

AN ADDITION TO *SEPTORIA* FROM PAKISTAN

S.Q. ABBAS, B.C. SUTTON* AND A. GHAFFAR**

Department of Botany,
Federal Government Urdu Science College,
University Road, Gulshan-e-Iqbal, Karachi, Pakistan.

Abstract

Septoria salvadorae Abbas, Sutton & Ghaffar sp. nov., on *Salvadora persica* is described, illustrated and compared with related taxa.

Introduction

During the course of examination of Coelomyces on *Salvadora* from Pakistan, a pycnidial fungus on *Salvadora* with multiseptate, hyaline, cylindrical conidia was found which is clearly different from *Phloeosporrella salvadorae* Abbas, Sutton and Ghaffar (1999) and *Pseudocercospora salvadorae* Deighton (Deighton, 1976) by its conidial and conidiomatal morphology. This is described as *Septoria salvadorae*. 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 hogenous sympodial conidiogenesis included *S. chrysanthemella* Sacc., *S. obesa* Syd., *S. passerinii* Sacc., and *S. helianthi* Ell. & Kell. Species with enterogenous and stationary conidiogenesis are *S. apiicola* Speg., and *S. tritici* Rob. Species with simple hogenous development and no sign of sympodial or progressive proliferation are *S. adanensis* Petrak, *S. leucanthemi* Sacc. & Speg., *S. socia* Pass., *S. lactucae* Pass., and *S. glycines*. 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 salvadorae* sp. nov., belongs to the last group.

Septoria salvadorae Abbas, Sutton & Ghaffar sp. nov.

Fig. 1.

Conidiomata pycnidialia, nigra, separata vel aggregata, spherica vel applanato-globosa, unilocularia vel bilocularia, 168-378x138-273 μm . *Ostiolum* singulum, centrale, circulare, interdum evolutens pycnidialia intimus pycnidialia *Diplodia salvadorina*. Parietes ex textura prismatica, dilute brunnei, consistantes 3-8 cellulis crassis ad 4-16 μm lati. *Conidiophora* absentia. *Cellulae conidiogenae* hyalinae, laeves, lageniformes, 2.4-8x2.4-3.2 μm , non-proliferationes. *Conidia* hologenitica, hyalina, laevia, cylindrica vel fusiformia, 3-4 (-6) septata, apicem obtusa, basim truncata, 17.6-30x3-4 μm .

