Flora of Tasmania online

MEGALOBLASTENIA [1] [2]

Gintaras Kantvilas [3]

Megaloblastenia Sipman, *Biblioth. Lichenol.* 18: 87 (1983).

Type: *M. flavidoatra* (Nyl.) Sipman

Thallus crustose, mostly ecorticate, relatively thick, pale whitish grey or yellowish, with or without soredia, lacking calcium oxalate. Photobiont *Dictyochloropsis*, with ± globose cells 6–12 µm wide. Ascomata apothecia, biatorine to lecideine, sessile, basally constricted. Disc mostly persistently plane to undulate, sometimes pruinose. Proper exciple generally thick and persistent, ± glossy, in section cupulate, multi-layered and composed of tightly packed, radiating, branched and anastomosed, conglutinated hyphae. Hymenium not inspersed, hyaline, I+ blue, KI+ blue. Paraphyses slender, c. 1–2 µm thick, branched and anastomosed, not capitate. Asci clavate, 8-spored but usually with some spores aborted before maturity, of the Megalosporaceae-type: with an intensely KI+ blue outer coat and a well-developed, KI+ blue tholus lacking internal differentiation, sometimes with a short, conical ocular chamber. Ascospores hyaline, ellipsoid, non-halonate, bicellular, with thickened polar and septal walls (polaribilocular) and the locules connected by a narrow channel; wall double. Conidiomata pycnidia, immersed. Conidia bacilliform, 3–5 × 0.5 µm. Chemistry: containing zeorin, together with either pannarin or usnic acid.

A genus of four taxa, restricted to oceanic climates in temperate to tropical latitudes of Australasia and South America, and typically occurring as epiphytes in moist forests. It is superficially similar to and frequently associated with species of *Megalospora*, from which it differs by the non-inspersed hymenium and polaribilocular ascospores.

Key references: Sipman (1983); Kantvilas (1994); Kantvilas & Lumbsch (2012); Kantvilas (2022).

1	Thallus pale yellowish, P– (containing usnic acid and zeorin); apothecia entirely black, epruinose	1 M. flavidoatra
	Thallus grey, P+ orange (containing pannarin and zeorin); apothecia usually with a pale reddish brown, thinly grey-pruinose disc and yellowish to dark brown margin	2
2(1)	Thallus sorediate	3 M. sorediata
	Thallus lacking soredia	2 M. marginiflexa

1 Megaloblastenia flavidoatra (Nyl.) Sipman

Biblioth. Lichenol. 18: 87 (1983); —*Lecidea flavidoatra* Nyl., *J. Linn. Soc. London, Bot.* 9: 257 (1865).

Thallus pale yellowish, smooth to coarsely verruculose, esorediate, forming patches to c. 10 cm wide. Apothecia 0.8–2 mm diam.; disc plane, jet-black, epruinose; proper exciple concolorous with the disc, in section 80–140 µm thick, predominantly opaque dark brown, K+ red within, sometimes also patchily yellow-brown and unchanged in K, bluish green at the inner and outer edges. Hypothecium 80–100 µm thick, dilute

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

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bluish green. Hymenium 140–180 µm thick, hyaline, overlain by a dull brown epithecial layer to *c*. 30 µm thick; asci 8-spored, 105–150 × 26–40 µm. Ascospores (26–)29–*35.8*–41(–42) × (12–)13–*16.4*–19(–21) µm.

Chemistry: usnic acid and zeorin; thallus K–, KC+ yellow, C– P–, UV–.

Very rare in Tasmania and also present in New Zealand. It has been recorded from two, widely ecologically disjunct locations: the trunk of a young *Nothofagus cunninghamii* in wet sclerophyll forest, and sheltered granite boulders in a damp gully. Whereas this species has no potentially confusing species in Tasmania, it is superficially similar to several species of *Megalospora* that occur on the Australian mainland and New Zealand.

The Gnomon, 41°11′S 146°02′E, 460 m, 1991, *G. Kantvilas 231/91* (HO); The Hazards near Wineglass Bay Lookout, 42°09′S 148°17′E, 180 m, 2005, *G. Kantvilas 177/05* (HO).

2 Megaloblastenia marginiflexa (Hook.f. & Taylor) Sipman

Biblioth. Lichenol. 18: 89 (1983); —*Lecidea marginiflexa* Hook.f. & Taylor, *London J. Bot.* 3: 638 (1844).

Blastenia endochromoides (Nyl.) Müll.Arg., *Bull. Herb. Boissier* 2, App. 1: 69 (1894); —*Lecidea endochromoides* Nyl., *Ann. Sci. Nat., Bot.*, sér. 5, 7: 326 (1867).

