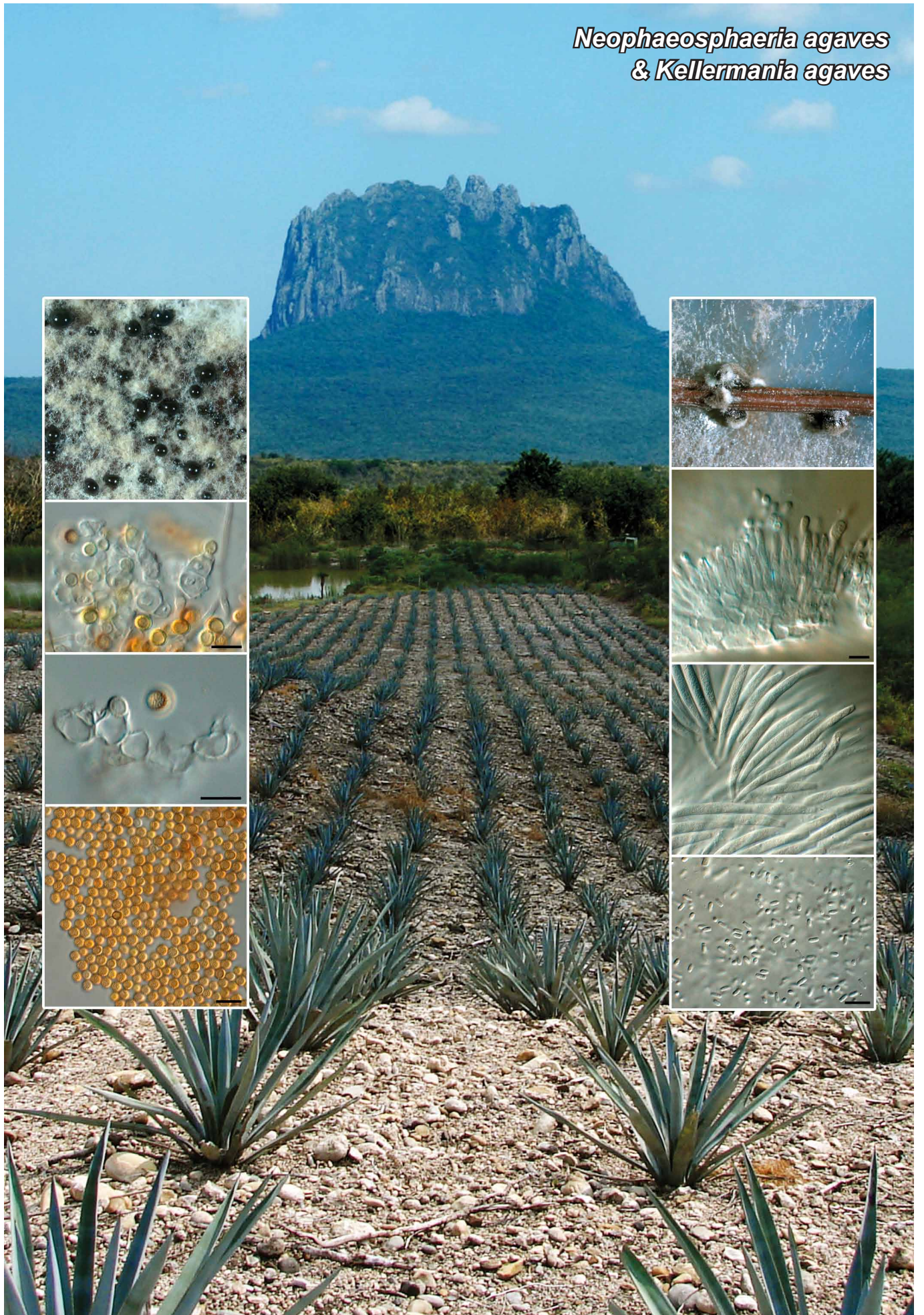


Neophaeosphaeria agaves
& *Kellermania agaves*



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***Neophaeosphaeria agaves* Crous & Yáñez-Moral., sp. nov.**

Etymology. Named after the host genus from which it was isolated, *Agave*.

Conidiomata immersed on PNA, superficial on PDA, globose, up to 300 µm diam, exuding a black, globoid conidial mass through central ostiole; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* hyaline, smooth, ampulliform, lining the inner cavity, phialidic, with prominent periclinal thickening, 4–10 × 4–6 µm. *Conidia* solitary, globose to subglobose, thick-walled, spiny, golden-brown, (3–)4–5(–6) × (4–)5(–6) µm; lacking any visible abscission scar.

Culture characteristics — Colonies after 2 wk reaching 50 mm diam, with moderate aerial mycelium, and even, smooth, lobed margins. On MEA surface dirty white in middle, cinnamon in outer region; reverse dark brick in middle, cinnamon in outer region. On OA patches of dirty white, honey and dark brick. On PDA surface olivaceous-grey with patches of pale olivaceous-grey, reverse iron-grey to olivaceous-grey.

