

Diversity of foliicolous fungi from North Central Tarai forests of U.P. (India)

■ T. P. MALL

SUMMARY

An extensive survey of North Central Tarai Forests of U.P. were made for foliar fungi during May, 2010 to July, 2011. A total of four hundred specimens were collected on angiospermic hosts. From these 26 angiospermic plant species representing 23 genera and 18 families were found infected by thirty fungal species representing 18 fungal genera which are additions to the list all ready communicated for publications.

Key Words : Follicolous fungi, North central, Tarai forest

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The leaves provide a very suitable habitat for the growth and development of fungal pathogen by providing ample surface area and nutrient supply. Such leaf inhabiting fungi are known as foliicolous fungi and invaded area of the leaf appear as leaf spot or leaf lesions. Taxonomic studies of such fungal forms have been generally considered as only of academic interest, taxonomic treatment of a fungal organism in the first requirement for any studies concerning its biology. Correct identification of a fungus absolutely free from ambiguities is vital for its employment in applied disciplines. Infact without being equipped for ascertaining the correct identity of a fungul pathogen all studies concerning its phytologocal aspects would be misleading. The weed and forest plants serve as reservoirs of leaf spot pathogens which on getting opportunity may spread to agriculture and horticulture plants. Keeping this in view, the author surved the North Central Tarai forest fo UP which include East and West Sohelwa, Shrawasti, Bahraich forest range and Bahraich Wildlife Santury during May, 2010 - July, 2011.

During collection, infected leaf samples were taken in separate polythene bags. Suitable mounts of surface scrapping and hand cut sections were prepared from infected portions

of the leaf sampls. Slides were prepared in cotton blue lactophenol mixture, slides were examined and camera lucida drawings were made which seems to be new. Morphotaxonomic determinations of taxa were done with the help of current litretature and resident expertise available. All the fungal taxon were identified after making microscopic preparations and later confirmed by Prof. Kamal, Emeritus Scientist (DST), DDU Gorakhpur University, Gorakhpur.

The author surveyed periodically the forest from Sohelwa East Forest to Katarniaghat Wildlife Sanctuary during May, 2010 - July, 2011 so as to collect and document foliicolous fungi. The present report is an addition to the allready collected fungal list found on several host plant. The author collected twenty six angiospermic plant species representing twenty three genera and eighteen familes parasitized by thirty fungal species which belong to eighteen fungal genera. The fungal holotype specimen were deposited in HCIO, IARI, New Delhi.

Adina cardifolia Hook f. (Rubiaceae) was found infected with *Cercospora adinia* Srivastava *et al.* where as *Anona squamosa* Linn. (Anonaceae) with *Botryodiplidia theobromae* Pat. Apud, Pat and Legerth, *Artocarpus heterophyllus* Lamk (Moraceae) with *Cladosporium artocari* Kulhare and Singh and *Rhizoctonia solani* Kuhn, *Bauhinia purpurea* Linn. (Fabaceae) with *Phoma* sp. Desm., *B. Vahlia* W. and A. (Fabaceae) with *Alternaria bauhiniae* Singh and

AUTHOR TO BE CONTACTED

T. P. MALL, P.G. Department of Botany, Kisan P.G. College, BAHRAICH (U.P.) INDIA
E-mail : drtpmall@rediffmail.com

Mall (2007), *Brassica oleraceae* Linn. (Brassicaceae) with *Sclerotinia sclerotiarum* (L.) Bacy, *Bridelia retusa* Spreng (Phyllanthaceae) with *Colletotrichum gloeosporioides* Penz., *Carissa carandas* Linn. (Apocyanaceae) with *Sirosporium* sp. Bubak and Sereb, *Clerodendrum indicum* Linn. (Verbenaceae) with *Fusarium concolor* Reink, *C. Viscosum* Linn. (Verbenaceae) with *Pseudocercospora clerodendrii* Speg and *Stenella clerodendrii* Syd., *Diospiros melanoxylo* Roxb (Ebenaceae) with *Pseudocercospora kelleri* (Earle) Deight, *Dolichos lablab* Linn. with *Phoma herbarium* and *Pseudocercospora dolichi* Ell. and Ev., *Haplophragma adenophyllum* Linn. (Bignoniaceae) with *Passalora* sp. *Holarrhena antidysentrica* Wall (Apocyanaceae) with *Glomerella cingulata* (Stomen) Spauld and Shrenk, *Holoptelia integrifolia* Planch (Ulmaceae) with *Colletotrichum dematium* (Pers.ex Fr.) Groove *Ichnocarpus frutescens* Linn. (Apocyanaceae) with *Alternaria ichnocarpicola* Singh and Mall, *Inga dulcis* Roxb. Kuntze (Mimosaceae) with *Diatrype diseiformis* Kar and Maity, *Lagenaria siceraria* (Mol) Standl (Cucurbitaceae) with *Curvularia verruculosa* Ellis, *Mallotus philippensis* Lamk (Euphorbiaceae) with *Mycovellosiella malloti* Bhalla *et al.*, *Psium guajava* Linn. (Myrtaceae) with *Rhizoctonia solani* Kuhn and *Cladosporium tennussima* Cke, *Sphaeranthus indicus* Linn. (Asteraceae) with *Cercospora neo-sphaeranthi* Bhartiya Kumari and Singh, *Shorea robusta* Gaertn. f. Fruct. (Dipterocarpaceae) with *Pseudocercospora rhoreae* (Thirum and Kotsuki) Deighton., *Solanum melongena* Linn. (Solanaceae) with *Alternaria solani* Nees, *Solanum tuberosum* Linn. (Solanaceae) with *Cladosporium sphaerospermum* Penz., *Strebulus asper* Lamk. (Moraceae) with *Pseudocercospora strebli* Singh and *Tectona grandis* Linn. (Verbenaceae) with *Phomopsis variosporium* Sacc. Since this area is not thoroughly served and documented and the available literatures (Bilgrami *et al.*, 1979,1981, 1991; Ellis, 1971, 1976; Jamaluddin *et al.*, 2004; Sarbhoy *et al.*, 1986, 1996; Singh and Mall, 2007) reveals that all the fungal taxon are an addition and new record to the Indian foliar mycoflora from North Central Tarai Forests of U.P. (India)

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