls; upper laminal cells 50–60 × 20–30 µm; lower cells 90–130 × 25–30 µm; a few cells at margin quadrate and with thinner walls.

Perigonia and perichaetia terminal, subtended by innovations. Calyptra not seen. Seta c. 1 mm long. Capsules broadly obovoid, pale orange, c. 2–3 mm long; stomata absent; columella inconspicuous. Immature spores smooth, 45–78 µm diam [Fife & Dalton, 2005].

Forms loose mats on shallow sandy or stony soil in heath and forest in south-western W.A.; endemic.

W.A.: Sheoak Ridge along Little Beach Rd, Two Peoples Bay Nature Reserve, 30 km E of Albany, *A. Stoneburner & R. Wyatt* 4383 (PERTH); The Pass, Sheepwash S.F., Denmark area, 28 May 2001,

B.G.Hammersley 2762 (PERTH); Plantagenet, 28 May 2001, *B.G.Hammersley* (MEL); Vermeulen Rd, Giants Forest Block, off South Coast Hwy W of Bowbridge, 19 June 2004, *K.Syme* (MEL); W ridge above Hay R., c. 12 km WSW of Narrikup, 27 Oct. 1994, *R.W.Hearn & A.R.Annels* (PERTH); S slopes of Boulder Hill, 16 Aug. 1999, *S.Barrett* 768 (PERTH); 2 km along Moyle Rd from Two Peoples Bay Rd, *S.Barrett* 861 (PERTH); Shire Reserve 33521, S of Pallinup R., near Kuch Rd, *S.Barrett* 1619 (PERTH).