Typus. MEXICO, southern region of Tamaulipas State, on leaves of *Agave tequilana* var. *azul* (*Asparagaceae*), 17 Aug. 2012, M. de Jesús Yáñez-Morales & Lamberto Zúñiga-Estrada (holotype CBS H-21438, culture ex-type CPC 21264, 21265 = CBS 136429, ITS sequence GenBank KF777174, LSU sequence GenBank KF777227, MycoBank MB805843).

Notes — *Neophaeosphaeria agaves* is phylogenetically closely related to other species of the genus *Neophaeosphaeria*. The genus *Neophaeosphaeria* has coniothyrium-like anamorphs (Cámara et al. 2003), which have thus far all been described from *Yucca* spp. (*Asparagaceae*). As *Agave* also occurs in the *Asparagaceae*, it is thus not surprising to find species of *Neophaeosphaeria* on this host. *Neophaeosphaeria agaves* is morphologically distinct from other species in the genus by having rather small, (3–)4–5(–6) × (4–)5(–6) µm, aseptate, spiny conidia.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Neophaeosphaeria filamentosa* (GenBank GQ387577; Identities = 870/875 (99 %), no gaps), *Subplenodomus violicola* (GenBank GU238156; Identities = 861/876 (98 %), Gaps = 2/876 (0 %)) and *Leptosphaeria biglobosa* (GenBank GU237980; Identities = 860/875 (98 %), no gaps). Closest hits using the ITS sequence had highest similarity to *Neophaeosphaeria conglomerata* (GenBank AF250824; Identities = 682/695 (98 %), Gaps = 2/695 (0 %)), *N. filamentosa* (GenBank AF250825; Identities = 677/693 (98 %), Gaps = 1/693 (0 %)) and *N. quadrisepitata* (GenBank AF250826; Identities = 666/695 (96 %), Gaps = 2/695 (0 %)).

***Kellermania agaves* Crous & Yáñez-Moral., sp. nov.**

Etymology. Named after the host genus from which it was collected, *Agave*.

Conidiomata pycnidial, black, separate, globose, erumpent, up to 350 µm diam, unilocular with central ostiole; wall of several layers of *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Macroconidiogenous cells* lining the inner cavity, hyaline, smooth, subcylindrical to ampulliform, 7–15 × 2–3.5 µm; proliferating several times percurrently near apex. *Macroconidia* (47–)53–58(–60) × (5–)5.5(–6) µm, solitary, hyaline, smooth, guttulate, aseptate, thin-walled, subcylindrical, widest in middle, tapering in upper third to subacute apex, base truncate with minute marginal frill, conidia surrounded by persistent mucoid sheath, 1 µm diam. *Microconidiogenous cells* hyaline, smooth, subcylindrical, frequently with a supporting cell giving rise to 1–2 conidiogenous cells, 4–10 × 2–3 µm; apex with periclinal thickening. *Microconidia* hyaline, smooth, granular, subcylindrical, straight, apex obtuse, base truncate, 3–5 × 2–2.5 µm.

Culture characteristics — Colonies after 2 wk covering the dish with sparse aerial mycelium; on MEA, OA and PDA surface and reverse iron-grey.

Colour illustrations. *Agave tequilana* var. *azul* plantation, Mexico. Left column *Neophaeosphaeria agaves*: conidiomata on PDA; conidiogenous cells and conidia. Right column *Kellermania agaves*: conidiomata on PNA; conidiogenous cells, macro- and microconidia. Scale bars = 10 µm.

Typus. MEXICO, Edo. de Mexico, on grey leaf lesions of *Agave tequilana* var. *azul* (*Asparagaceae*), 28 Nov. 2012, M. de Jesús Yáñez-Morales (holotype CBS H-21439, culture ex-type CPC 21713 = CBS 136430, ITS sequence GenBank KF777164, LSU sequence GenBank KF777217, MycoBank MB805844).

Notes — *Kellermania agaves* is characterised by having cylindrical, aseptate conidia. It needs to be compared to other similar taxa in the genus, namely *K. attenuata* (on *Yucca* sp., Mexico; conidia 70–85 × 3–5 µm) and *K. crassispora* (on *Nolina* sp., USA; conidia 56.8–78.4 × 12.8–14.5 µm). It can easily be distinguished from both these taxa based on its conidial dimensions (Nag Raj 1993, Minnis et al. 2012).

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Kellermania plurilocularis* (GenBank JX444878; Identities = 836/849 (98 %), Gaps = 1/849 (0 %)), *K. dasyliirionis* (GenBank JX444873; Identities = 851/866 (98 %), Gaps = 1/866 (0 %)) and *K. micranthae* (GenBank JX444875; Identities = 853/870 (98 %), Gaps = 3/870 (0 %)). Closest hits using the ITS sequence had highest similarity to *K. plurilocularis* (GenBank JX444862; Identities = 394/400 (99 %), Gaps = 1/400 (0 %)), *K. dasyliirionicola* (GenBank JX444856; Identities = 377/387 (97 %), Gaps = 0/387 (0 %)) and *K. micranthae* (GenBank JX444859; Identities = 376/390 (96 %), Gaps = 3/390 (0 %)).

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