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

*C.A.B. International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

**Department of Botany, University of Karachi, Karachi-75270, Pakistan.

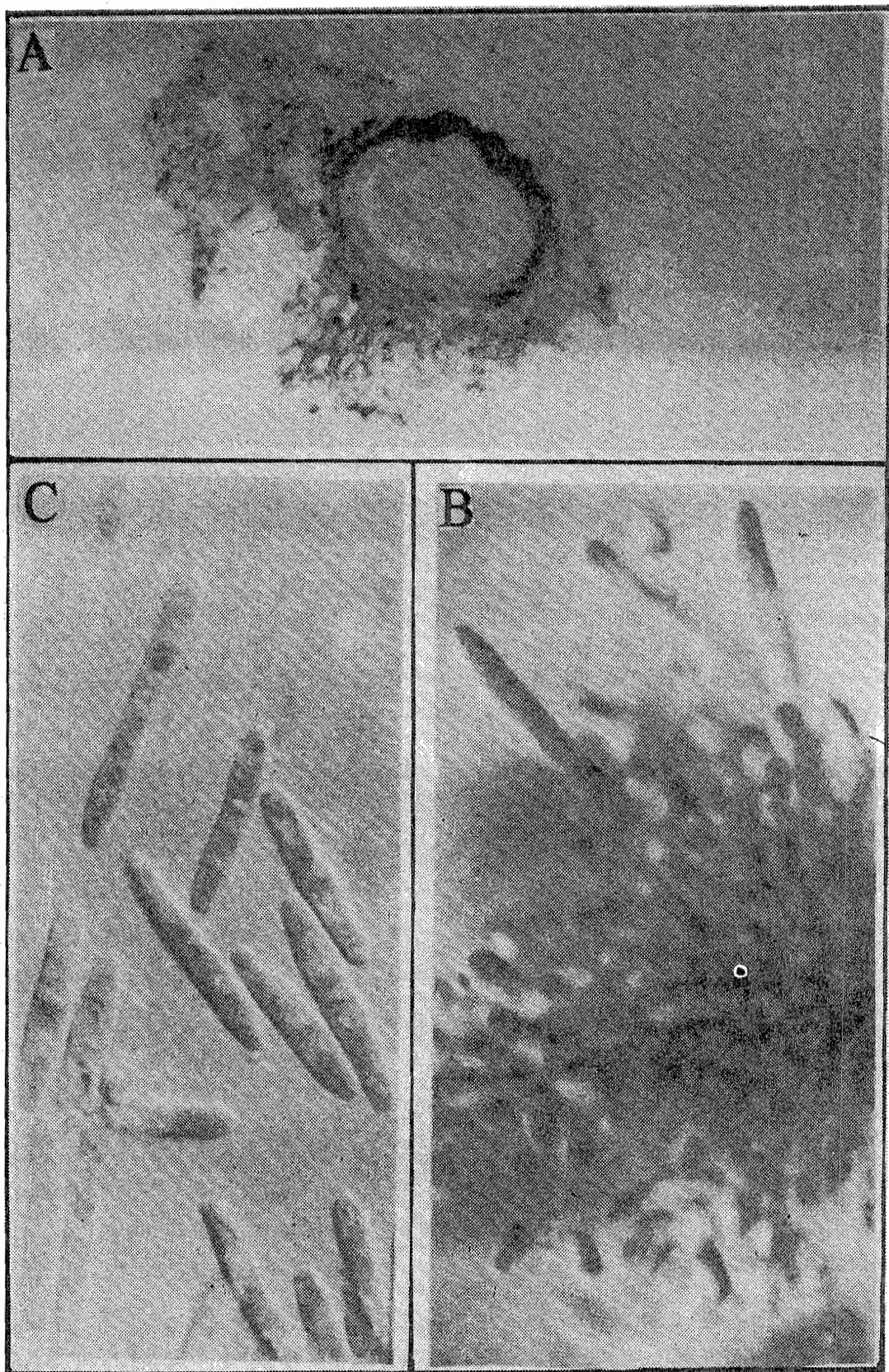


Fig. 1. *Septoria salvadorae* (A) V.S. of conidioma, 40X; (B) Conidiogenous cells, 1800X; (C) Conidia, 1800X.

***Septoria salvadorae* Abbas, Sutton & Ghaffar sp. nov.**

Conidiomata pycnidial, sometimes developing inside empty pycnidia of *Diplodia salvadorina*, black, separate or aggregated, spherical to applanate-globose, unilocular or bilocular, 168-378x138-273 μm ; ostiole 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* hologenous, hyaline, smooth, cylindrical or fusiform, 3-4 (6) euseptate, apex obtuse, base truncate, 17.6-30x3-4 μm .

Septoria salvadorae can easily be differentiated from *Pseudocercospora salvadorae* Dieghton (1976) and *Phloeospora salvadorae* by its pycnidial conidiomata. Sometimes *Septoria salvadorae* is also to be found as a facultative parasite in *Diplodia salvadorina* Ahmad. It is completely surrounded by the pycnidial wall of *D. salvadorina*, 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. salvadorae* where cells are thin, pale brown and consisting of larger cells of *textura prismatica*. Sometimes there are also conidia of *D. salvadorina* to be found between the two walls. It would appear that conidiomata of *Septoria salvadorae* develop inside the pycnidia of *D. salvadorina* 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 psammae* Oudem., parasitic on *Amarenographium metableticum* (Trail) Eriksson, and *Tiarosporrellivora caricina* Punithalingam on *Neottiospora arenaria* Sydow. Generally, *Septoria* species are not parasitic on other fungi. However, Batista, Peres & Iqbal (1967) reported *Septoria leptosphaeriicola* Batista, Cavalcanti & Iqbal as parasitic on *Leptosphaeria rumicis* Batista, Cavalcanti & Iqbal occurring on *Rumex nepalensis* from Pakistan. However *S. leptosphaeriicola* has smaller conidiomata (40-140 μm) than in *S. salvadorae* (168-378x138-273 μm). Similarly conidiogenous cells are also smaller and narrower (2-5.5x2.5-5 μm) compared with *S. salvadorae* (2.4-8x2.4-3 μm). However the conidia of *S. leptosphaeriicola* are 2-8 septate and longer and thinner (15-51x1-2.5 μm) than *S. salvadorae* where conidia are 17.6-30x3-4 μm and 3-4 (6) septate.

Specimens examined***Septoria salvadorae* Abbas, Sutton & Ghaffar sp. nov.**

On stem of *Salvadora persica*, Karachi to Hyderabad highway road, Pakistan, 8 April, 1964, S. Ahmad 16912d (IMI 138491d), holotype.

Phloeospora salvadorae (Prasad, Singh & Bhatnagar) Abbas, Sutton & Ghaffar on leaves of *Salvadora persica*, Ajmer, Rajasthan, India, Feb. 1959 G.C. Bhatnagar (IMI 79222), holotype of *Septogloeum salvadorae*.

***Pseudocercospora salvadorae* (Maire) Deighton**

On leaves of *Salvadora persica*, Mauritania, Shar dune 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 salvadorae* 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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