

Diversity in phyllosphere mycoflora infected with Black Mildew

T.P. Mall and D.P. Singh

Post Graduate Department of Botany, Kisan P.G. College, Bahraich (U.P.)

Abstract

Correct identity of a fungus absolutely free from ambiguities is vital for its employment in applied discipline. The weeds and forest plants serve as reservoirs of leaf spot pathogens which on getting opportunity may spread to agricultural and horticulture plants. Keeping this view in mind the authors during January 9-12, 2008 while in Mahabaleshwar, surveyed the lush green vegetation for foliicolous fungi on Jan 10, 2008. The authors collected eleven host plants being parasitized with none fungi. out of these two hosts *Syzygium* sp. Linn. (Myrtaceae; HCIO- 48269) and *Flacourtia indica* Merrill (Flacourtiaceae; HCIO- 48270) were found infected with novel species of *Meliola syzyginea* Singh and Mall sp. no. and *M. flacourticola* Sing and Mall sp. nov. respectively. The fungal diversity of Phyllosphere mycoflora of the above said two hosts were worked out following standard methods. On *Syzygium* sp. Linn., *Meliola syzyginea* Singh and Mall sp. no. only was representing frequency class D where as *Aspergillus niger* Van Tiegh, *A. flavus* L., *Curvularia* sp. (Waker) Boedifin was representing class C; *A. Terreus* Thom, *Scoratia* sp., *Mucor* sp. class B; *Fusarium* sp. Sheldon and *Penicillium* sp. class A. No fungus was found representing frequency class E. On *Flacourtia indica* Merrill, *Aspergillus niger* Van Tiegh only was found representing frequency class E where as *Meliola flacourticola* Singh and Mall sp. nov. and *A. ustus* Thom and Church represented class D; *Trichoderma verdi* Pers. ex Fr., *Fusarium* sp. Sheldon. class C; *Rhizopus* sp. Ehrenb ex Corda, *Scoratia* sp. class B and *Trichoderma* sp., *Penicillium globarum* class A.

Keywords:- Mycobial diversity, Phyllosphere, Black mildew, Species novum

Introduction

Correct identity of a fungus absolutely free from ambiguities is vital for its employment in applied discipline. The weeds and forest plants serve as reservoirs of leaf spot pathogens which on getting opportunity may spread to agricultural and horticulture plants. Keeping this view in mind the authors during January 09-12, 2008 while in Mahabaleshwar so as to attend the 60th Annual meeting and National Symposium of Indian Phytopathological Society, New Delhi at Regional Wheat Rust Research Station, Mahabaleshwar Distt. Satara, the authors surveyed the lush green vegetation for foliicolous fungi on January 10, 2008. The present study have been under taken to explore the diversity in Phyllosphere mycoflora Infected with Black Mildew.

Materials and Method

The fungal diversity of Phyllosphere mycoflora of the two hosts *Syzygium* sp. and *Flacourtia indica* were worked out following standard methods as described by Mishra and Kanaujia, 1972a,b, 1981, 1982; Kanaujia and Singh, 1977, 1978; Singh and Mall, 2007, 2008. The mycoflora of phyllosphere was developed on PDA medium supplemented with antibiotic and incubated at 25±2 °C after serial dilution of 1 ml washing of leaves surface as described by Ruinen (1961) and Kanaujia (1977). The samples were taken in 10 petriplates and observation were taken after the seven days. Morphotaxnomic determinations of taxa were done with the help of current literature and resident expertise available. New Holotypes have been deposited in HCIO, IARL, New Delhi and all the siotypes retained in the departments herbarium for further reference.

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Results and Discussion

The authors collected eleven host plants being parasitized with nine fungi. Out of these two hosts *Syzygium* sp. Linn. (Myrtaceae; HCIO- 48269) and *Flacourtia indica* Merrill (Flacourtiaceae; HCIO- 48270) were found infected with novel species of *Meliola syzyginea* Singh and Mall sp. nov. and *M. flacourticola* Singh and Mall sp. nov. respectively. The fundal diversity of phyllosphere mycoflora of the above said two hosts were worked out following standard methods. On *Syzygium* sp. Linn., *Meliola syzyginea* Singh and Mall sp. nov. only was representing frequency class D where as *Aspergillus niger* Van Tiegh, *A. flavus* L., *Curvularia* sp. (Waker) Boedifin was representing class C; *A. Terreus* Thom, *Scoratia* sp. *Mucor* sp. class B; *Fusarium* sp. Sheldon and *Penicillium* sp. class A. No fungus was found representing frequency class E. On *Flacourtia indica* Merrill, *Aspergillus niger* Van Tiegh only was found representing frequency class E where as *Meliola flacourticola* Singh and Mall sp. nov. and *A. ustus* Thom and Chrch represented class D; *Trichoderma verdi* Pers. ex Fr., *Fusarium* sp. Sheldon class C; *Rhizopus* sp. Ehrenb ex Corda, *Scoratia* sp. class B and *Trichoderma* sp., *Penicillium globarum* class A. The moisture requirement, desiccation or waterlogging are important in determination of fungal population. Waid (1960) found that there is a great reduction in active growth of fungi whenever the moisture content is sufficiently high so as to reduce aeration. The different edaphic factors and cover vegetation influence mycoflora to an appreciable degree. At the same moment no single component may be spotted out as major microbial determinant. Environmental conditions and microbial composition interact in a very specific manner maintaining an equilibrium.

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