



DIVERSITY OF MICRO FUNGI FROM THE FOREST OF JALGAON DISTRICT, MAHARASHTRA, INDIA

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Abstract

An extensive and intensive survey was conducted in the forests, fields, plantations and nurseries of Jalgaon district in order to collect micro fungi and follicolous fungi. About eighty disease were found in the different plant trees of the district. These genera were *Astromella* – *Pseudocercospora*, *Mycocentrospora*, *Cercospora*, *Phoma*, *Ravanelia Stigmina*, *Scolecostigmina*, *Mycovellosiella*., *Passalora*, and *Pestalotiopsis*, *Rhytisma*, *Sirosporium* etc. They caused different type of pathological symptoms like necrosis, brown spots, black spots and shot hole formation. Most of the disease symptoms starts during the rainy season and continue upto February-March. Some of the disease prolong December-January. They cause serious disease and responsible for pre-mature defoliation.

Key Words: *Pseudocercospora*, *Cercospora*, *Stigmina*, *Scolecostigmina*, *Passalora*, *Mycovellosiella*. and *Sirosporium*, necrosis, brown spots, black spots and shot hole formation

Introduction

The forest of Jalgaon is a Tropical, dry, deciduous types. The vegetation varies with the changes in altitudes aspect and rainfall. There are various subtypes of the forest in the area. In the Manudevi forest there are a number of the parasitic fungi causing various types of the foliage diseases in the forest tress in this area.

This geographical area of Jalgaon is 11765 sq.kms and the total forest lies on the Satpuda range in The Jalgaon District. It is about 60 kms away from the Jalgaon city. It is in continuation with Pal wild life sanctuary. The forest is tropical dry deciduous and have various trees, shrubs and herbs.

Materials and Methods

For the collection of the microfungi, *i.e* follicolous and phytopathogenic of the forest of Jalgaon district a frequent survey was conducted into different sites like Manudevi Forest, Pal Forest, Scrubbed Forest, Yawal Forest, Nurseries, Plantation, Garden and Road Side Plantations. In the field the symptomology and other information such as place of collection, locality, local names of the plant and date of collections were noted.

Scrap mount were prepared from infected portion in lactofuschin and glycerine and lactophenol and cotton blue. Free hand section were also made when needed. Some infected leaves or other suitable parts of selected specimen were preserved in F.A.A. for further use. Microscopic studies were made. The Fungi has been described and identified with the help of various monographs, reviews, authentic books, research papers published in the standard journals.

Result and Discussion

The fungal pathogens with have been described were identified with the help of various monographs, reviews, authoritative books and research papers published in the standard Journals The detailed taxonomic studies of Hyphomycetes have been carried out with the help of “Monographs” including mainly the genus *Cercospora* (Chupp, 1953), “Indian *Corcosporae*” (Vasudeva, 1962), “*Dematiaceous*” (Ellis, 1971, 1976), “*Hyphomycetes*” (Subramanian, 1971), “The Fungi”, (Ainsworth *et al.*, (1973 a) and several mycological papers” (Deighton, 1967 a, 1973, 1974, 1976a, 1979; Sutton 1973, 1975). Coelomycetes-V, (Sutton, B.C. (1975) Fungi of India Jamaluddin *et. al.*, (2008).

