

Neopestalotiopsis nebuloides



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***Neopestalotiopsis nebuloides* C. Lock, Vitelli, Holdom, Y.P. Tan & R.G. Shivas, sp. nov.**

Etymology. From the Latin *nebula*, meaning cloud, in reference to the fluffy, white, aerial mycelia.

Classification — *Pestalotiopsidaceae*, *Xylariales*, *Sordariomycetes*.

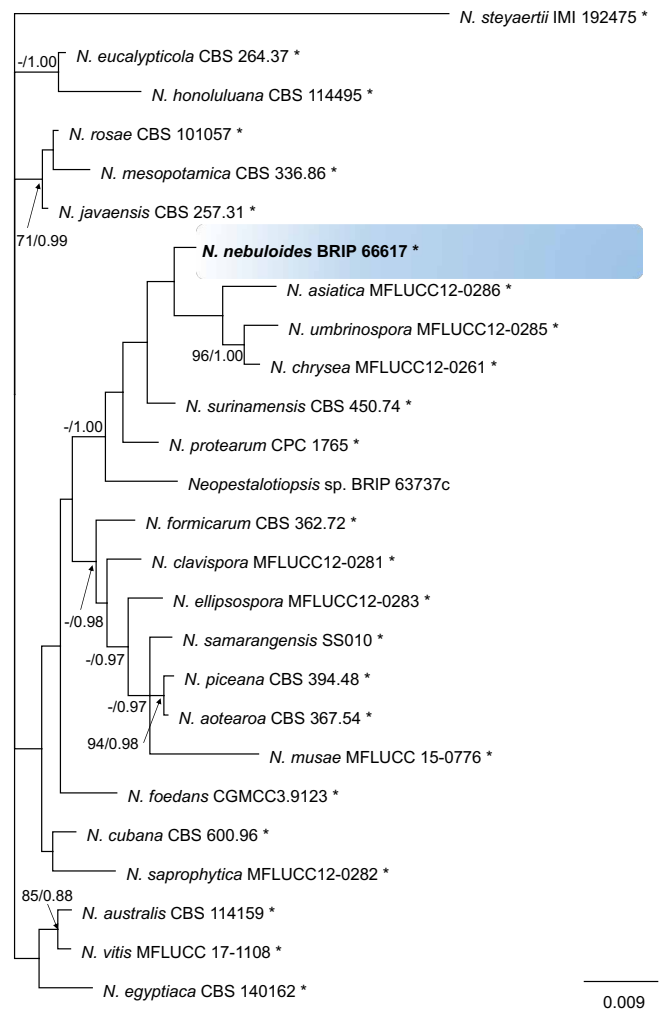
Conidiomata pycnidial on 1/2 potato dextrose agar (PDA), globose or clavate, scattered or aggregated, semi-immersed, black, up to 250 µm diam; exuding dark brown to black conidial masses. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* discrete, ampulliform, hyaline, smooth, 5–10 × 3–5 µm. *Conidia* fusoid, cylindrical, straight to slightly curved, 4-septate, 19–30 × 5–8 µm, basal cell conic, hyaline, smooth and thin-walled, 3–6 µm long; three median cells dolii-form, 13–21 µm long, smooth, versicoloured, septa darker than the rest of the cell (second cell from base pale brown, 3.5–6.5 µm long; third cell medium to dark brown, 3.5–6.5 µm long; fourth cell medium to dark brown, 4–6 µm long); apical cell 3–5.5 µm long, hyaline, conic, thin-walled, smooth; with three tubular apical appendages, arising from the apical crest, unbranched, filiform, 3–19 µm; basal appendage tubular, centric, 3–6 µm long. *Sexual morph* not seen.

Culture characteristics — *Colonies* on PDA 8 cm diam after 7 d at 25 °C, margin irregular to undulating, whitish, zonate, with sparse to moderate aerial mycelia on the surface, with black conidiomata in the central part; reverse pale orange yellow.

Typus. AUSTRALIA, Queensland, Logan, Greenbank, 527 Middle Road, S27°42'20.0" E153°00'10.6", from leaves of *Sporobolus elongatus* (*Poaceae*), 9 Nov. 2017, G. Fichera (holotype BRIP 66617, includes ex-type culture; ITS, *tub2* and *tef1a* sequences GenBank MK966339, MK977632 and MK977633, MycoBank MB831167).

Notes — The multilocus phylogenetic analysis placed *N. nebuloides* in a clade with *N. asiatica*, *N. chrysea* and *N. umbrinospora*. BLASTn searches in GenBank, restricted to ex-type strains, showed that *N. nebuloides* differs from *N. umbrinospora* in ITS (GenBank NR_111783; Identities 481/484 (99 %), 2 gaps (0 %)); *tub2* sequence differs from *N. asiatica* (GenBank JX399018; Identities 444/448 (99 %), no gaps) and *N. chrysea* (GenBank JX399020; Identities 441/448 (98 %), no gaps); and the *tef1a* sequence differs from *N. asiatica* (GenBank JX399049; Identities 475/492 (97 %), 5 gaps (1 %)), *N. chrysea* (GenBank JX399051; Identities 480/492 (98 %), 6 gaps (1 %)), and *N. umbrinospora* (GenBank JX399050; Identities 482/492 (98 %), 6 gaps (1 %)). Morphologically, *N. nebuloides* has shorter apical appendages than *N. asiatica* (20–30 µm), *N. chrysea* (22–30 µm) and *N. umbrinospora* (22–35 µm) (Maharachchikumbura et al. 2012). *Neopestalotiopsis nebuloides* is known only from *Sporobolus elongatus* in Australia. Its close relatives are *N. asiatica* from an unidentified tree in China; *N. chrysea* and *N. umbrinospora* from unidentified plant material in China (Maharachchikumbura et al. 2012).

Colour illustrations. *Sporobolus natalensis* infestation near Conondale, Australia. Colony on PDA at 1 wk; sporulating conidiomata on PDA; conidiogenous cells; conidia. Scale bars = 100 µm (conidiomata) and 10 µm (conidiogenous cells and conidia).



Phylogenetic tree of selected *Neopestalotiopsis* species based on a maximum likelihood analysis of a combined multilocus alignment (ITS, *tef1a* and *tub2*). Analyses were performed on the Geneious v. 11.1.2 platform (Biomatters Ltd.) using RAxML v. 8.2.11 (Stamatakis & Alachiotis 2010) and MrBayes v. 3.2.6 (Ronquist & Huelsenbeck 2003), both based on the GTR substitution model with gamma-distribution rate variation. Branch lengths are proportional to distance. RAxML bootstrap (bs) values greater than 70 % and Bayesian posterior probabilities (pp) greater than 0.8 are given at the nodes (bs/pp). *Neopestalotiopsis steyaertii* was used as outgroup. Novel taxon is indicated in **bold**. Ex-type strains are marked with an asterisk (*).

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