Aloe vera (Aloe barbadensis Miller) is a drought-resistant perennial succulent plant of the family Liliaceae. In September 2013, plants exhibiting severe leaf blight symptoms were observed in the Experimental Farm of the Indian Agricultural Research Institute (IARI), New Delhi. The disease appeared as small circular brown lesions on the leaves which soon developed into dark-brown diffuse spots that turned grey at the centre. The spots frequently coalesced into extended patches, blightening the leaves and, gradually, the entire foliage. Isolation on potato dextrose agar (PDA) (Rao et al., 1991) yielded colonies that were initially white, but later turned grey to greyish black and produced dark-brown pycnidia. Pycniospores were brown, clavate, straight, aseptate, thick-walled, apex-obtuse, tapered to a truncate base and measured 30-45×10-16 µm. Based on morphology, the fungus was identified as Sphaeropsis sapinea. To confirm the identification, internal transcribed spacer (ITS) region of rDNA was amplified using primers ITS1 and ITS4 (White et al., 1990), sequenced and submitted in GenBank (accession No. KM114902). The highest similarity was found with Sphaeropsis sapinea sequences. For pathogenicity tests, five 6-month-old healthy plants of A. barbadensis were sprayed with spore suspension (5×105 spore/ml) of the pathogen whereas five control plants were sprayed with sterilized water. Leaf symptoms like those seen on naturally infected were observed only in inoculated aloe vera plants from which a fungus identical to that used for inoculation was re-isolated and deposited at the Indian Type Culture Collection (ITCC 7390), Division of Plant Pathology, New Delhi, India. This is the first report of leaf blight caused by Sphaeropsis sapinea on aloe vera in India.


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In the summer of 2013, during surveys in lima bean (Phaseolus lunatus) (cv. Christmas Pole) fields of East Azerbaijan, Northwest Iran, interveinal necrotic lesions and marginal chlorosis were observed on the leaves. The isolation of bacterial was done on Yeast Peptide Glucose Agar (YPGA) medium (EPPO, 2011). Yellow-colored colonies 1-2 mm in diameter were present on YPGA plates after incubation at 25°C for 48 h. All isolates were Gram-positive, of oxidative but not fermentative metabolism, and had the ability to grow at 37°C. All hydrolyzed aesculin, casein, and gelatin, produced acid from inositol, mannose and maltose but not from mannitol and erythritol, were of positive catalase and oxidase, but of negative urease and indole production (EPPO, 2011). Bacterial strains were identified as Curtobacterium flaccumfaciens pv. flaccumfaciens (Cff) based on biochemical test results. The pathovar-specific primer pair CffFOR2 and CffREV4 amplified a 306 bp fragment of the isolates and confirmed them as Cff (Tegli et al., 2002). The strains were deposited in the University of Tehran Microorganisms Collection (Accession No. Cffcb123). Pathogenicity test was conducted on 20 day old lima bean (cv. Christmas Pole) plants. The Cff suspensions (1×108 CFU/ml) were prepared from 48 h old culture on YPGA. Node infiltration method was conducted for the inoculation of plants (Hsieh et al., 2003). Disease symptoms appeared 10-15 days after inoculation. First trifoliate leaves of the inoculated plants exhibited symptoms of marginal necrosis and interveinal yellowing. Cff was consistently re-isolated from artificially infected lima bean tissues on YPGA and re-identified using CffFOR2 and CffREV4 primer pairs. This is the first report of Cff causing bacterial wilt in lima bean in Iran.


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