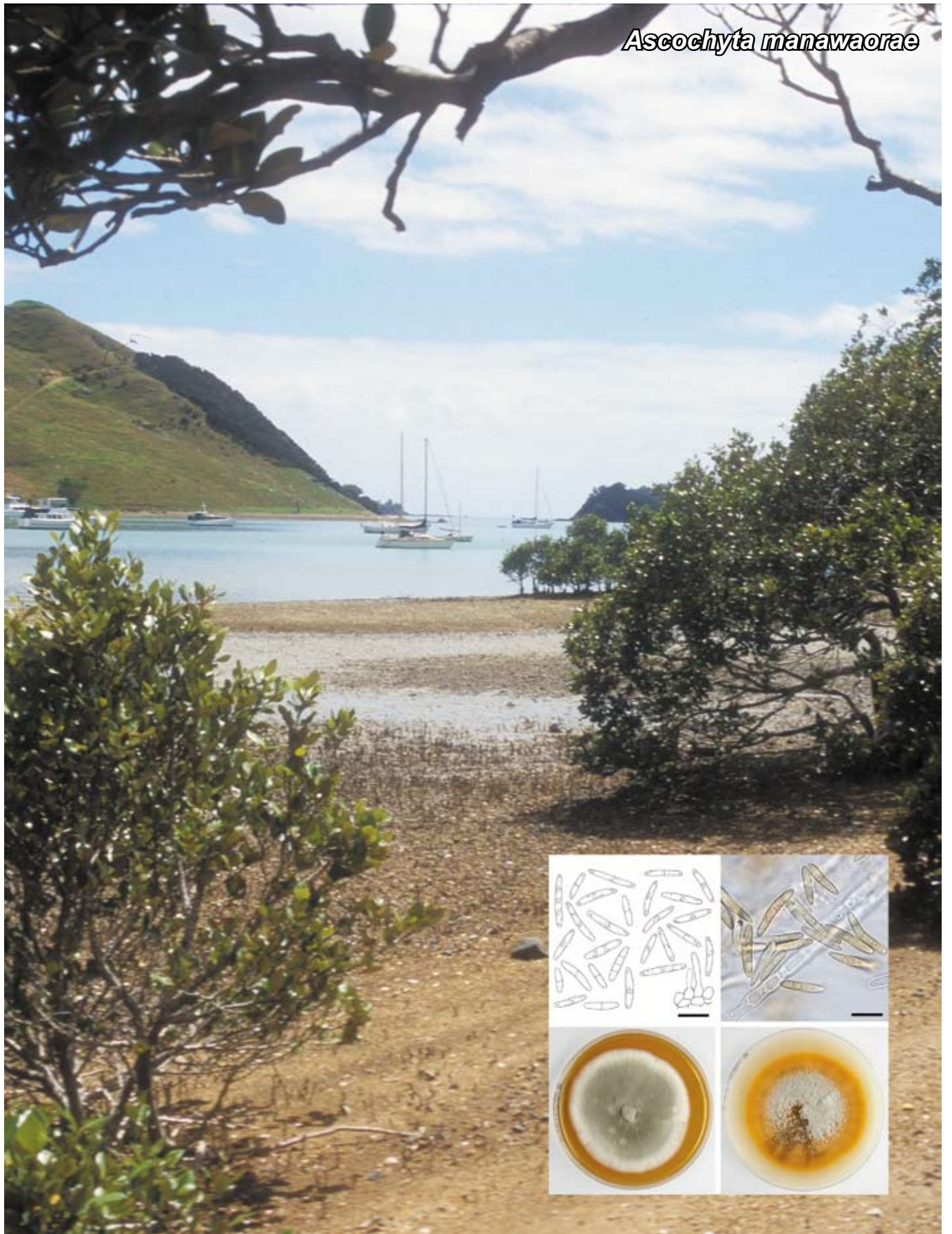


Ascochyta manawaorae



Fungal Planet 45 – 18 June 2010

***Ascochyta manawaorae* Verkley, Woudenberg & De Gruyter, sp. nov.**

Teleomorph. Unknown (anamorphic *Phaeosphaeriaceae*, based on molecular analysis).

