New Disease Reports

First report of *Achyrenthes aspera* leaf spot disease caused by *Curvularia prasadii* in India

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Achyranthes aspera (Amaranthaceae), commonly known as apamarga in Sanskrit, is a small herb found all over India possessing valuable medicinal properties. It is useful in cough, bronchitis and rheumatism, malarial fever, dysentery, asthma, hypertension and diabetes. Oleanolic acid is one of the constituents of *A. aspera* that can be isolated from different parts of the plant (Satyavati *et al.*, 1976; Girach & Khan, 1992). A leaf spot disease of *A. aspera was* observed during the post-rainy season in a herbal garden at Udaipur, India. Spots were circular, reddish brown with dark margins and a greyish centre, measuring 2-7 mm in diameter. Adjoining lesions coalesced together resulting in large pustules (Fig.1). Severe infection caused complete defoliation leaving bare twigs. At this stage, further growth of the plant was arrested. Uprooted plants revealed a poorly developed root system compared to healthy plants. Incidence of infection in the surveyed area was almost 100%. However, severity, assessed on leaf infection, varied from 20% to above 75%.Diseased tissue segments were surface sterilised using 95% ethanol (1 min), 6% sodium hypochlorite (5 min) and 95% ethanol (0.5 min) followed by rinsing in sterile distilled water. The tissue segments were plated on 2% potato dextrose agar (PDA) supplemented with tetracycline (250 mg/l). The plates were incubated at 22 ± 2°C for seven days with a 12 hr light/dark regime. Periodically, the plates were screened for the growth of mycelia or discrete colonies on the medium. The growing mycelial portions were transferred to fresh antibiotic-free PDA. The colonies on PDA were cottony with concentric zones, grey in colour with a black underside, and grew with irregular borders.Conidiophores were 80-320 x 3.0-4.8 µm with mostly three-septate, rarely four-septate, conidia, 18 x 9 µm in size. The walls of the conidia were much thicker than those of other *Curvularia* spp. with three-septate conidia of the same size. The fungus was identified as *Curvularia prasadii* R.L. & B.L. Mathur based on the conidial morphology and colony characteristics given by Mathur & Mathur (1959) and using standard monographs and taxonomic keys (Barnett & Hunter 1972; Hawksworth *et al.,* 1995). The identity was further confirmed by the Fungal Identification Service, Mycology and Plant Pathology Group, Agharkar Research Institute, Pune, India (Culture no. OP 91).

To confirm pathogenicity on leaves, disease-free plants were sprayed with a conidial suspension (2 x 10^5 spores/ml) of the isolated fungus. Control plants were sprayed with sterile water. Inoculated plants and controls were left bagged for 48 hours under greenhouse conditions. After one week, leaf spots similar to those observed on the original diseased plants were observed on the inoculated plants. Control plants did not develop any symptoms. The pathogen was re-isolated from inoculated leaves, fulfilling Koch's postulates. *Curvularia prasadii* has been reported to cause leaf spot on *Jasminum sambac* and *Costus speciosus* in India (Mathur & Mathur, 1959; Thakur *et al.,* 1980). However, based on the literature, this is the first report of *C. prasadii* causing leaf spot of *A. aspera.*

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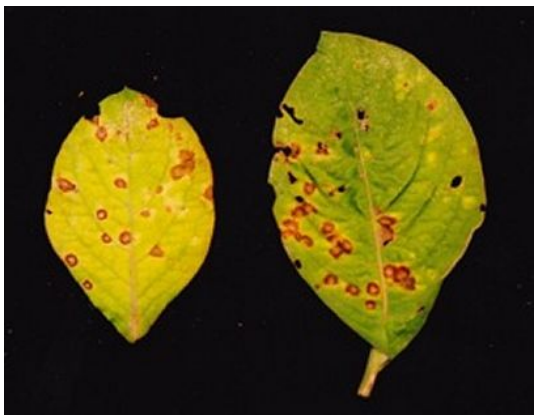

Figure 1

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