



PLACYNTHIELLA ^{1 2}

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Placynthiella Elenkin, *Izv. Imp. St.-Peterburgsk. Bot. Sada* 9: 18 (1909).

Type: *P. arenicola* Elenkin [= *P. hyporhoda* (Th.Fr.) Coppins & P.James]

Thallus effuse, crustose or composed of granules or goniocysts; prothallus absent. Photobiont a green alga with globose to ellipsoid cells occurring singly or in pairs, 6–15 × 6–12 µm. Ascomata apothecia, biatorine, pale to red-brown or blackish. Proper exciple cupulate, incurved or becoming reflexed, composed of parenchymatous, brownish hyphae 3–7 µm thick. Paraphyses sparingly branched, with brown, capitate apices. Asci cylindrical to narrowly clavate, 8-spored, of the *Trapelia*-type: outer wall amyloid; tholus well-developed, very weakly amyloid to non-amyloid; ascoplasm truncate to concave at the apex; ocular chamber absent. Ascospores simple, hyaline, non-halonate, thin-walled. Conidiomata pycnidia; conidia cylindrical to bacilliform. Chemistry: gyrophoric acid and associated compounds are present in some species.

A cosmopolitan genus of about 10 species, found mostly on organic substrata. It is superficially similar to some species of *Trapeliopsis* and *Lambiella*, which have *Trapelia*-type asci, but it differs from these by the parenchymatous exciple and the brown, capitate paraphyses. Two widespread species occur in Tasmania. All Tasmanian records of a third species, *P. oligotropa* (J.R.Laundon) Coppins & P.James, have since been redetermined.

Key references: Coppins & James (1984); Lumbsch (1997); Ryan *et al.* (2004); Orange *et al.* (2021).

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| 1 Thallus composed of coralloid-isidioid granules, containing gyrophoric acid (C+ red or pink) | 1 <i>P. icmalea</i> |
| Thallus composed of granular goniocysts, effuse or ± absent, lacking gyrophoric acid | 2 <i>P. uliginosa</i> |

1 *Placynthiella icmalea* (Ach.) Coppins & P.James

Lichenologist 16: 244 (1984); —*Lecidea icmalea* Ach., *Kongl. Svenska. Vetensk.-Akad. Handl.* 29: 267 (1808).

Thallus composed of minute coralloid to isidioid granules 25–50 µm wide and to 200 µm tall, olive-brown to red-brown or blackish brown, densely crowded to form a coarse, isidioid crust, or scattered over the substratum and intermixed with other lichens, sometimes becoming fused into coarser granules. Apothecia 0.2–0.5(–0.6) mm wide; disc brown to brownish black, plane or occasionally becoming convex; exciple concolorous or a little paler, usually persistent, in section 10–20 µm thick laterally, 30–60 µm thick basally. Hypothecium pale to deep brown or olive-brown, 50–100 µm thick. Hymenium 70–80 µm thick, pale yellowish brown, with a darker brown epithelial layer; paraphyses 0.8–1.5 µm thick, with apices expanded to 4 µm; asci 55–72 × 9–14 µm. Ascospores 8–10.2–12(–15) × 4.5–5.4–6.5(–7) µm.

Chemistry: gyrophoric acid (major); lecanoric and 5-O-methylhiascic acids have also been recorded; thallus and apothecia C+ red or pink in squash preparation, sometimes only fleetingly.

- 1 This work can be cited as: Kantvilas G (2023). *Placynthiella*, version 2023:1. In MF de Salas (Ed.) *Flora of Tasmania Online*. 3 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/lichen-genera/placynthiella/>
- 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.

A cosmopolitan species, widespread and common in Tasmania. It occurs on rotting wood, bark, charcoal and humus-rich soil and can be found on standing trees, logs or on the ground. Although recorded mainly in wet eucalypt forest, especially in gaps or at the forest margins, it also occurs in heathland, at the margins of rainforest and in dry sclerophyll woodlands. In a Tasmanian study of the impacts of logging on cryptogams in wet eucalypt forest, *P. icmalea* was found commonly on charcoal scars and on the bark of the oldest, most massive trees, but it was also one of the first species to re-establish following logging and burning. The coralloid-isidioid growth form serves to distinguish *P. icmalea* from *P. uliginosa*, which is frequently present in similar habitats, although in doubtful cases where the thallus is abraded or reduced, the C+ red reaction (observed in thin sections or squash preparations) is diagnostic. Some Tasmanian specimens tend to have unusually large ascospores (to 16 µm long and to 10 µm wide) but accord with the general concept of this species in every other respect.

W of Tahune Bridge in the Warra SST, 43°06'S 146°41'E, 200 m, 2003, G. Kantvilas 461/03 (HO); Western Explorer Road, c. 2 km NE of Mt Donaldson, 41°36'S 145°05'E, 180 m, 2003, G. Kantvilas 551/03 (HO); Tanina Bluff, 42°39'S 147°02'E, 890 m, 2005, G. Kantvilas 199/05 (HO).

2 *Placynthiella uliginosa* (Schrad.) Coppins & P.James

Lichenologist 16: 245 (1984); —*Lichen uliginosus* Schrad., *Spic. Fl. Germ.* 1: 88 (1794).

Thallus composed of rounded, granular goniocysts 25–100 µm wide, dull green to dark olive-brown, densely crowded and often fused together into an uneven, effuse crust, ± gelatinous when wet, or the thallus much-reduced and ± absent. Apothecia 0.2–0.5 mm wide, frequently fused together; disc brown, dark brown to black, plane or becoming convex; exciple typically concolorous, sometimes a little paler, persistent or becoming excluded, in section 10–20(–35) µm thick laterally, to 35 µm thick basally. Hypothecium pale brown to deep red-brown, 30–100(–120) µm thick. Hymenium 60–75 µm thick, pale yellowish brown or reddish brown, with a darker brown epithelial layer; paraphyses 1–1.5 µm thick, with apices usually expanded and brown-pigmented, to 4–6 µm wide; asci 55–80 × 10–16 µm. Ascospores (8–)9–12.4–15(–17) × (4–)4.5–6.3–8 µm.

Chemistry: nil.

Widespread throughout the world and common in Tasmania, ranging from lowland heathlands and forests to alpine elevations. Although occurring in similar habitats to *P. icmalea*, *P. uliginosa* has a somewhat different ecology, commonly occurring in disturbed sites such as at forest margins, roadsides or regenerating logged forest. It can colonise wood, bark and peaty soil, but most collections are from compacted clay. This species differs from *P. icmalea* chiefly by its thallus of small granules and the absence of gyrophoric acid. Thus, squash preparations of the thallus and apothecia show no C+ reddish reaction, although the olive and brownish pigments can react C+ yellowish. It also has somewhat larger ascospores. Specimens from exposed clay soils tend to have virtually no thallus and tiny, blackish, internally intensely red-brown-pigmented apothecia, and represent an extreme in a continuum of growth forms.

Little Fisher River, 41°45'S 146°20'E, 800 m, 1982, G. Kantvilas 221/82 (HO); W of Tahune Bridge in the Warra SST, 43°06'S 146°41'E, 180 m, 2006, G. Kantvilas 422/06 (E, HO); Skullbone Plains, c. 2 km S of Kenneth Lagoon, 42°04'S 146°19'E, 990 m, G. Kantvilas 227/12 (HO).

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