S.N.	Host	Fungi	Symptoms	Locality	Period
1	Acacia auriculiformis	Alterneria alterneta	leaf spot	Manudevi forest, Pal forest	July to October
2	Adina cordifolia	Cercospora adinae.	Brown Spot	Manudevi forest	Sept. to Jan.
3	Adina cordifolia	Mycovellosiella adinae	Leaf Spot	Manudevi forest	Oct. to Feb.
4.	Adina cordifolia	Pseudocercospora adinae	Brown spot	Manudevi Forest	Oct. to Jan
5	Agleis marmelos	Cercospora sp	Black spot	Farmer's Field around jalgaon	Oct. to Jan.
6	Ailanthus excelsa	Pseudocercospora Sp.	Leaf Spot	Pal Forest	Jul to Dec.
7	Ailanthus excels	Alterneria alterneta	Leaf Spot	Pal Forest	Jul to Dec.
8	Albizia lebbeck	Cercospora appi	Black spot	Road side plantation	Jan to Mar
9	Albizia lebbeck	Ravanelia sessilis	Rust	Road side plantation	Jan to Mar
10	Albizia porocera	Ravanelia indica	Rust	Road side plantation	Jan to Mar
11	Annona squamosa	Pseudocercospora annonae	Black spot	Scrubbed forest	July to Dec
12	Anogeissus latifolia	Pestalotiopsis versicola	Leaf spot	Manudevi Forest	Aug. to Dec.
13	Anogeissus latifolia	Alterneria sp	Leaf spot	Pal forest	Aug. to Dec.
20	Anogeissuslatifolia	Pseudocercospora anogeissia,	Brown spot	Manudevi Forest	Sept. to Jan.
21.	Anogussus acuminata	Pseudocercospora acuminatae	Brown spot to shot hole formation	Manudevi Forest	July to Dec.
22	Azadirahtha indca	Pseudocercospora sagarenis	Leaf Spot	Road side plantation and Field	Jul to Dec.
23	Bambusa sp.	Pseudocercospora bambusae	Brown	Yawal Forest	July to Dec.
24	Bambusa nutans	Passalora bambusae (Cook)	Black spot	Plantations	Aug to Jan
25	Bauhinia varigeta	Passalorabauhinigena	Brown spot	Road Side plantations	Aug. to Feb.
26	Bauhinia varigeta	Pseudocercospora bauhiniana	Brown spot	Yawal forest	July to Dec.
27	Bauhinia varigeta	Scolecostigmia phaecorphae	Brown spot	Manudevi forest	Sept to Jan
28	Bauhinia vahlii	Pseudocercospora Sp.	Leaf Spot	Yawal Forest	Aug. to Dec.
29	Bridelia retusa	Pseudocercospora brideligena	Shot hole	Scrubbed forest around Jalgaon	Aug. to Jan
30	Buchanania lanzen	Pseudocercospora buchanaina,	Black spot	Manudevi forest	Sept to Jan.
31	Butea monsperma	Astromella butae	Leaf spot	Pal Forest	Jul to Dec.
32	Butea monsperma	Astromella parabutae	Leaf spot	Yawal Forest	Jul to Dec.
33	Butea monosperma	Cercospora buteae.	Brown spot surrounded by yellow region	Pal forest	Sept. to Jan
34	Buteamonosperma	Passalora buteae	Black spot	Chopda forest	Aug to Dec.
35	Butea monosperma	Pseudocercospora buteae	Black spot	Pal forest	Aug. to Jan
36	Carissa spinorum	Cladosporium Sp.	Leaf Spot	Scrubbed Forest around Jalgaon	Jul to Dec.
37	Casearia temontosa	Astromella Sp.	Leaf spot	Pal forst	Jul to Dec.
38	Cassia fistula	Fusarium solani	Leaf spot, stem infection	Manudevi forest	Jul to Dec.
39	Cassia fistula	Phloeospora cassiae	Black Spot	J. K. Park Nursery Jal.	Aug. to Dec.
40	Cassia fistula	Sirosporium plurisepta	Black spot	Pal forest	Sept to Jan
41	Chloroxylon swietenia	Pseudocercospora chlorosylicola	Black spot	Yawal forest	Sept. to Jan.
42	Cieba pentendra	Cercospora ceibae. Chupp and Viegas	leaf spot	Yawal forest	Aug to Dec.
43	Cordia mixa	Passalora cordiae	Brown Spot	Manudevi	Sept to Feb.

