

LEUCOPHANES

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Leucophanes Brid., *Bryol. Univ.* 1: 763 (1827); from the Greek prefix *leuco-* (white), and *phanos* (light, bright), in reference to the pale leaves, due in part to hyaline basal cells.

Type: *L. octoblepharoides* Brid.

Slender plants in thick whitish to pale green glossy tufts. Leaves erect, spreading, lanceolate to linear. Lamina narrow or broad below, composed of hyaline cells with a differentiated border of rectangular to linear cells to which the lamina is restricted in upper part of the leaf, and where it consists of linear thick-walled cells in several layers. Costa widening above to occupy most of the leaf width (forming a 'pseudolamina') and consisting of 2 or more layers of hyaline leucocysts enclosing a network of chlorocysts, the central part of the costa with a group of stereids (stereome) forming a pseudocosta. Gemmae occasionally present at leaf tips.

Perichaetia terminal or lateral. Capsules erect, cylindrical, glossy, on long setae; operculum rostrate; calyptra cucullate, entire. Peristome teeth 16, linear-lanceolate, entire or occasionally split below, somewhat papillose..

A pantropical genus of c. 40 species; three in Australia.

References

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Eddy, A. (1990), *A Handbook of Malesian Mosses* 2: 30–49.

Enroth, J. (1990), Bryophyte flora of the Huon Peninsula, Papua New Guinea XXXVI. Leucobryaceae (Musci), *Acta Bot. Fennica* 139: 65–120.

Gangulee, H.C. (1971), *Mosses of Eastern India and adjacent regions* 1(2): 431–446.

Salazar Allen, N. (1993), A revision of the pantropical moss genus *Leucophanes* Brid., *Bryophyt. Biblioth.* 46: 1–281.

- 1 Plants to 6 cm tall; leaves ovate-lanceolate; lamina narrow at the leaf base (Sect. *Leionotus*).....**2. L. candidum**
- 1: Plants to 3 cm tall; leaves linear or linear-lanceolate; lamina broad at the leaf base (Sect. *Tropinotus*)...2
- 2 Pseudocosta smooth abaxially; leucocysts hexagonal or quadrate to short- ...rectangular, with straight walls **3. L. octoblepharoides**
- 2: Pseudocosta ciliate-dentate abaxially near the apex, with apically directed teeth; leucocysts with undulate walls, especially near the apex. **2. L. glaucum**

1. *Leucophanes candidum* (Schwägr.) Lindb., *Öfvers. Förh. Kongl. Svenska Vetensk.-Akad.* 21: 602 (1865)

Syrrhopodon candidus Schwaegr., *Sp. Musc. Frond.*, Suppl. 2(2): 105, fig. 183 (1827). T: Java [Indonesia], Reinwardt s.n.; G n.v.

Illustrations: V.F. Brotherus, *Nat. Pflanzenfam.*, 2nd edn, 10: 224, fig. 179; E.B. Bartram, *op. cit.* pl. 5, fig. 79; A. Eddy, *op. cit.* 43, fig. 192; J. Enroth, *op. cit.* 103, fig. 23.

Plants forming compact glossy whitish green tufts. Stems to 6 cm tall, densely leafy, rigid, separating easily. Leaves 3–5 mm long, erect to widely spreading, ovate-lanceolate, arched-squarrose from a broad sheathing base, 1.2–1.5 mm wide, short-apiculate, strongly keeled

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above. Lamina narrow throughout, of 3 rows of rectangular hyaline cells below, becoming more elongate and thick-walled in 3 or 4 rows above, minutely denticulate near the apex. Costa broad, of 2 layers of leucocysts throughout, these \pm rectangular below, $60\text{--}75 \times 30\text{--}35 \mu\text{m}$, \pm hexagonal to elongate-hexagonal above and $22\text{--}45 \times 22\text{--}25 \mu\text{m}$; pseudocosta slender, confluent with the border in a short dentate apiculus.

Occurs on bark in north-eastern Qld. Also in Central Africa and from the western Indian Ocean to Sri Lanka, SE Asia, Malesia, China and Samoa.

Qld: Mossman Gorge, *I.G.Stone 12020* (MELU, AD); *loc. id.*, *H.Flecker 3499* (CANB).

