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Phaeosphaeriopsis musae M. Arzanlou & Crous, sp. nov.

MycoBank: MB501011.

Anamorph: Phaeoseptoria musae Punith., Kew Bull. 31: 469. 1977.

Latin diagnosis: Ascosporae fusoideae-ellipsoideae, 3-septatae, brunneae, verruculosae, $(15-)17-19(-21) \times (3.5-)4$ µm; anamorphe *Phaeoseptoriae musae* formans in vitro.

Description: Leaf spots amphigenous, but more prominent on the upper leaf surface, pale brown to grey, surrounded by a dark brown margin, irregular, elongated, up to 6 mm wide. Ascomata amphigenous, occurring separately, or on older lesions in association with other leaf spot pathogens. Ascomata brown, up to 130 μm diam; wall consisting of 2–3 layers of brown cells of textura angularis. Asci bitunicate, subcylindrical, stipitate, fasciculate, 8-spored, 38–60 × 7–8 μm. Pseudoparaphyses intermingled among asci, hyaline, branched, septate, 1–2 μm diam. Ascospores fusoid-ellipsoidal with obtuse ends, widest in the cell above the primary septum, 3-septate, brown, verruculose, guttulate, $(15-)17-19(-21) \times (3.5-)4$ μm. Ascospores germinating predominently from polar ends, with germ tubes growing down into the agar; germinating spores distorting, becoming up to 8 μm wide. Conidiomata pycnidial, brown, formed in and on agar surface, up to 300 μm diam. Conidiogenous cells ampulliform to doliiform, hyaline to pale brown, proliferating percurrently, 5–7 × 3–5 μm. Conidia obclavate, apex subacutely rounded, base obconically subtruncate, 1–4-septate, pale brown, smooth, $(17-)20-30(-35) \times (2-)3-4$ μm.

Cultural characteristics: Colonies flat, spreading, with sparse to moderate aerial mycelium; margins smooth, regular. Colonies isabelline on 2 % malt extract agar (MEA; Oxoid)¹, with sepia outer zone, and sepia in reverse; colonies reaching 30 mm diam after 1 month on MEA at 25 °C; colonies fertile, producing the anamorph in culture.

Typus: **Mauritius**, on leaves of *Musa* sp., 1 Jan. 2005, collected by Y. Jaufeerally-Fakim, CBS-H 19777, **holotypus**; cultures ex-type CPC 11237 = CBS 120026, CPC 11238–11239.

Notes: This species is commonly isolated from leaf spots of banana, where it is assumed to be a weak pathogen or secondary invader. It has been isolated from lesions associated with *Mycosphaerella fijiensis* M. Morelet, *M. musicola* R. Leach ex J.L. Mulder, *M. eumusae* Crous & Mour., *Sphaerulina musae* T.Y. Lin & J.M. Yen, and *Cordana musae* (Zimm.) Höhn. It appears to be widely distributed with the host, and probably occurs in most countries where bananas are cultivated.

The genus *Phaeosphaeriopsis* M.P.S. Câmara, M.E. Palm & A.W. Ramaley was recently established for *Paraphaeosphaeria*-like species with 4–5-septate ascospores, and *Coniothyrium*-like or *Phaeostagonospora*-like anamorphs². Although *P. musae* does not have 4–5-septate ascospores, its *Phaeoseptoria* Speg. anamorph is similar to those accommodated in *Phaeostagonospora* A.W. Ramaley. *Phaeosphaeriopsis musae* also resides with others presently placed in *Phaeosphaeriopsis* based on its nucleotide sequence data.

BLASTn results of the ITS sequence of *P. musae* (GenBank DQ885894) had an E-value of 0.0 with the ITS sequence of a *Phaeoseptoria* sp. (AF439470; 99 % identical), *Phaeosphaeria oryzae* I. Miyake (AF439495; 98 % identical) and a *Phaeosphaeria* sp. (DQ092527; 93 % identical).

Colour illustrations: Banana plantation of *Musa acuminata* in southern Africa (A. Viljoen); ascomata on necrotic leaf tissue (black dots); asci with ascospores; conidia (P.W. Crous). Scale bars = $10 \mu m$.

References: ¹Gams W, Hoekstra ES, Aptroot A (eds) (1998). CBS course of mycology 4th ed. Centraalbureau voor Schimmelcultures, Baarn, Delft, Netherlands. ²Câmara MPS, Ramaley AW, Castlebury LA, Palm ME (2003). Neophaeosphaeria and Phaeosphaeriopsis, segregates of Paraphaeosphaeria. Mycological Research 107: 516–522.

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