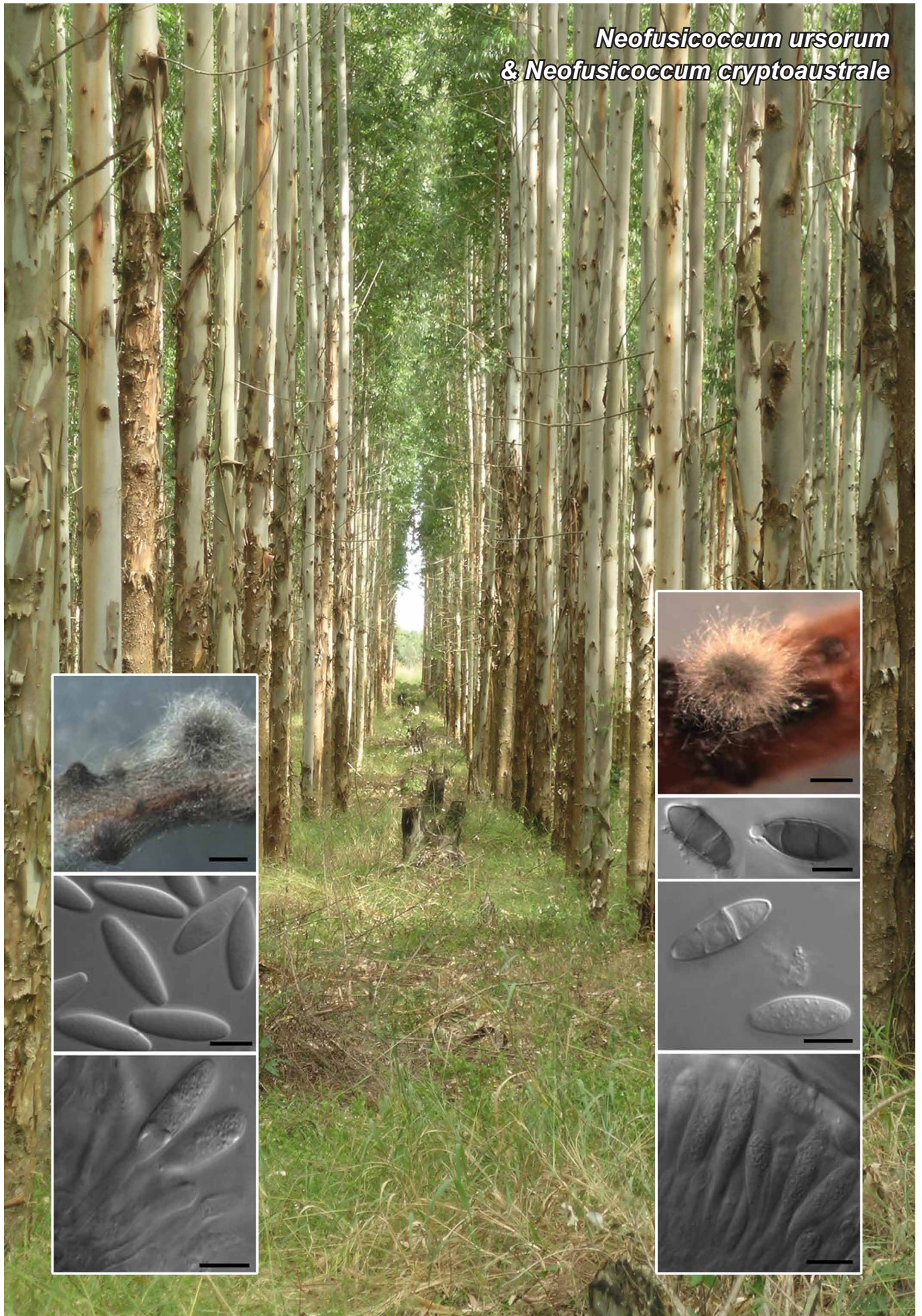


Neofusicoccum ursorum
& *Neofusicoccum cryptoaustrale*



Fungal Planet 201 & 202 – 26 November 2013

Neofusicoccum ursorum Pavlic, Maleme, Slippers & M.J. Wingf., *sp. nov.*

Etymology. Name refers to the Koala 'bears' that feed on the *Eucalyptus* trees that were sampled in this study.