Conidiomata pycnidialia, superficialia vel epidermide erumpentia, globosa, fusca vel atra, 100–200(–250) µm diam; ostiolum centrale, circulare, 10–15 µm diam. Cellulae conidiogenae discretiae, determinatae, holoblasticae, interdum percurrentes et obscure annulatae, doliiformae vel breve ampulliformae, 3–5 × 4–7(–9) µm; conidia cylindrica, in medio septata, rare 2–3-septata, pallide lutescens vel olivacescens, 12–19 × 2–3 µm.

Etymology. Named after the village of Manawaora near the type locality, Bay of Islands, New Zealand.

Conidiomata (in vivo) pycnidial, superficial or erumpent from the epidermis, globose, dark brown to black, 100–200(–250) µm diam; ostiole central, circular, 10–15 µm diam, surrounded by dark brown, thick-walled cells; pycnidial wall composed of three cell layers of *textura angularis*, the outer layer with brown cells, with up to 1 µm thick walls, the inner cell layers with hyaline walls. **Conidiogenous cells** discrete, determinate, holoblastic, occasionally proliferating percurrently and indistinctly annellate, doliiform or short-ampulliform, 3–5 × 4–7(–9) µm. **Conidia** cylindrical, medianly 1-septate, rarely 2–3-septate, slightly constricted around the septa, widest near the middle of the basal cell, apical cell narrowing gradually towards the pointed tip, basal cell with a truncate base, the wall thin, smooth, becoming pale yellow to olivaceous, each cell containing a few small oil droplets, 12–19 × 2–3 µm.

Culture characteristics — (in diffuse daylight, 15 °C, nuv, 12 h rhythm, colours according to Rayner¹): Colonies on oatmeal agar reaching 26 mm diam in 7 d (85 mm in 21 d), spreading, with an even, glabrous, at first colourless, later orange margin; colony spreading, immersed mycelium ochreous to fulvous, the surface partly covered by a dense mat of woolly glaucous aerial mycelium; reverse first ochreous to fulvous around the centre, later umber, surrounded by sienna and orange concentric zones. Colonies on CMA as on OA, but reverse first honey to isabelline in the centre, later chestnut to bay, surrounded by umber and ochreous concentric zones. Colonies on MEA reaching 24 mm diam in 7 d (75 mm in 21 d), spreading, with an even, glabrous, first buff, then rosy buff margin; colony surface as on OA, but mouse grey to glaucous, reverse cinnamon to fawn, darkening in the centre to chestnut. **Conidia** as *in planta*, but more frequently 2–3-septate (about 50%), 10–23.5 × 2–3.5 µm (on malt extract agar, diffuse daylight, 18 °C).

Typus. NEW ZEALAND, North Island, Northland, Bay of Islands area, Manawaora near Russell, on dead leaves and stems of *Salicornia australis*, on the border of a mangrove vegetation, 30 Jan. 2003, G. Verkley 2022b; PDD 98412 holotype, culture ex-type CBS 117477 = ICMP 18292, ITS sequence GenBank GU230751, MycoBank MB497140.

