Flora of Tasmania online

LITHOGRAPHA [1] [2]

Gintaras Kantvilas [3]

Lithographa Nyl., *Acta Soc. Linn. Bordeaux* 21: 393 (1857).

Type: *L. petraea* (Nyl.) Nyl. [= *L. tesserata* (DC.) Nyl.]

Thallus crustose, ecorticate, with or without a prothallus. Photobiont a green alga, possibly *Chlorella*, with ± globose cells 6–15 µm wide, encased in a gelatinous sheath. Ascomata apothecia, lirelliform. Proper exciple cupulate, opaque and carbonised throughout, composed of heavily conglutinated, compacted, brownish, indistinct hyphae. Paraphyses branched and anastomosed, with the apices not capitate. Asci clavate, 8-spored, approximating the *Trapelia*-type: outer wall intensely amyloid, developing a thin, amyloid, apical cap; tholus well-developed, very weakly amyloid to non-amyloid, usually with somewhat more intensely amyloid flanks; ascoplasm truncate to concave at the apex; ocular chamber absent. Ascospores mostly simple, rarely transversely septate to submuriform, hyaline, sometimes becoming brown with age, thin-walled, occasionally thinly halonate. Conidiomata pycnidia, immersed. Conidia bacilliform. Chemistry: norstictic or gyrophoric acids occur in some species; otherwise lacking substances.

A genus of about 15 species, found on rocks in cool to cold environments in both hemispheres. Although superficially similar to *Opegrapha*, that genus differs by having a trentepohliod photobiont, different asci and transversely multi-septate ascospores. *Lithographa* was previously included within a broad concept of Trapeliaceae, but molecular data (Resl *et al.* 2015) now place it in the related family Xylographaceae, together with *Lambiella* and *Xylographa*. It is most similar to the former, which differs chiefly by having essentially rounded, ± disciform apothecia. The lirelliform apothecia of the single Tasmanian taxon make it easily recognisable.

Key references: Hertel & Rambold (1990); Lumbsch (1997); Coppins & Fryday (2006); Resl *et al.* (2015); Cannon *et al.* (2021).

1 Lithographa graphidioides (Cromb.) Imshaug ex Coppins & Fryday

Lichenologist 38: 94 (2006); —*Stigmatidium graphidioides* Cromb., *J. Linn. Soc., Bot.* 15: 233 (1876).

Lithographa subantarctica Hertel & Rambold, *Biblioth. Lichenol.* 38: 158 (1990).

Thallus very thin, wispy, rimose, dull brown to black-brown, forming discontinuous patches that follow the topography of the substratum, sometimes highly reduced and carbonised and occurring only at the base of the ascomata; prothallus absent. Lirellae 0.4–1 mm long, 0.15–0.6 mm wide, straight or a little curved, simple or sparingly branched into a 3–4-pointed star, scattered or aggregated in rather gnarled groups to c. 1.5 mm wide; disc slit-like; exciple jet-black, glossy, ± completely obscuring the disc, in section 50–120 µm thick laterally, 70–150 µm thick basally. Hypothecium hyaline to pale brown, 20–30 µm thick. Hymenium 80–110 µm thick, hyaline, brownish inthe uppermost part, remaining coherent in K; paraphyses 1–1.5 µm thick; asci

1 This work can be cited as: Kantvilas G (2023). *Lithographa*, **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/lithographa/**

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

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65–80 × 14–20 µm. Ascospores simple, broadly ellipsoid, 11–*14.4*–17(–18) × 6–*8.8*–11(–12) µm. Conidia not found in Tasmanian specimens, reported (Coppins & Fryday 2006) as 6–11(–13) × 0.8 µm.

Chemistry: no lichen compounds detected by TLC; all spot tests negative.

An inconspicuous species, widely distributed in southern subpolar regions, but known in Australasia only from Tasmania, where it has been rarely collected but is likely to have been overlooked. It is found in moist, open, sunny habitats in heathland and buttongrass moorland, typically on small, scattered pebbles of hard, highly siliceous rocks such as Precambrian quartzite. Previously-disturbed sites such as abandoned gravel quarries, helipads and roadsides provide ideal habitats.

Mt McCall, 42°22′S 145°43′E, 720 m, 1984, *G. Kantvilas 225/84 & P. James* (BM, HO); helipad at Strathgordon, 42°46′S 146°03′E, 360 m, 1985, *G. Kantvilas 169/85* (BM, HO, M); Gordon River Road, N of Frodshams Pass, 42°46′S 146°24′E, 500 m, 2019, *G. Kantvilas 70/19 & J. Jarman* (HO).

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