Colonies initially white with fluffy aerial mycelium changing after 3–4 d to pale olivaceous grey from the middle of the colony (both sides); margins regular. Optimum temperature for growth 30 °C, colonies grown on malt extract agar covering a 90 mm diam plate after 7 d of incubation in the dark. *Conidiomata* pycnidial (produced in vitro on pine needles on water agar within 14 d), solitary, semi-immersed, papillate, covered by hyphal hairs, black, up to 645 µm diam. *Conidiogenous cells* hyaline, holoblastic, cylindrical to subcylindrical (9–)10–14(–15.5) × (2–)2.5–3(–3.5) µm (av. of 50 conidiogenous cells 12 × 2.8 µm). *Conidia* hyaline, smooth with contents having fine granular appearance, aseptate, fusiform to ellipsoid, (20.8–)22–26(–28.5) × (5.5–)6.5–8 µm (av. of 50 conidia, 24 × 7 µm).

Typus. SOUTH AFRICA, Gauteng Province, Pretoria, from branches and leaves of living *Eucalyptus* trees, May 2005, *H.M. Maleme* (holotype PREM 59815, culture ex-type CMW 24480 = CBS 122811); Gauteng Province, *Eucalyptus* trees, *H.M. Maleme* (paratype PREM 59816, culture ex-paratype CMW 23790, MycoBank MB512478).

Neofusicoccum crypto australe Pavlic, Maleme, Slippers & M.J. Wingf., *sp. nov.*

Etymology. Referring to a cryptic species closely related to *N. australe*.

Colonies initially white with fluffy aerial mycelium, changing to straw-yellow after 3 d of incubation. After 4–7 d the colour changed to pale olivaceous-grey from the middle of the colony to the irregular margin. Optimum temperature for growth at 25 °C, covering a 90 mm diam malt extract agar plate after 3 d of incubation in the dark. *Conidiomata* pycnidial (produced in vitro on pine needles on water agar within 14 d), solitary, semi-immersed, papillate, covered by hyphal hairs, black, up to 575 µm diam. *Conidiogenous cells* hyaline, holoblastic, cylindrical to subcylindrical (11–)11.5–12.5(–13) × (2–)2.5(–3) µm (av. of 50 conidiogenous cells 12 × 2.5 µm). *Conidia* hyaline, smooth with granular contents, aseptate, fusiform, apices rounded, (18–)20.5–21(–26.5) × 5–6(–6.5) µm (av. of 50 conidia 19 × 5.5 µm), becoming brown and 1–2-septate with age.

Typus. SOUTH AFRICA, Gauteng Province, Pretoria, from branches and leaves of living *Eucalyptus* trees, May 2005, *H.M. Maleme* (holotype PREM 59817, culture ex-type CMW 23785 = CBS 1122813); Gauteng Province, *Eucalyptus* trees, *H.M. Maleme* (paratype PREM 59818, culture ex-paratype CMW 20738, MycoBank MB512477).

Additional specimens examined: SOUTH AFRICA, Gauteng Province, Pretoria, from branches and leaves of living *Eucalyptus* trees, May 2005, *H.M. Maleme* (PREM 60063, culture CMW 23787, PREM 60064, culture CMW 23784, PREM 60065, culture CMW 23786).

Notes — *Neofusicoccum* species are common endophytes and plant pathogens on a variety of forest trees (Slippers & Wingfield 2007, Slippers et al. 2009). In this study *N. parvum*, *N. ursorum* and *N. crypto australe* were the dominant endophytes in leaves on variety of *Eucalyptus* species planted in a Pretoria arboretum and its surroundings. Concordance between sequence polymorphisms of the ITS rDNA (GenBank FJ752741–FJ752745), EF-1α (FJ752710–FJ752714) and β-tubulin (FJ752753–FJ752757) loci confirmed the distinction of *N. crypto australe* from *N. australe*, and the closely related *N. luteum*. The fungi in this latter complex are widespread in various parts of the world. They are especially common in Australia, South Africa and Mediterranean parts of Europe where they are important as pathogens of native and non-native hosts (Slippers et al. 2004, Pavlic et al. 2007, Marinowitz et al. 2008b, Taylor et al. 2009). It is thus important to monitor the future impact and spread of *N. crypto australe*. *Neofusicoccum ursorum* is clearly distinguished from sister taxa such as *N. vitifusiforme* by ITS rDNA (GenBank FJ752745, FJ752746) and EF-1α sequence data (GenBank FJ752708, FJ752709).

Colour illustrations. *Eucalyptus* plantation, South Africa. Left column *N. ursorum*: pycnidia on PNA; conidia; conidiogenous cells. Scale bars = 500 µm, 10 µm. Right column *N. crypto australe*: pycnidium on PNA; 2-septate dark conidia; 2-septate and aseptate conidia; conidiogenous cells. Scale bars = 500 µm, 10 µm.

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