



FIRST RECORD OF CHERRY LEAF SPOT CAUSED BY *Cylindrosporium padi* (P. Karst.) FROM INDIA

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Cherry (*Prunus avium* L.), an important stone fruit of temperate zone, is grown on an area of 3,728 ha in Jammu & Kashmir State with an annual production of 11,122 metric tonnes (Anonymous, 2012). In June-July 2013, typical leaf spot symptoms, quite different from those caused by *Cercospora* and *Stigmina* pathogens, were noticed on cherry leaves from Bandipora, Baramulla and Srinagar districts in Kashmir. The disease symptoms initially manifested as small circular purple-red spots on upper leaf surface and occasionally on the lower surface. The subsequent enlargement and coalescence of these spots resulted in the formation of small irregular necrotic patches. Whitish felt-like patches containing the conidiomata (acervuli) of the fungus appeared on the corresponding side of leaves below these spots oozing out whitish conidial mass. Infected leaves turned yellow and defoliated prematurely by midsummer (Plate 1, a-d). Severely infected leaves curled upward before defoliation. The disease was also observed in cherry nurseries causing severe defoliation.



Plate 1: Left to right: a) Small circular purple red spots on upper leaf surface causing leaf yellowing; b) Whitish felt-like patches on lower leaf; c) Conidial ooze from mature acervuli; d) Upward leaf curling

Isolations of the associated pathogen from disease samples was made by leaf disc method (Johnston and Booth, 1983) after surface sterilizing 5 mm² discs in 0.1% sodium hypochlorite for 30 sec., rinsed in sterilized water and blotter dried. The bits were placed on petriplates containing cherry leaf decoction impregnated with oat meal agar medium (cherry leaves 250 g, oat meal agar 70 g, distilled water 1000 mL) and incubated at 20±1°C. The fungus consistently yielded slow growing whitish colonies with partially submerged mycelium after 20-25 days of incubation which later turned grayish-white (Plate 2). The centre of

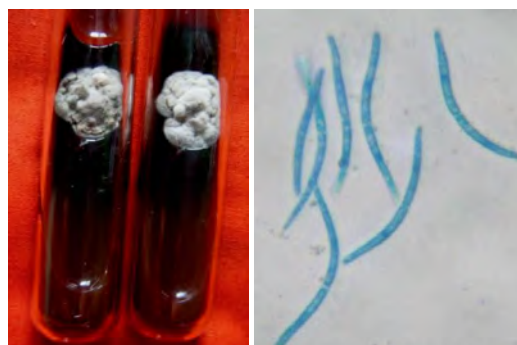


Plate 2: Fungal culture on cherry leaf decoction medium (left); Conidia of *C. padi* (right)

the colonies, however, darkened with age. Acervuli, produced after 40-45 days of incubation, were bulged, globose and measured 168-283 µm in size. Conidial ooze as yellowish to pale-yellow droplets from the acervuli was observed. Conidia were hyaline, filiform, straight to curved with obtuse base and pointed apex, bi-celled and measured 55.5-72.7 x 2.0-3.5 µm in size. Microconidia, produced only on the host in acervular stromata during August-September, were hyaline, straight to allantoid and measured 4.5-6.75 x 1.5-2.0 µm in size.

The pathogenicity was proved by artificially inoculating the under surface of detached cherry leaves after ruling out latent infection, with a 4×10^4 mL conidial suspension. Uninoculated leaves served as control. Inoculated leaves developed symptoms within 10-15 days. Re-isolations yielded the original fungus. Based on symptomatology and morphological characteristics (Jones, 1995), the fungus was identified as *Cylindrosporium padi* P. Karst., the anamorph of *Blumeriella jappii* (Rehm) Arx. The identity of the fungus was confirmed by Indian Type Culture Collection, Division of Plant Pathology, IARI, New Delhi, India and culture deposited vide ITCC, identification No. 9523.13. *Cylindrosporium padi* has been reported as the causal agent of cherry leaf spot, also called *Cylindrosporium* leaf spot, shot hole and yellow leaf (Zeitoun and Long, 1976), from Hungary, Bulgaria, Italy, England, United States, France, Canada and Australia (Garcia and Jones, 1993; Jones, 1995; Ellis, 2008; Tezean, 2008; Holb, 2009) but is *hitherto* unreported from India (Bilgrami *et al.*, 1981; Sarboy *et al.*, 1996; Jamaluddin *et al.*, 2004; Butler, 2008). So this report constitutes the first record of *Cylindrosporium padi* on *Prunus avium* from India.

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