2. *Leucophanes glaucum* (Schwägr.) Mitt., *J. Proc. Linn. Soc., Bot.*, Suppl. 1: 25 (1859)

Syrrophodon glaucus Schwägr., *Sp. Musc. Frond.*, Suppl. 2(2): 103, pl. 181 (1827). T: Rauwack [Indonesia], *C.Gaudichaud-Beaupré*; *n.v.*

Leucophanes bogoriense M.Fleisch., *Musci Fl. Buitenzorg* 1: 177 (1904). T: Botanic Garden, Buitenzorg [Bogor, Java, Indonesia], *M.Fleischer*; lecto: FH.

Leucophanes australe Broth., *Öfvers. Förh. Finska Vetensk.-Soc.* 33: 96 (1891). T: Freshwater Creek, Trinity Bay, Qld, F.M.Bailey; *holo*: H-BR.

Plants glossy whitish below, glaucous green above, 1–3 cm tall. Leaves linear-lanceolate or lanceolate from an oblong base, 3.5–6.0 mm long, 0.5–0.8 mm wide, deeply keeled, flexuose when dry, somewhat arched or patent when moist, acute with a short hyaline cusp. Inner laminal cells in 5 or 6 rows, \pm rectangular, $30\text{--}45 \times 20\text{--}24 \mu\text{m}$; border of 4 rows in 1 layer below, the border cells $80\text{--}100 \times 3\text{--}4 \mu\text{m}$, more thick-walled and subciliate-dentate above, in 4 or 5 rows in 2 or 3 layers; leucocysts of costa rectangular, $30\text{--}45 \times 12\text{--}16 \mu\text{m}$ in upper part, longer and broader towards the pseudocosta, with flexuose or bowed walls especially towards the leaf apex, in several layers basally, but usually 2-layered apically; pseudocosta $30\text{--}45 \mu\text{m}$ wide; stereome exposed abaxially, the cells linear, ciliate-dentate near the leaf apex.

Epiphytic on trees and on rotting logs in northern N.T. and north-eastern Qld. Also in SE Asia and Malesia.

N.T.: Kakadu Natl Park, *L.A.Craven & G.Whitbread 6806* (CANB); 10 km E of Humpty Doo, near Darwin, *J.R.Smith 140* (CANB). Qld: Mossman Gorge, *D.G.Catcheside 76.145* (AD); *loc. id.*, *I.G.Stone 12020* (MELU); *loc. id.*, *H.Flecker 3499* (CANB); near Josephine Falls, *D.G.Catcheside 76.196* (AD).

3. *Leucophanes octoblepharioides* Brid., *Bryol. Univ.* 1: 763 (1827)

T: Java, [Indonesia]; B.

Illustrations: E.B.Bartram, *op. cit.* pl. 6, fig. 81; H.C.Gangulee, *op. cit.* 436, fig. 205; A.Eddy, *op. cit.* 48, fig. 196; J.Enroth, *op. cit.* 97, fig. 19.

Plants pale green, densely leafy, short-stemmed. Leaves erect, spreading, linear-lanceolate, nearly plane, slightly concave above, 3–7 mm long and 0.6–0.9 mm wide near the base, tapering to 0.3–0.4 mm wide above. Laminal cells short-rectangular to subquadrate, $20\text{--}40 \times 17\text{--}23 \mu\text{m}$, contracting from c. 16 rows near the base to 4 or 5 rows extending well up the leaf; marginal cells prosenchymatous, $60\text{--}80 \times 4\text{--}5 \mu\text{m}$, in 3 rows in 1 layer below, becoming a border of linear thick-walled cells above, $60\text{--}80 \times 3\text{--}4 \mu\text{m}$, 3 or 4 rows wide, distantly dentate near the apex. Costa with 1 layer of leucocysts on either side of a chlorocyst layer; leucocysts short-hexagonal, $15\text{--}35 \times 15\text{--}20 \mu\text{m}$ above, larger towards the smooth pseudocosta; walls straight; stereome exposed abaxially; contracted abruptly to the acute and usually dentate apex that is occasionally swollen and bearing long 2–several-celled gemmae.

Occurs in north-eastern Qld; epiphytic on trees. Also known from the Seychelles, India, SE Asia, Malesia, Melanesia, the Philippines, China, Japan and the Pacific islands.

Qld: Mossman Gorge, *H.Flecker 3493* (CANB); *loc. id.*, *I.G.Stone 8986, 12013* (MELU); The Boulders, Babinda, *D.G.Catcheside 76.235* (AD).