

Studies on *Cercospora* Spp. From West Bengal

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Three species of *Cercospora* Fresenius, viz. *Cercospora atylosiae* Thirumalachar & Govindu, *Cercospora benghalensis* Chiddarwar, and *Cercospora hydroleae* Thirumalachar & Govindu, have been collected from different districts of West Bengal during 1985-86. These are figured and described in the paper. These species are reported for the first time from the State of West Bengal.

Key words : Taxonomy, *Cercospora*, West Bengal

The acknowledgement of the genus *Cercospora* is characterised as a group of imperfect fungi with tail-like spore. The interest in the taxonomic study of this genus has been revived by Chupp (1953). In India, several species of *Cercospora* have been described (Bilgrami *et al.*, 1979, 1981; Sarbhoy *et al.*, 1977-81; Vasudeva, 1963). Deighton (1976, 1983) laid much stress on the thickening of the scars on the conidiophores of *Cercospora*-like fungi. He is of opinion that they belong to two distinct taxonomic categories (1) thickened conidial scars and (2) unthickened conidial scars. According to Deighton there are variations in the thickening of the scars in the first category which may allow some further taxonomic divisions but the distinction between and unthickened is unambiguous.

The species of the genus *Cercospora* are parasitising various species of plants. In this paper the described species of *Cercospora*, *Cercospora atylosiae*, *Cercospora benghalensis* and *Cercospora hydroleae*, have been collected from *Atylosis villosa*, *Commelina benghalensis*, and *Hydrolea zeylanica* respectively.

DESCRIPTION

Cercospora atlyosiae Thirumalachar & Govindu

Sydowia 7: 311 (1953).

(Fig. 1)

Leaf spots amphigenous, more prominent on the dorsal surface, circular to polygonal, scattered, sometimes coalescent, vein-limited, brownish black, 2-5 mm in extent; caespituli amphigenous, chiefly epiphyllous, evenly distributed over the spots, deep olivaceous brown; stroma present, well developed, substomatal,

