
Study on some aspects of plant pathogenic hyphomycetous fungi of Hooghly district of West Bengal

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In the present investigation the disease symptoms on the different host plants caused by different species of pathogenic hyphomycetous fungi were recorded. The investigation was carried out in the Hooghly district during the period of October 2000 to July 2001. Leaf spot was the main symptom followed by leaf blight. *Alternaria* was the dominant genus followed by *Cercospora*.

Key Words : Plant disease, nature of symptoms, pathogenic hyphomycetous fungi

INTRODUCTION

The plant pathogenic hyphomycetous fungi are of heterogeneous in nature and behaviour. The habitat of these fungi and the condition under which they occur are very diverse.

The meteorological conditions of the district of Hooghly are ideal and favourable for the growth of different kinds of plants both wild and cultivated. These environmental conditions are also favourable for the growth and development of the pathogens on susceptible host plants. The organisms caused diseases to the local plants and cash crops leading to the annual loss.

The main objectives of the study are to record plant pathogenic hyphomycetous fungi, nature of disease symptoms, distribution pattern and cultural characteristics of the pathogen.

MATERIALS AND METHODS

Frequent field trips were done in different areas of the district specially in agricultural field during the period between November 2000 to July 2001 to study the nature of infection caused by pathogenic fungi.

Collection of infected parts of plants were made for

laboratory study to identify the pathogen. A healthy twig was also collected for proper identification of the host plants. Preparation of slides were made for microscopic examination for collected specimens using lactophenol and cotton blue as a staining agent. Identification of the pathogen were made after consulting literatures.

For culture study, some of the hyphomycetous fungi were routinely cultured in PDA and Czaper dox agar media to observe the cultural characteristics of the pathogen.

RESULT AND DISCUSSION

So far the cultural ability of the pathogens were concerned it had been observed that species of *Cercospora* mentioned in the Table 1 were poorly grown and even they were unable to developed conidia in the selected media (PDA and CZA).

The nature and distribution pattern of pathogenic hyphomycetous fungi treated in the present investigation did not vary greatly in their seasonal occurrence. Data from the work revealed that the nature of symptoms on the hosts were mainly leaf spots followed by leaf blight. The identified pathogens were very common and were widely distributed in this district. The present investigation was done only in seven different localities of the

district between the period November, 2000 to July, 2001. Data also revealed that species of *Alternaria* are dominant and widely distributed in this area followed by *Cercospora* and the least members were from Sphaeropsidales. Further work is necessary for a clear picture of distribution pattern of hyphomycetous fungi in large remaining areas of the district throughout season of the year.

Table 1 : Symptoms of the different diseases caused by different pathogenic hyphomycetes.

Date & Place	Host	Disease	Pathogen
5.11.2000	<i>Basella</i>	Leaf spot	<i>Cladosporium herbarum</i>
Bandel	<i>Brassica campestris</i>	Leaf spot	<i>Alternaria brassicae</i>
	<i>Brassica oleracea</i>		
	var. <i>botrytis</i>	Leaf spot	-do-
	<i>Lycopersicum esculentum</i>	-do-	<i>Cladosporium gloeosporioides</i>
		Leaf blight	Unidentified
	<i>Carica papaya</i>	Leaf spot	<i>Cladosporium herbarum</i>
12.11.2000	<i>Brassica oleracea</i>		
Bainchi	var. <i>botrytis</i>	Leaf spot	<i>Alternaria alternata</i>
	<i>Brassica oleracea</i>		
	var. <i>capitata</i>	Leaf spot	<i>Alternaria brassicicola</i>
	<i>Solanum tuberosum</i>	Late leaf blight	<i>Phytophthora infestans</i>
	<i>Solanum tuberosum</i>	Early leaf blight	<i>Alternaria solani</i>
	<i>Vicia fabae</i>	Leaf spot	<i>Alternaria alternata</i>
		Fruit spot	-do-
	<i>B. campestris</i>	Leaf spot	<i>A. brassicicola</i>
	<i>Cucumis sativus</i>	-do-	<i>Cladosporium</i> sp.
	<i>Dolichos lablab</i>	-do-	<i>Cercospora canescence</i>
	<i>Cucurbita pepo</i>	-do-	<i>Cercospora</i> sp.
	19.11.2000	<i>Mikania scandens</i>	Leaf spot
Bandel	<i>Raphanus sativus</i>	Leaf spot	<i>Alternaria brassicicola</i>
	<i>Solanum tuberosum</i>	Late blight	<i>Phytophthora infestans</i>
	-do-	Early blight	<i>Alternaria solani</i>
3.12.2000	<i>S. tuberosum</i>	Late blight	<i>P. infestans</i>
Chinsura		Early blight	<i>Alternaria solani</i>
	<i>Oryza sativa</i>	Leaf blast	<i>Pyricularia oryzae</i>
10.12.2000	<i>S. tuberosum</i>	Late blight	<i>P. infestans</i>
Hooghly	<i>Colocasia esculenta</i>	Leaf spot	<i>Fusariella</i> sp.
	<i>Lagenaria siceraria</i>	Leaf spot	<i>Cercospora</i> sp.
	<i>Erythrina indica</i>	Leaf spot	<i>Corynespora</i> sp.
	<i>Mangifera indica</i>	Leaf spot	Sphaeropsidales
14.1.2001	<i>Cassia fistula</i>	-do-	<i>Curvularia</i> sp.
Baidyabati	<i>Bauhinia acuminata</i>	-do-	<i>Phyllosticta bauhiniae</i>
18.2.2001	<i>Artocarpus integrifolia</i>	-do-	<i>P. atrocarpina</i>
Baidyabati			
18.2.2001	<i>Saccharum officinarum</i>	-do-	<i>Colletotrichum falcatum</i>
Khanayan	<i>Solanum tuberosum</i>	Late bight	<i>P. infestans</i>
01.04.2001	<i>Momordica</i>	Leaf spot	<i>Alternaria alternata</i>
Diara Nalikul	<i>cochisinensis</i>		
	<i>Capsicum annum</i>	-do-	<i>Colletotrichum capsici</i>

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