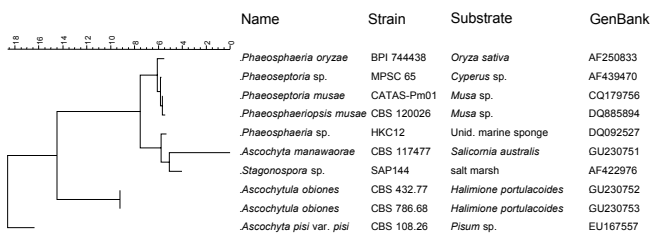
Notes — No teleomorph was observed that could be associated with *A. manawaorae*. Based on ITS rDNA analysis, the genetically closest teleomorphs are members of the genus *Phaeosphaeria* (*Phaeosphaeriaceae*, type species *P. oryzae*). Our fungus is morphologically close to species that have been described in the coelomycete genus *Ascochyta*. Although it is not closely related to *A. pisi*, the type species of the genus *Ascochyta*, it is described here in this genus pending further work to resolve the various lineages of *Ascochyta*-like anamorphs, for which new generic names need to ultimately be proposed. Several *Ascochyta* species have thus far been described from the host genus *Salicornia*. These include *A. salicorniae-patulae* and *A. salicorniae*. Different taxonomic opinions about the status and placement of these taxa have been formulated^{2,3}. The conidia of *A. salicorniae*, 1–3-septate, are much wider, 10–19(–20) × 4–7 µm, than those of *A. manawaorae*, and are surrounded by a mucilaginous sheath². *Ascochyta salicorniae* is a widespread species, but it is not known from Australia or New Zealand. The conidia of *A. salicorniae-patulae* are cylindrical, rounded at both ends, 1-septate, sometimes with a somewhat narrowed lower cell, not or slightly constricted at the septum, and smaller, 9–14 × 3.5–4 µm³. The conidia of *A. manawaorae* become considerably longer and are narrower than those of *A. salicorniae-patulae*, and rarely become 2–3-septate in planta. *Ascochyta* species found on other members of the plant family *Chenopodiaceae* also differ in conidial sizes from *A. manawaorae*^{3,4}. *Ascochyta obiones* (syn. *Ascochyta obiones*), which is found on *Halimione portulacoides* in saline habitats in Europe, is morphologically quite similar to *A. manawaorae* in conidial pigmentation and septation, and conidiogenesis⁵, but genetically it is rather distant. The conidia of *A. obiones* are, however, shorter and wider, (8–)9–12(–14) × (3–)3.5–4.5(–6) µm⁵, than those of *A. manawaorae*. Based on the aforementioned morphological differences with *A. salicorniae-patulae* and the genetic difference with *A. obiones*, *A. manawaorae* is described here as a new species.

Acknowledgements Dr Peter R. Johnston, Landcare Research, Auckland, is thanked for arranging collecting permits. The Johanna Westerdijkfonds is acknowledged for financially supporting the foray, and Dr Vadim Mel'nik is kindly acknowledged for critically reading of an earlier version of the manuscript.

Colour illustrations. Mangrove vegetation on the coast near Manawaora, where the fungus was collected from the host *Salicornia australis*; line drawing of conidia on MEA (CBS 117747; left) and holotype (right); conidia and conidiogenous cells on OA; 3 wk old colony on MEA and OA. Scale bars = 10 µm.

References. ¹Rayner RW. 1970. A mycological colour chart. Commonwealth Mycological Institute, Kew. ²Kohlmeyer J, Kohlmeyer E. 1979. Marine mycology. The higher fungi. Academic Press, New York. ³Mel'nik VA. 1977. Opredelitel' grubov roda *Ascochyta* Lib. Izdatel'stvo Nauka. Leningrad. ⁴Mel'nik VA. 2000. Key to the fungi of the genus *Ascochyta* Lib. (Coelomycetes). Mitteilungen aus der Biologischen Bundesanstalt für Land- und Forstwirtschaft Berlin-Dahlem 379: 1–192. ⁵Buchanan PK. 1987. A reappraisal of *Ascochyta* and *Ascochyta* (Coelomycetes). Mycological Papers 156: 1–83.

Global (Gapsost:0%) Disc. unkn. (Kimura2P)
Ribosomal RNA



Neighbour-joining tree constructed using Bionumerics v. 4.61 (Applied Maths, St-Marthens-Lathem, Belgium). Gaps are treated as missing data, and the Kimura 2-correction mode was selected. The tree was rooted with *Ascochyta pisi* (CBS 108.26).

Gerard J.M. Verkley & Joyce H.C. Woudenberg, CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: g.verkleij@cbs.knaw.nl, j.woudenberg@cbs.knaw.nl
Johannes de Gruyter, Plant Protection Service (PD), P.O. Box 9102, 6700 HC Wageningen, The Netherlands; e-mail: j.de.gruyter@minlnv.nl