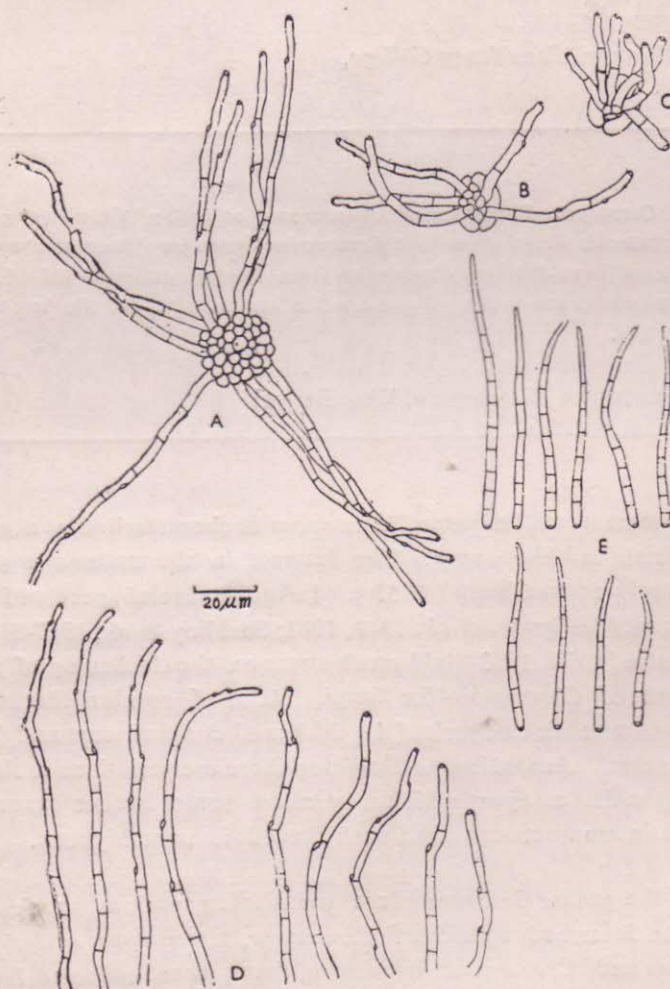


Fig. 1 : *Cercospora atlyosiae*

A-C, Conidiophore fascicles ; D, Conidiophores ; E, Conidia

globular, consisting of compactly grouped cells, deep brown; conidiophores fasciculate, in fascicles of 5-90 divergent stalks, emerging by rupturing by the stomata, yellowish brown, paler towards the apex, straight to flexuous, simple, thick walled, smooth, geniculate (0-9), pluriseptate (0-7 septa), spore scar (0-11) present and conspicuous, lying at the tip or at the point of geniculations of the conidiophore, scar 2.5-3.0 μm in diam., tip blunt, 3.0-3.5 x 85.5-285.0 μm ; conidia obclavate, hyaline, straight to curved, smooth, pluriseptate (2-10 septa), septa distinct, tip sub-acute, base truncate with distinct hilum, 3.0-3.5 x 22.5-115.0 μm .

Specimen studied: On *Atylosia villosa* Benth (Fam: Fabaceae), Belpahari, Midnapore, West Bengal, India. PCC 4821 (=IMI 313688), leg. T. K. De, 13 December, 1986.

Cercospora benghalensis Chiddarwar

Sydowia 13: 152 (1959).

(Fig 2)

Leaf spot amphigenous, scattered, circular to irregular, sometimes coalescent, brownish areas without any definite margin, 2-4 mm in extent; caespituli amphigenous, unevenly distributed over the spots; stroma present, moderately developed, substromatal, globose, consisting of blackish spherical hyphal cells; conidiophores in fascicles mostly not dense, consisting of 2-17 divergent stalks, dark brownish, paler towards the apex, thick walled, more narrower towards the tip, smooth, unbranched, pluriseptate (3-9 septa), straight to undulate, 0-5 geniculate, geniculate mostly on the upper part, spore scar very distinct, 1-6 in number, situated on the tip or at the point of geniculations, tip subtruncate with a spore scar, 3.5-5.0 x 26.5-205.0 μm ; conidia acicular to obclavate, straight to curved, smooth, pluriseptate (6-16 septa), septa distinct, tip obconic, base truncate with a hilum, 2.0-4.0 x 19.0-105.0 μm .

Specimen studied: on *Commelina benghalensis* Linn. (Fam: Commelinaceae), Begampur, Hooghly, West Bengal, India, PCC 4913 (=IMI 302658), leg. T. K. De, 22 December, 1985.

Cercospora hydroleae Thirumalachar & Govindu

Sydowia 7: 310 (1953)

(Fig 3)

Leaf spots amphigenous, more prominent on the dorsal surface, circular to subcircular, scattered, primarily whitish centre with blackish margin, at maturity brownish white centre with dark brown margin, 1.5-3 mm in extent; caespituli

