A new species of *Dictyomeridium* (lichenized Ascomycota, Trypetheliaceae) from Tasmania

Patrick M. McCarthy
64 Broadsmith St, Scullin, A.C.T. 2614, Australia
e-mail: pmmc2614@hotmail.com

Gintaras Kantvilas
Tasmanian Herbarium, PO Box 5058, UTAS LPO, Sandy Bay, Tasmania 7005, Australia
e-mail: Gintaras.Kantvilas@tmag.tas.gov.au

Abstract

*Dictyomeridium tasmanicum* sp. nov. (Trypetheliaceae) is described from the bark of coastal *Allocasuarina verticillata* in south-eastern Tasmania. The new lichen has a thin, UV−, epiphyloidal thallus, small but prominent, pleurovendoid ascomata with eccentric to lateral ostioles, and bispores aci containing comparatively large, muriform-eusporate ascospores.

Introduction

The tropical and subtropical lichen genus *Dictyomeridium* Aptroot, M.P.Nelsen & Lücking was recently segregated from *Polymeridium* (Müll.Arg.) R.C.Harris as a phylogenetically and morphologically distinct lineage within the family Trypetheliaceae (Lücking et al. 2016). Comprising seven species, it is characterized by the combination of pleurovendoid ascoma with eccentric to lateral ostioles and muriform ascospores (Aptroot & Lücking 2016; Lücking et al. 2016; Hongsanan 2020). In Australia, two species are already known from Queensland (McCarthy 2020); in this contribution, the newly described *D. tasmanicum* is reported from coastal habitats in south-eastern Tasmania.

*Dictyomeridium tasmanicum* P.M.McCarthy & Kantvilas Figs 2 & 3 MycoBank No.: MB 840847

Similar to *D. immersum* (Aptroot, A.A.Menezes & M.Cáceres) Aptroot, M.P.Nelsen & Lücking in that both species, in the genus have 2-spored asci, but the new entity differs in having an off-white to pale silvery grey, UV− thallus lacking a prothallus, and semi-immersed to almost superficial ascomata.

*Type*: Australia, Tasmania, near Triabunna, Spring Bay Mill, shoreline below Lispers Corner, 42°33′S, 147°56′E, 2 m alt., on bark of *Allocasuarina verticillata* along foreshore, G. Kantvilas 429/19, 20.xii.2019 (holotype – HO 599616).

Thallus lichenized, crustose, epiphyloidal, effuse, non-rimose, smooth to minutely uneven, off-white to pale silvery grey, to 25 mm wide, very thin, 20–40 µm thick, ecarticate, UV−. *Phylobiont cells* sparse, tretendeophloid, 10–16 × 8–13 µm. *Prothallus absent*. *Ascomata* pleurovendoid, solitary, sparse, semi-immersed in the substratum to almost superficial, dull black and smooth above, not or only very slightly overgrown by the thallus, (0.25–)0.37(–0.45) mm wide [n = 30], with a broadly ellipsoid to pyriform outline in surface view; ostiolo eccentric to lateral, c. 20–40 µm wide. *Ascomatal wall* greenish black in section, 25–50 µm thick above, (0.25–)0.37(–0.45) mm wide [n = 30], these measurements not including the perispore, which is smooth, hyaline and (2–)4–5(–7) µm thick (this last feature clearly visible only in ascosporas outside the asci). *Pyecnidia* not seen.

Remarks

The new species is one of two members of *Dictyomeridium* with 2-spored asci. The other taxon, *D. immersum*, from western and north-eastern Brazil, has a pale pinkish white and UV− yellow thallus surrounded by a brown prothalline line, together with deeply immersed ascoma with only the ostiole and periostiolar region visible (Aptroot et al. 2013). Incidentally, all other species have 8-spored asci, including the two tropical Australian representatives, *D. amylosporum* (Vain.) Aptroot, M.P.Nelsen & Lücking and *D. proponens* (Nyl.) Aptroot, M.P.Nelsen & Lücking.

*Dictyomeridium tasmanicum* is currently known from coastal *Allocasuarina verticillata* (she-oak) woodland at two closely adjacent localities in south-eastern Tasmania. Coastal she-oak in Tasmania is usually a lichen-rich habitat with respect to biomass if not species richness. The tree produces very rough, furrowed bark on its older trunks, and is commonly covered in *Allocasuarina verticillata* in coastal woodland, 10.i.2021 (HO 602363). Indeed, the discovery of this highly inconspicuous new species was entirely fortuitous and due solely to a detailed flora survey being conducted at the site (the Third Tasmanian Museum and Art Gallery Expedition of Discovery, see Baker et al. 2019). The cause for this starkly depauperate local flora is unknown, but it may be due to the recent, heavy industrialisation of the site when it served as one of the world’s largest woodchip mills for more than four decades. There was also evidence of a loss of diversity in saxicolous lichen communities as well as some physical damage to lichen thalli.

**ADDITIONAL SPECIMEN EXAMINED**

Tasmania. • near the type locality, Lispers Corner, 42°32′S, 147°56′E, 10 m alt., on bark of *Allocasuarina verticillata* in coastal woodland, G. Kantvilas 17/21, 10.1.2021 (HO 602363).

Acknowledgements

For their support of the TMAG Expedition to Spring Bay where the new species was collected, we thank Graeme Wood, Anna Cernae, Robbie Williams and the staff of Spring Bay Mill, and the Friends of the Tasmanian Museum and Art Gallery.

References


Aptroot, A; Menezes, AA; Lima, EL; Xavier-Leite, AB; Cáceres, MES (2013): New species of *Polymeridium* from Brazil expand the range of known morphological variation within the genus. *Lichenologist* 45, 545–552.

