AN ADDITION TO SEPTORIA FROM PAKISTAN

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Abstract

Septoria salivadorae Abbas, Sutton & Ghaflar sp. nov. on Salvadora persica is described, illustrated and compared with related taxa.

Introduction

During the course of examination of Coelomycetes on Salvadora from Pakistan, a pycnidial fungus on Salvadora with multiseptate, hyaline, cylindrical conidia was found which is clearly different from Phloeospora salivadorae Abbas, Sutton and Ghaflar (1999) and Pseudocercospora salivadorae Deighton (Deighton, 1976) by its conidial and conidiomatal morphology. This is described as Septoria salivadorae. There do not appear to be any reports of Septoria on Salvadora spp.

The typification of Septoria and the arguments surrounding proposals for conservation are found in Wakefield (1940), Rogers (1949) and Donk (1964).

Sutton (1980) placed species of Septoria in three groups based on conidiogenesis. Species congeneric with the type, S. cytisi, in having homogenous sympodial conidiogenesis included S. chrysanthemella Sacc., S. obesa Syd., S. pessarinii Sacc., and S. helianthi Eli. & Kell. Species with intergeneric and stationary conidiogenesis are S. apicola Speg., and S. tritici Rob. Species with simple homogenous development and no sign of sympodial or progressive proliferation are S. adanensis Petrak, S. leucanthemae Sacc. & Speg., S. socia Pass., S. lactucae Pass., and S. glycinex. Sutton (1980) further suggested that members of the latter two groups could form the basis of segregates from Septoria established primarily on conidiogenesis, but until many more species are revised it would be premature to suggest any nomenclatural changes. Septoria salivadorae sp. nov., belongs to the last group.

Septoria salivadorae Abbas, Sutton & Ghaflar sp. nov.

Fig. 1.

Conidiomata pycnidialia, nigra, separata vel aggregata, sphaerica vel applanatoglobose, unilocularia vel bilocularia, 168-378x138-273 μm. Ostiolum singulum, centrale, circulare, interdum evolutum, pycnidialia intimus pycnidialia Diplodia salivadorae. Parietes ex textura prismatica, dilute brunnei, consistentes 3-8 cellulis crassis ad 4-16 μm lati. Conidiophora absenta. Cellulae conidiogenae hyalinae, laeves, lageniformes, 2.4-8x2.4-3.2 μm, non-proliferantes. Conidia hologenetica, hyalina, laevia, cylindrica vel fusiformia, 3-4 (-6) septata, apicem obtusa, basim truncata, 17.6-30x3.4 μm.

In ramis emortuis Salvadora persica viatici inter Karachi et Hyderabad, Pakistan. 8 Apr. 1964, S. Ahmad 16912d (IMI 138491d), holotypus.

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Fig. 1. *Septoria salviae* (A) V.S. of conidium, 40X. (B) Conidiogenous cells, 1800X. (C) Conidia, 1800X.
Septoria salvadorensis Abbas, Sutton & Ghaffar sp. nov.

Conidiomata pycnidal, sometimes developing inside empty pycnidia of Diplodia salvadorensis, black, separate or aggregated, spherical to ellipsoidal-globose, unilocular or bilocular, 168-378x138-273 μm; ostiolar single, central, circular. Wall pale brown, consisting of textura prismatica 3-8 cells thick and 4-16 μm wide. Conidiophores absent. Conidiogenous cells hyaline, lageniform, smooth, non-proliferating, 2.4-8x2.4-3.2 μm. Conidia holoblastic, hyaline, smooth, cylindrical or fusiform, 3-4 (6) euseptate, apex obtuse, base truncate, 17.6-30x3.4 μm.

Septoria salvadorensis can easily be differentiated from Pseudocercospora salvadorensis Deighton (1976) and Phleosporella salvadorensis by its pycnidal conidiomata. Sometimes Septoria salvadorensis is also to be found as a facultative parasite in Diplodia salvadorensis Ahmad. It is completely surrounded by the pycnidial wall of D. salvadorensis, which is up to 10 cells thick and up to 64 μm wide. This wall can easily be differentiated from the conidiomatal wall of S. salvadorensis where cells are thin, pale brown and consisting of larger cells of textura prismatica. Sometimes there are also conidia of D. salvadorensis to be found between the two walls. It would appear that conidiomata of Septoria salvadorensis develop inside the pycnidia of D. salvadorensis after discharge of its conidia, indicating its facultative parasitic nature. Such a type of parasitism has also been reported by Punithalingam (1979, 1981) as opportunistic parasitism or dual adaptation for Ascochyta psammiae Oudem., parasitic on Amanodaphrium metallicum (Trail) Eriksson, and Tiarosporiella caricina Punithalingam on Neovisporia arenoria Sydow. Generally, Septoria species are not parasitic on other fungi. However, Batista, Peres & Iqbal (1967) reported Septoria leptosphaericiola Batista, Cavalcanti & Iqbal as parasitic on Leptosphaeria ranuicis Batista, Cavalcanti & Iqbal occurring on Rumex nepalensis from Pakistan. However S. leptosphaericiola has smaller conidiomata (40-140 μm) than in S. salvadorensis (168-378x138-273 μm). Similarly conidiogenous cells are also smaller and narrower (2.5x2.5-5 μm) compared with S. salvadorensis (2.4-8x2.4-3 μm). However the conidia of S. leptosphaericiola are 2-8 septate and longer and thinner (15-51x1-2.5 μm) than S. salvadorensis where conidia are 17.6-30x3.4 μm and 3-4 (6) septate.

Specimen examined

Septoria salvadorensis Abbas, Sutton & Ghaffar sp. nov.

On stem of Salvadora persica, Karachi to Hyderabad highway road, Pakistan, 8 April 1964, S. Ahmad (IMI 138491d), holotype.


Pseudocercospora salvadorensis (Maire) Deighton

On leaves of Salvadora persica, Mauritania, Shar dure litorales vers 17 (N) South Western Sahara, 7 March 1937, Mart, Recoltes de la mission de etudes de la biologia Mauritania occidental No. 19/Path., holotype, (= holotype of Cercospora salvadorensis Maire); on leaves of Salvadora persica, Udaipur, Rajasthan, India, February 1960, Prasad, Singh & Bhatnagar (IMI 86513), (= holotype of Cercospora udaipurensis Prasad, Singh & Bhatnagar.
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