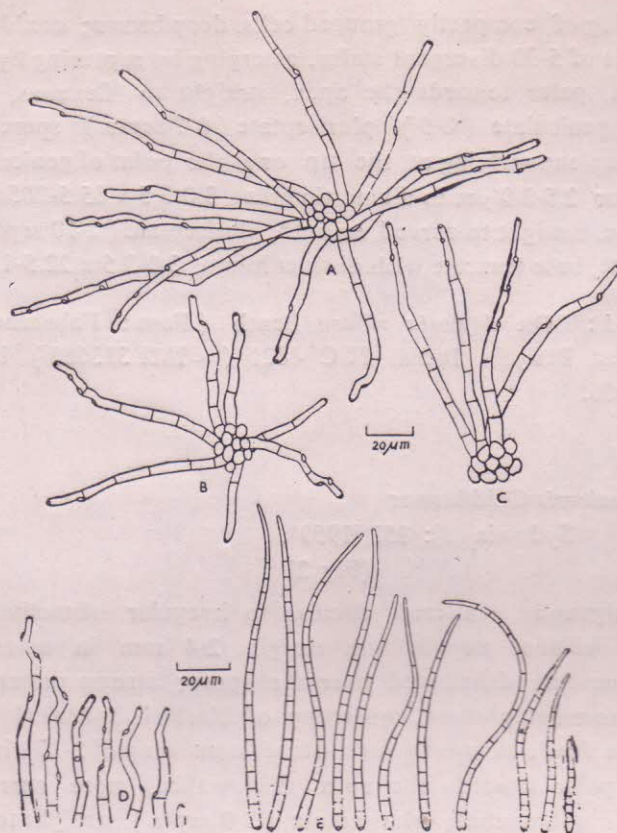


Fig. 2 : *Cercospora benghalensis*

A-C, Conidiophore fascicles ; D, Conidiophores ; E, Conidia

amphigenous, better on ventral surface, unevenly distributed over the spots ; stroma absent ; conidiophores fasciculate, very loosely arranged, consisting of 2-10 divergent stalks in a fascicle, very often solitary, pale brownish, paler towards the apex, smooth, mostly unbranched, rarely branched, septate (0-3), straight to flexuous, geniculate (0-2), spore scar distinct, 1-3 in number, situated on the tip or at the point of geniculations, tip subtruncate with a distinct spore scar, $3.5-5.0 \times 20.0-120.0 \mu\text{m}$; conidia obclavate, hyaline, curved mostly, rarely straight, smooth, thin walled, pluriseptate (5-24 septa), septa distinct to indistinct, tip acute, base obtruncate, $3.0-4.5 \times 40.0-190.0 \mu\text{m}$.

Specimen studied : On *Hydrolea zeylanica* Vahl. (Fam : Hydrophyllaceae), Kalswar, Burdwan, West Bengal, PCC 4922, (=IMI 302667), leg. T. K. De, 11 November, 1985.

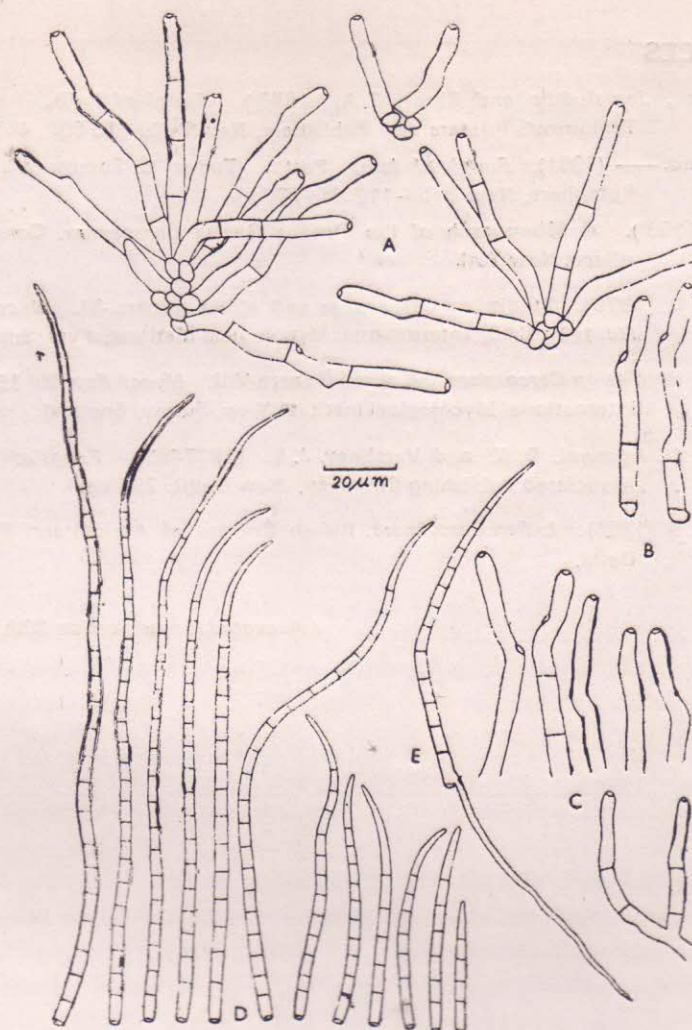


Fig. 3 : *Cercospora hydroleae*

A, Conidiophore fascicles ; B & C, Conidiophores ; D, Conidia ;
E, Conidium in germination.

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