



LOBOTHALLIA ¹²

Gintaras Kantvilas ³

Lobothallia (Clauzade & Cl.Roux) Hafellner, *Acta Bot. Malacitana* 16: 138 (1991); *Aspicilia* subgen. *Lobothallia* Clauzade & Cl.Roux, *Bull. Soc. Bot. Centre-Ouest, nouv. sér.* 15: 140 (1984).

Type: *L. alphoplaca* (Wahlenb.) Hafellner

Thallus crustose, rimose-areolate, frequently effigurate-lobate at the margins, corticate; prothallus sometimes present. Photobiont a unicellular green alga with roundish cells 10–26 µm diam. Ascomata apothecia, roundish, aspicilioid and sunken in the thallus surface, or becoming emergent, lecanoroid and surrounded by a thin thalline margin. Disc concave to plane, pale to dark brown to black, occasionally pruinose. Proper exciple very thin and reduced, in section cupulate, poorly differentiated from adjacent tissues. Hypothecium hyaline, subtended by a band of photobiont cells. Hymenium hyaline, hemiamyloid, KI+ intense blue, diffusely pale reddish brown in the upper part. Asci clavate, 8-spored, of the *Aspicilia*-type: with a well-developed, dome-like, non-amyloid tholus, a short, broad, conical ocular chamber, and a thin, KI+ blue wall. Paraphyses mostly simple, moniliform. Ascospores simple, hyaline, broadly ellipsoid, non-halonate. Conidiomata pycnidia, immersed. Conidia bacilliform to cylindrical. Chemistry: lacking substances or with depsidones such as norstictic or stictic acids.

Lobothallia is a segregate of the large “form genus” *Aspicilia*, with which it shares a green photobiont, apothecia that are usually aspicilioid, *Aspicilia*-type asci and simple, hyaline ascospores. It differs chiefly by the combination of an often marginally lobate thallus, the absence of greenish (*Aspicilia*-green) epithelial pigment, generally smaller spores (<18 µm long), and shorter conidia (<8 µm). The genus consists of 18 species, found mostly on exposed or seasonally inundated rocks in areas of Eurasia and North America with a temperate or Mediterranean climate. One very widely distributed species is known for Australia.

Key references: Ryan (2004); Nordin et al. (2010); Paukov et al. (2019).

1 *Lobothallia radiosa* (Hoffm.) Hafellner

Acta Bot. Malacitana 16: 138 (1991); —*Lichen radiosus* Hoffm., *Enum. Lich. Icon. Descript. Illustr.*: 62, tab. IV, fig. 5 (1784).

Thallus crustose, tightly adnate, dull olive-grey to bluish grey, sometimes pale grey when abraded, lacking isidia or soredia, forming circular or irregular patches to 35 mm wide that sometimes coalesce, rimose-areolate and deeply cracked in the thallus centre, effigurate at the margins with radiating, contiguous, plane, undulate or convex lobes with minutely thickened apices 0.3–1.5 mm wide and 0.4–1 mm thick, in section KI–; prothallus absent. Apothecia 0.3–1.5 mm wide, usually roundish but sometimes deformed or lobed when crowded together, mostly aspicilioid, occasionally emergent and broadly adnate; thalline margin visible as a thin, raised, ± incurved rim surrounding the disc, in section poorly differentiated from the thallus, in emergent apothecia better developed and to 70 µm thick; disc concave to plane, red-brown to

1 This work can be cited as: Kantvilas G (2023). *Lobothallia*, version 2023:1. In MF de Salas (Ed.) *Flora of Tasmania Online*. 2 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/lichen-genera/lobothallia/>

2 This treatment was supported by the Australian Biological Resources Study's National Taxonomy Research Grant Program (grant no. 4-EHINNOL).

3 Tasmanian Herbarium, Tasmanian Museum & Art Gallery, PO Box 5058, UTAS LPO, Sandy Bay, TAS 7005, Australia.

dark brown, epruinose; proper exciple very thin, to c. 15–30 µm thick laterally, hyaline, I+ blue, in section poorly differentiated from adjacent tissues. Hypothecium 40–60 µm thick, not inspersed. Hymenium 65–100 µm thick, diffusely pale red-brown in the upper part, hyaline below, not inspersed; asci 65–85 × 15–24 µm; paraphyses 2–2.5 µm thick, with apices to 4–6 µm wide. Ascospores subglobose to broadly ellipsoid, occasionally ± lemon-shaped, 10–12.5–15(–17) × 6.5–7.9–9(–10) µm. Conidia 5–7 × 1–1.5 µm.

Chemistry: nil, with all spot tests negative; norstictic or stictic acids are recorded for some Northern Hemisphere populations.

Widespread in the Northern Hemisphere and also known from mainland Australia. It is occasional in Tasmania in low rainfall areas, mainly in the south-east, where it occurs on exposed rocks in gaps in open woodland or in degraded, rough pasture. A typical habitat is on flat, slightly sloping slabs of dolerite or basalt bedrock subject to seasonal water seepage. Two collections from calcareous mudstone are unusual in that the thallus is pale grey, sparsely pruinose, and predominantly chinky-areolate without well-developed marginal lobes; anatomically, however, they concur with typical *L. radiosa*.

Prosser River, c. 2 km W of Orford, 42°34'S 147°51'E, sea-level, 1993, G. Kantvilas 41/93 (HO); Bisdee Tier, 42°26'S 147°17'E, 640 m, 2009, G. Kantvilas 169/09 (HO); Bagdad Rivulet, 42°41'S 147°16'E, 60 m, 2009, G. Kantvilas 208/09 & J. Jarman (HO).

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