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S.N.	Host	Fungi	Symptoms	Locality	Period
44	Dalbergia sissoo	Phyllactina dalbergia	Powdery mildew	Road side plantation	Oct. to Jan
45	Dalbergia sissoo	Phoma nivea	Black Spot	Road side plantation	Oct. to Jan
46	Dalbergia sissoo	Passalora dalbergiae	Brown spot	Pal forest	Oct to Feb
47	Dendrocalmus sp.	Stigmina dendrocalmi	Black spot	Yawal forest plantations	Aug to Jan
48	Dios pyros sp.	Cercospora diospricola	Black spots	Manudevi	Oct. to Feb
49	Diospyros meloxylon	Scolecostigmina diospyrosis	Black spot	Pal forest	Aug. to Jan
50	Diospyrosmeloxylon	Stigmina diospyri	Black spot	Manudevi forest	Aug. to Feb.
51	Elaeodendron Glaucum	Phoma glomerata	Black spot	Yawal forest	Oct. to January
52	Emblica officinalis	Phoma glomerata	Black Spot	Pal Forest	Sept. to Jan.
53	Emblica officinalis	Revenilla emblicae	Rust	Pal Forest	Sept. to Jan.
54	Erytherina indica	Stigmina erythrinae,	Brown spot	Pal forest	Aug. to Jan
55	Erythirina indica	Passalora eupatorii	Brown spot to shot hole formation	scrubbed forest around Jalgaon	Sept. to Jan
56	Eryththerina suberosa	pseudocercospora sp.	Leaf spot	Manudevi forest	Sept. to Jan.
57	Eucalyptus terelincornis	Phaeoseptoria eucalypti	Leaf spot	Manudevi forest	Sept. to Jan.
58	Ficus beghalensis	Coniothyrium olivacum	Leaf spot	Manudevi forest	Jul to Dec.
59	Ficus glomerata	Ceroltium fici	Rust	Manudevi Forst	Sept to Jan
60	Ficusbenghalensis	Scolecostigmina macaulata	Brown spot	Yawal forest	Jul to Dec.
61	Ficusbenghalensis.	Pseudocercospora ficola	Brown spot	Manudevi forest	Aug. to Jan
62	Ficushispida	Cercospora annulata.	Leaf spot	Chopda forest	Aug. to Jan
63	Flacourtia Indica	Koehneola falacourtiae	Rust	ManudeviForest	Sept to Jan
64	Gardenia turgedia	Phoma gardeniae	Leaf spot	Pal forest	Sept to Jan
65	Gliricidia maculate	Passalora gliricidiae	Brown spot	Road Side plantations	Aug. to Jan
66	Grewia sp.	Astromella Sp.	Brown spot	Yawal forest	Aug. to Jan
67	Grvia asitica	Passalora grviae	Brown spot	Manudevi Forest	Aug. to Jan
68	Gymnosporia spinosa	Alterneria alternate	Brown spot	Yawal forest	Aug. to Jan
69	Gymnosporia spinosa	Pseudocercospora gymnosporiae	Brown spot and necrosis	Scrubbed forest around Jalgaon	Jul. to Dec.
70	Lagerstroemia parviflora	Rhytisma lagerstoemiae	Tar Spot	Manudevi forest	Sept to Jan
71	Lannae coromandelica	Alterneria Sp.	Leaf spot	Manudevi forest	Aug. to Jan.
72	Mangefera indica	Scolecostigmina mangefera	Black spot	Farmer's field around Jalgaon	Sept to Jan.
73	Miliusa sp.	Passalora annonacearum ,	Brown	Yawal forest	Sept. to Jan
74	Mitragyna parviflora	Mycocentrospora mitragynae	red spot	Yawal forest	Aug. to Dec.
75	Ouegenia oogenessus	Stigmina delberoduneisis	Black spot	Pal forest	Sept. to Jan
76	Tamarinds indica	Stigmina tamarandi	Leaf spot	Scrubbed forest around Jalgaon	Sept to Jan.
77	Terminalia arjuna	Pseudocercospora arjunae	Shot hole	Manudevi forest near river	July to Dec.
78	Terminalia arjuna	Stigmina terminalliae	Black spot	Yawal forest Near river	Sept to Feb.
79	Termineria arjuna	Uredo Sp.	Rust	Yawal forest	Sept to Mar.
80	Ziziphus xylopora	Sirosporium xylopyri	Black spot	Yawal forest	Oct to Jan

Conclusion

During the study four study sites were thoroughly surveyed and studied about 80 fungal disease were collected and studied in the different sites,. Among the Phytopathogenic fungi, *i.e.*

Alternaria, *Astromella*, *Cercospora*, *Passalora*,

Pseudocercospora, *Sirosporium*, *Scolecostigmina*, *Stigmina* were very common. *Astromella* had 4 sp *Cercospora*, -7 Sp. *Cladosporium*-1, *Mycocentrospora*-1, *Passalora*,- 4 sp. *Pseudocercospora*, -10 sp. *Rhytisma*-1, *Sirosporium*-2 sp. *Scolecostigmina*- 2 sp. *Stigmina*-2 were found as phytopathogenic. These are the first survey report of

folliculoseous fungi in this region.

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