

***Graphis norfolkensis*, a new species in the Australian Graphidaceae
(lichenized Ascomycota, Ostropales) from Norfolk Island**

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Abstract

Graphis norfolkensis, characterized by a completely carbonized proper exciple, small hyaline, muriform ascospores, and the presence of salazinic and protocetraric acids, is described as new to science.

Introduction

Some selected lichen genera on Norfolk Island have been studied previously (Elix & Streimann 1989; Elix *et al.* 1992), and four *Graphis* species have been reported from the island: *G. caesiella* Vain., *G. crebra* Vain., *G. crassilabra* Müll.Arg. and *G. subvelata* Stirt. (Archer 2009; McCarthy 2018). In this paper we describe a further new corticolous species of *Graphis* from Norfolk Island. Chemical constituents were identified by thin-layer chromatography (Elix 2014) and comparison with authentic samples.

Graphis norfolkensis A.W.Archer & Elix, sp. nov.
Mycobank No.: **MB 829602**

Figs 1, 2

Type: Australia. Norfolk Island, West Palm Glen Track, Mount Pitt National Park, 29°01'06"S, 167°56'33"E, 140 m alt., on base of *Cyathea* in subtropical rainforest on moderate slope. *J.A. Elix 29068*, 16.vi.1992 (holotype: CANB).

Similar to *Graphis submeri* (A.W.Archer) A.W.Archer, but differs in having lirellae with conspicuous thalline margins and in containing salazinic acid.

Thallus thin, pale grey, corticolous, sorediate, lacking isidia. *Soralia* white, numerous, conspicuous, scattered, globose, sessile, 0.3–0.6 mm diam. *Apothecia* lirelliform, inconspicuous, scattered among soralia, straight or branched, 1–1.5 mm long, 0.3–0.4 mm wide, lips closed, with a conspicuous thalline margin; proper exciple completely carbonized; hymenium 140–150 µm tall, not interspersed, I–. *Ascospores* hyaline, obovate, muriform, 20–22 µm long and 5–6 µm wide, 4–5 × 1–2 locular, I+ pale blue.

Chemistry: Thallus K+ yellow then red, C–, PD+ orange-red; containing salazinic acid (major) and protocetraric acid (minor).

ADDITIONAL SPECIMEN EXAMINED

Norfolk Island: ● Pop Rock, near Mount Pitt Road, 29°01'23" S, 167°56'10" E, on dead *Cupressus* in disturbed remnant subtropical rainforest with large rock outcrops, *J.A. Elix 29295*, 18.vi.1992 (CANB).

Etymology: named after the type locality, Norfolk Island.

Discussion

Graphis norfolkensis is characterized by inconspicuous lirellae with thick thalline margins, a completely carbonized proper exciple, small muriform ascospores and the presence of sal-

azinic and protocetraric acids. It resembles *Graphis subelmeri* (A.W.Archer) A.W.Archer (Archer 2002, 2007) from the Solomon Islands, in that both species have completely carbonized exciples, small (c. 20 µm long) muriform ascospores and contain protocetraric acid, but *G. subelmeri* lacks both the conspicuous thalline margins of *G. norfolkensis* and salazinic acid as the major lichen acid (Fig. 2). At present this species is known from two localities on Norfolk Island. Commonly associated lichens include *Crocodia aurata* (Ach.) Link, *C. poculifera* (Müll.Arg.) D.J.Galloway & Elix, *Cryothecia bartlettii* G.Thor, *Porina exocha* (Nyl.) P.M.McCarthy, *Ramalina peruviana* Ach., *R. stevensiae* Elix and *Teloschistes flavicans* (Sw.) Norman.

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Figure 1. *Graphis norfolkensis* (holotype CANB). Scale bar = 1 mm



Figure 2. *Graphis subelmeri* (holotype BM). Scale bar = 1 mm