Thallus pale grey or greenish grey, smooth to rimose, sometimes verruculose, esorediate, forming patches to *c*. 10 cm wide. Apothecia 1–3.5(–5) mm diam.; disc plane to undulate, pale to dark reddish brown, rarely blackish, mostly with a thin, sometimes patchy, bluish grey pruina; proper exciple entire to flexuose, pale fawn brown to yellowish, dark brown to blackish at the rim, more rarely entirely brown-black, in section 150–200 µm thick, pale yellow-brown to dark brown, usually darkest along the inner edge, especially beneath the hypothecium, sometimes containing calcium oxalate crystals. Hypothecium 30–80(–100) µm thick, hyaline to dilute yellow-brown, sometimes inspersed with oil droplets. Hymenium 100–150 µm thick, hyaline, overlain by a yellow-brown to red-brown epithecial layer to *c*. 30 µm thick; asci (4–)6(–8)-spored, 110–140 × 20–35 µm. Ascospores (26–)29–*36.0*–42(–44) × (14–)15–*18.9*–24(–25) µm.

Chemistry: pannarin and zeorin; thallus K–, KC–, C– P+ orange, UV+ dull whitish.

Widespread in the Southern Hemisphere and recorded from South America, New Zealand and the south-eastern Australian mainland. It is common in Tasmania in rainforest and wet sclerophyll forest, especially on the smooth bark of *Pomaderris apetala* and *Atherosperma moschatum*. The bluish grey-pruinose apothecial disc with a yellow margin are distinctive and eye-catching; occasional specimens with entirely black apothecia could be mistaken for a species of *Megalospora*. Sipman (1983) described this species as being "occasionally sorediate", but sorediate forms are recognised here as a distinct taxon.

Hobart Rivulet, 42°54′S, 147°17′E, 180 m, 1906, *W.A. Weymouth 970* (HO); Sandspit River, 42°43′S 147°51′E, 170 m, 2010, *G. Kantvilas 98/10* (HO) (distributed as *Edit Farkas: Lichenes Delicati Exsiccati Editae* 26); Taylors Flats, 41°25′S 145°59′E, 2019, *G. Kantvilas 163/19* (HO).

3 Megaloblastenia sorediata Kantvilas

Muelleria 41: 13 (2022). Type: Tasmania: Stony Head MTA, Ryans Hill, SE of summit, 41°01'05"S 147°01'43"E, 210 m, on *Pomaderris apetala* in wet sclerophyll forest, 4 November 2020, *G. Kantvilas 212/20* (holo—HO!; iso—CANB!).

Thallus pale grey or greenish grey, smooth to rimose, rarely verruculose, sorediate, lacking calcium oxalate, forming patches to *c*. 10 cm wide; soralia discrete, at first punctiform, at length convex or excavate, 1–1.5(–2) mm wide, occasionally becoming confluent; soredia farinose to granular, whitish or ± concolorous with the thallus. Apothecia 0.8–2.5(–3) mm diam.; disc plane, pale to dark reddish brown, mostly with a thin, sometimes patchy, bluish grey pruina; proper exciple entire, pale fawn-brown to red-brown or dark brown, usually darkest at the rim, in section 90–200 µm thick, pale yellow-brown to dark brown, usually darkest along the inner edge and especially so beneath the hypothecium, containing calcium oxalate crystals. Hypothecium 60–90 µm thick, hyaline to yellowish brown in the lower part, usually inspersed with oil droplets. Hymenium

90–140 µm thick, hyaline, overlain by a yellow-brown to red-brown epithecial layer to *c*. 10–15 µm thick; asci 6–8-spored, 80–110 × 12–26 µm. Ascospores (20–)22–*26.0*–30(–34) × (10–)11–*14.3*–18(–20) µm.

Chemistry: pannarin and zeorin; thallus K–, KC–, C– P+ orange, UV± dull whitish (soralia).

Relatively common in lowland wet sclerophyll forest and coastal scrub, especially on the smooth bark of *Pomaderris apetala*; also known from Victoria and New South Wales. It typically grows in close association with the superficially similar, esorediate *M. margininiflexa*. In addition to being sorediate, *M. sorediata* differs further by having generally smaller apothecia, asci and ascospores.

Lichen Hill, 43°04'S 147°56'E, 570 m, 2010, *G. Kantvilas 120/10* (HO); Hellfire Bluff, 42°44'S 147°55'E, 150 m, 2014, *G. Kantvilas 377/14* (HO, UPS); track to St Columba Falls, 41°19'S 147°55'E, 300 m, 2020, *G. Kantvilas 107/20* (HO).

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